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Development of Student Worksheets for Economics Subjects Based on Learning By Doing for Class X Students

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Abstract
This research aims to (1) develop student worksheets for economics subjects based on learning by doing for class learn using student worksheets developed. The method used in this development research is the 4-D (Four D) Research and Development (R&D) model method. The instruments used were observation sheets and questionnaires using a Likert scale as well as cognitive questions in the form of multiple choices. The resulting product is validated by a team of experts and tested on small and large groups.The resulting product is a student worksheet based on learning by doing which was developed using a 4-D model and validated by a team of experts with 1 revision. The validation results obtained by material experts were: 86.40% (very feasible), media experts: 80.00% (feasible), teacher response: 90.40% (very feasible), so that the student worksheets developed were suitable for testing. The results of the small group trial obtained the percentage: 98.00% (very interesting) and the large group: 98.44% (very interesting). From the results of the pre-test and post-test, the values (g) were obtained: low: 5 people, medium: 25 people and high: 2 people. This shows that the student worksheets developed are of good quality with 100% classical completeness. So it can be concluded that student worksheets based on learning by doing in economics subjects are declared very feasible, very interesting and effective for use by teachers and students of class.

Keywords: Development; Economics Subjects; Learning By Doing

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INTRODUCTION

Education is the embodiment of one of Indonesia's national development goals as stated in the preamble to the 1945 Constitution, namely to make the nation's life intelligent. Education is a conscious effort that is deliberately designed to achieve predetermined goals (Ericsson, 2015). In order to achieve educational goals, teachers are required to have methodological abilities in terms of designing and implementing learning, including the use of learning media.

The 2013 curriculum is oriented towards the development of globalization in the world, which includes advances in information technology, environmental problems and the rise of creative and cultural industries. Based on Minister of Education and Culture Regulation no. 65 of 2013 concerning Primary and Secondary Education Process Standards has indicated the need for a learning process that is guided by the principles of a scientific/scientific approach. This approach is characterized by highlighting

the observational dimensions of reasoning, discovery, validation and explanation of a truth (Daniel, 2016). Thus, the learning process must be carried out guided by scientific values, principles or criteria. The concept itself is that the scientific approach to learning includes the components: observing, asking, trying, processing, presenting, concluding and creating (Danielsen et al., 2014).

A teacher is required to have an ability in terms of designing and implementing the learning process. This includes mastery in the use of learning media. Many practitioners realize that the use of media or tools really helps the learning process activities both inside and outside the classroom, especially helping to increase student learning achievement. However, in its implementation, not many teachers take advantage of it, in fact the use of the monotonous lecture method is still quite popular among teachers in the learning process. As a result, sometimes the provision of services tends to be monotonous and boring so that students are not motivated to learn because students do not get new material. As learning designers, teachers must be able to design learning that involves various types of learning resources and media in an effective and efficient learning process (Lin et al., 2017). Learning media can be understood as something that can convey or channel messages from a source in a planned manner so that a conducive learning environment occurs where the recipient can carry out the learning process efficiently and effectively (Ferdianto & Setiyani, 2018).

One material that is often used as a reference by teachers in developing students' abilities is by using Student Worksheets. Based on the author's experience and observations as a teacher who has taught Economics subjects, the crucial problems that become obstacles in the learning process in economics subjects using Student Worksheets are; (1) learning resources in the form of Student Worksheets are not in accordance with actual competencies or practice; (2) there is a Student Worksheet for teachers to use which only contains material references; (3) there is a lack of synchronization of the material between the teacher's handbook and the existing Student Worksheets; (4) during internship, students cannot be guided by the Student Worksheet due to the lack of suitability of the material contained in the Student Worksheet with real practice in the field (5) there are no modules that help students learn independently during internship so that competency achievement becomes impossible maximum. Many schools use Student Worksheets as companion books in addition to diktat books, some even use them as manuals. Schools are considering using LKS because they are cheap, provide financial income, and as an alternative handbook because the cost of diktat books is expensive. If education administrators want to trace the existence of Student Worksheets, they will find several weaknesses. These weaknesses include: less attractive, printed on blurry paper, colorless printing, looks boring. In fact, some of the pictures are not clearly displayed, and tend to be just cognitive development. This can hamper the teaching and learning process.

