

# DESIGN STUDENT DEVELOPMENT WORK SHEET (LEARNING CYCLE) 5E TO IMPROVE STUDENT LEARNING OUTCOMES High School CLASS X

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**Abstract**— This study aims to generate Student Activity Sheet (LKS) -based 5E learning cycle to improve student learning outcomes subjects in this study were students of class X IPA MA Guppi Banjit the school year 2015/2016. The method used by the R & D stage of development following the model of the 4-D by [1] This model consists of four stages of development, define, Design, Develop, and Disseminate. In this article, the study is limited to the design stage (design). Learning learning cycle consists of five stages consisting of generation stage of interest (engagement), exploration, explanation, elaboration, and evaluation. The results of the study concluded that the BLM to improve student learning outcomes learning model learning cycle needed by teachers of physics it can be seen In Figure 1 high school teachers in Waykanan many say yes as much as 64% and as much as 34% and in figure 2 many students say yes as much as 59% and not 41% statement.

*Keywords:*LKS, learning cycle 5e, learning outcomes.

## I. INTRODUCTION

Today the school learning should be centered to student Hence, teachers can develop the learning process, especially learning resource that is able to expose the students' ideas into something valuable and beneficial for him. Source learning has a very important role in the learning process effective and efficient. This was confirmed by the Association for Educational Communications and Technology [2] a source of learning is everything or power that can be utilized by teachers, either separately or in a combined form, for the sake of learning and teaching with the aim of increasing the effectiveness and efficiency of learning objectives, Learningresources linked to the preparation of instructional media.

Learning resources can be obtained from various kinds of instructional media needs. Media is a communication tool that is channeling messages and can stimulate the mind, feelings, and abilities of students so as to encourage the teaching and learning process effective and efficient [3] [4] So the learning media is a tool supporting the learning. With the learning media is expected students will better understand the subject matter they are studying. One type of media that is often used by each school is Student Activity Sheet (LKS). At this time, in the reality of education in the field, many teachers are still widely used every school in the form of worksheets Conventional or worksheets that monotonous, namely worksheets that stay put, stay bought, instant, and without any effort to plan, prepare, and prepare their own [5]. Though teachers know and are aware that the worksheets that they use often does not correspond to the basic competence and indicator. Learning by to use conventional LKS has limitations in enhancing the competence and student characteristics. Materials, questions guidance and tasks in conventional LKS does not correspond to the needs of students and not contextual [6], so it is less improve the competence of students should be increased as optimally as possible. Conventional LKS students do not find referrals that are structured to grasp the material provided.

Based on observations in school worksheets are provided from the school is not the result of the development of the school teachers. However LKS obtained from the publisher that has been provided. With LKS existing learning model was conducted by a monotonous so that the teacher becomes more active (teacher centered). In addition, in a long time, the explanation LKS

with traditional learning models such as the "definition-formula-the-practice-practice examples" it was very easy for teachers but for students it is boring and difficult, thus affecting the learning outcomes of students [7]. This has resulted in students not being able to acquire new knowledge by themselves and the learning process is not effective and efficient. It is thus necessary to have a good learning environment to raise their experience, so that students can gain new knowledge by themselves.

In the application of the use of conventional LKS school, learning model used in the learning process is not integrated with LKS used. This has resulted in monotonous learning and students will get bored following the learning process. Therefore, to overcome the disadvantages of conventional LKS, LKS needed development in learning physics. At the stage of development of LKS, required conformity existing problems with learning model combined. After studying the conditions of the place and situation of the research, the learning model Learning Cycle (Learning Cycle) is thought to be the right model in the development of LKS. "Learning Cycle are models of how people encounter and acquire new knowledge [8]. Learning Cycle Model is a model of how people discover and acquire new knowledge. The model will invite students to become competent in various aspects, cognitive, affective and psychomotor learning activities.

Learning Cycle-based worksheets, students can find referrals that are structured to grasp the material provided. So that the learning process is student centered. So that students are more active then automatically learning outcomes of students will increase. The purpose of this research is (1) Model-based learning learning cycle in the learning process has not been fully used. (2) LKS to improve learning outcomes of students with learning physics-based learning cycle has not been used. (3) LKS with learning physics model learning cycle takes teachers and students. To overcome this problem, this research aims to design learning student work sheet physics-based learning cycle Learning Cycle learning 5e to improve student learning outcomes.