The problems above are things that need to be solved so that there is an increase in the quality of economics learning in high school. Apart from that, the problems that researchers found regarding the characteristics of students in high school are very diverse, different learning styles due to their abilities, interests, background, education, future aspirations and individual orientation. Economic learning problems can be found at all levels, including high school (Bayat et al., 2014). As an economics subject, the aim is for students to understand and be able to apply economic principles both at home and at school (Inayati et al., 2018).

Through economics students' worksheets are expected to be able to develop various intelligences, characters and personalities. People who master economics lessons with economic knowledge well will be able to express their understanding and ability to organize their character related to their potential, emotions, desires and hopes which are then expressed in various forms of leadership commitment and an organized lifestyle in accordance with economic principles and motives. what was studied. Based on the above, we need a student worksheet that suits the students' needs, which in the end can solve their learning problems, however the material on the student worksheet has a very strategic role in the learning process and in practice in everyday life (based on learning by doing), because the main premise of the learning by doing theory is that the process of doing (doing) has the main content for human learning, while other processes such as listening (hearing) are supporting processes. So the implication of learning by doing in the implementation of learning is to treat students to do more real activities (practice).

For this reason, it is necessary to design student worksheets based on learning by doing and develop them based on the demands of the 2013 Curriculum which emphasizes the application of a scientific approach, with the hope that it can help students in their learning process, as well as assist students in achieving competency.

The objectives to be achieved in this development research are: knowing how to develop learning-by-doing-based economics student worksheets and knowing the appropriate quality of these student worksheets, so that they can be used in economics learning and knowing the learning outcomes of class X high school students who use economics student worksheets based on learning by doing development results.

The main reason why it is necessary to develop economics student worksheets based on learning by doing is that they can be used as economics learning guides for students in class or as a means of independent learning at home, making it easier for teachers to carry out the learning process and can increase learning activities and ultimately be able to improve quality of learning in schools.

RESEARCH METHODS

Research Design

The method used in research on the development of Student Worksheets based on learning by doing is the Research and Development (R&D) method of the 4-D or Four D model which includes the stages: defining, designing, developing, and spread (Nasution & Sinaga, 2017; Saragih et al., 2017).

Research Target/Subject

This research uses a purposive sampling technique to select research subjects who comply with predetermined criteria. The research subjects consisted of class X students in high school who met the criteria for academic ability and interest in economics subjects. By using this technique, it is hoped that research subjects can provide relevant and representative information related to the development of student worksheets based on learning by doing.

Research Procedure

This research follows the 4-D R&D method (Thiagarajan, Semmel, and Semmel, 1974). The initial step is an analysis of the problem, students, assignments, and economic concepts to formulate learning objectives. Then, students' worksheets are designed with benchmark reference tests and appropriate media. After that, student worksheets were developed with validation by a team of experts, limited trials and field trials. The research did not continue the distribution stage.

Instruments, and Data Collection Techniques

In this research, data was obtained through interviews, observations, document analysis, and surveys to analyze students, assignments, and economic concepts. Formulating learning objectives involves brainstorming sessions and expert consultation. In addition, benchmark tests are designed to measure the achievement of learning objectives. Validation by a team of experts is carried out through assessment and discussion. Limited trials and field trials using surveys, observations and interviews. With these various methods, it is hoped that a comprehensive understanding will be obtained about the effectiveness and usefulness of the student worksheets being developed.

Data analysis technique

Data from this research will be analyzed both qualitatively and quantitatively according to the research objectives and problems. For qualitative analysis, patterns will be identified from data from interviews, observations and document analysis. The results will be linked to the research objectives. Meanwhile, for quantitative analysis, survey data and test results will use statistical techniques. Once the

analysis is complete, the results will be interpreted and linked back to the research objectives. This will help in identifying recommendations to improve economic learning based on learning by doing..