## II. RESEARCH METHODS

Subjects in this study were students of class X IPA MA Guppi Banjir the school year 2015/2016. This study aims to produce teaching materials in the form of worksheets based Learning Cycle 5E to use design and approach to research and development (research & development / R & D). This study was designed to use the design development of the 4D model suggested by [9]. The rationale for this model is due to stage a systematic and more detailed. Learning learning cycle consists of five stages [10]. which consists of the generation stage of interest (engagement), exploration, explanation, elaboration, and evaluation.

## III. RESULTS AND DISCUSSION

On this occasion will be presented some of the things found in the field based on the observations made during the field study.

### A. Teacher needs analysis questionnaire

questionnaires given to the needs of teachers in high school -teacher teachers in waykanan much as 5 teacher where the questionnaire contains 10 statements about the information related to the learning process at school. Here are the results of the answers to a questionnaire given to teachers.

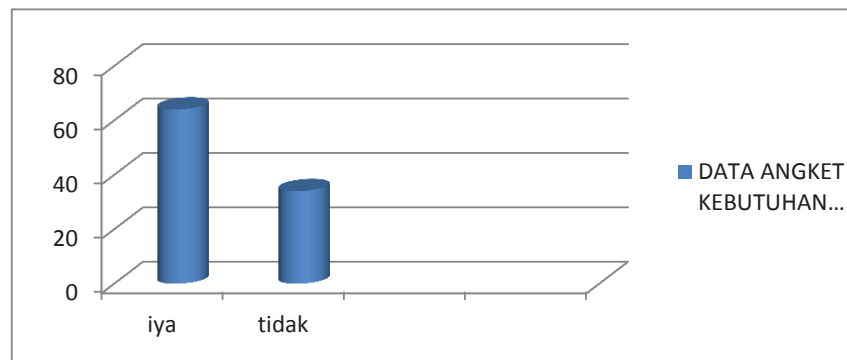


Figure 1. Results of giving questionnaires to teachers

In Figure 1 high school teachers in Waykanan many say yes as much as 64% and as much as 34% it means LKS required by existing teachers -Teacher diwaykanan. Then the understanding of the function and role in learning LKS, LKS only limited use as a material for the provision of duty and the content contained in the LKS is only a summary of the material and practice questions. LKS should be used to activate students in learning activities, helping students find and develop concepts, train students to find a concept, an alternative way of presenting the subject matter which emphasizes the involvement of the student, and can motivate students [11].

In addition LKS should also be able to play a part in practical activities in the laboratory. With the help of student worksheets can be more convenient and effective in gathering information / data so that students can draw conclusions or provide answers to questions problem (formulation of the problem) rationally because of an underlying information / data that can be accounted for, not only by the argument [12]

#### B. 2. Student Needs Analysis Questionnaire

Questionnaires given to the needs of students in the class X as many as 30 students in which the questionnaire contains 10 statements about the information related to the learning process at school. Here are the results of the answers to a questionnaire given to students.

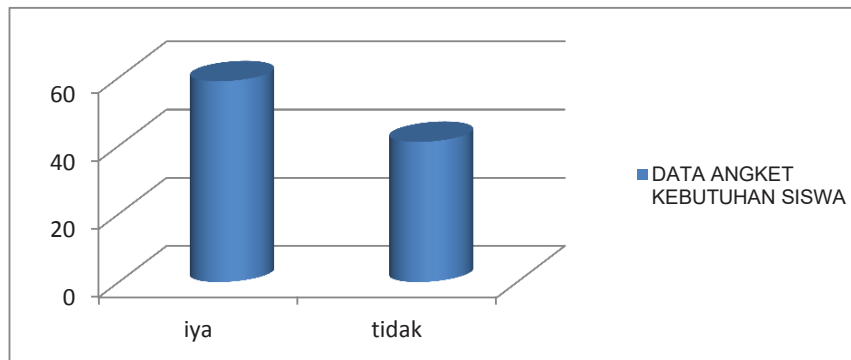


Figure 2. FIGURE 2. The results of the questionnaire to the student administration

In figure 2, it can be seen that in the learning of physics required learning by to use worksheets that can be seen from the image many students say yes as much as 59% and the statement is not 41% to use the worksheets to the model learning cycle, in Figure 2 also found that students own LKS as used by teachers but some students felt that the presence of LKS not feel the ease in understanding the subject matter physics .This disebabkan for LKS used only serves as a means of exercise do the questions and complete the tasks assigned by the teacher. Should benefit their worksheets for the students is that learning to use open LKS can improve student learning outcomes.

#### IV. CONCLUSION

Based on the results of research and discussion can be summarized as follows: (1) Model-based learning learning cycle in the learning process has not been fully used. (2) LKS to improve learning outcomes of students with learning physics-based learning cycle has not been used. (3) LKS with learning physics model learning cycle takes teachers and students.

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