RESULTS AND DISCUSSION

The results of this development research are printed teaching materials in the form of economic worksheets based on learning by doing for class X social sciences in state high schools 5 in Jambi City. The product of this teaching material has been validated by a team of experts and revised before being tested on 10 students (small group) and 32 students (large group) class.

Research on the development of learning-by-doing-based economics student worksheets for class The first stage, Define, involves initial final analysis, student analysis, task analysis, concept analysis, and formulation of learning objectives. Data was obtained through distributing questionnaires to students, interviews with students and teachers in the field of economics, and observation. The design stage includes the preparation of benchmark reference instruments/tests in the form of questionnaires with a Linkert scale, as well as the creation of economic student worksheets based on learning by doing for class The student worksheets are designed based on constructivist theory which emphasizes the active construction of knowledge by students. The Develop stage involves validation of materials and media by a team of experts, limited trials followed by revisions, and field trials until student worksheets are obtained that meet specifications. The final stage, Disseminate, was only carried out internally due to limited research time.

A good student worksheet is a worksheet that must meet at least the criteria relating to whether or not a basic competency has been achieved that must be mastered by students (Prastowo, 2015: 205). To determine the quality of student worksheets, five assessment instruments are used, which contain questions related to the components/aspects that make up student worksheets.

The results of the assessment of the five instruments by experts/validators/respondents which describe the quality of student worksheets are as follows:

1. Based on the results of the assessment by material experts, a percentage of 86.40% was obtained with a very feasible category.
2. Based on the results of the assessment by media experts, a percentage of 80.00% was obtained in the appropriate category.
3. Based on teacher responses (10 teachers) as users of the MGMP group for high school economics subjects, a percentage of 90.40% was obtained in the very feasible category.
4. Based on the assessment by respondents (10 students), from small group trials a percentage of 96.17% was obtained in the very interesting category.
5. Likewise, from a large group trial (32 students of class X Science 5 Jambi City) a percentage of 82.92% was obtained in the very interesting category.

From the results of validation by a team of experts and respondents' responses, it can be concluded that the student worksheet based on learning by doing, the results of the development, is declared suitable for use in economics learning. From the results of the small group and large group trial questionnaires, it was found that students were very happy to use the developed student worksheets because they were equipped with pictures which could increase students' interest. Pictures can foster students' interest and can provide a connection between the content of the lesson material and the real world. To be effective, pictures should be placed in a meaningful context and students must interact with the pictures to get information.

Based on the substance of the student worksheet obtained from the teacher's assessment, it shows that the student worksheet based on learning by doing that was developed has good quality because the content of the student worksheet is in accordance with the competencies achieved and has been able to improve students' high-level thinking abilities (C3-C5). The quality of student worksheets based on learning by doing can also be seen from student learning outcomes, both in the realm of knowledge, skills and attitudes.

Student worksheets also include questions that can help students discover economic concepts. The function of student worksheets includes: helping students discover concepts and apply and integrate various concepts that have been discovered, because in student worksheets there are theoretical tasks and/or practical tasks that can be laboratory work, or field work (Dezricha Fannie & Rohati, 2014). To maximize the function of student worksheets, this can be done by applying a learning by doing approach in the application of learning models such as: problem-based learning model, problem solving and reasoning model, inquiry training model, problem-based instruction model, group investigation model and simulation model as well as other case study models. In principle, this learning by doing based student worksheet can be applied in a learning process based on constructivist learning theory, cognitive theory (information processing and cognitive development), applying a problem-based learning model that applies discussion methods, group work, with a learning-oriented approach. or student-centered (student centered approach) (Pohan et al., 2014).

Student learning outcomes are taken from the learning process application which uses student worksheets based on learning by doing development results. The learning model used, especially in cooperative material and managing school cooperatives, is group investigation (Fitria, 2015). In the application of this model, the learning stages that occur are as follows: (1) Students sit in predetermined groups. (2) the teacher calls the chairman to take one problem (in a roll of paper). (3) Group discussion using the results of field activities (in student worksheets based on learning by doing. (4) One group member presents the results of the discussion (field activity report) in turn with another group. (5) Question and answer (opened in two sessions, In each session, each group gets two questions. (6) Conclusion of the results. Through these learning stages, it is hoped that students will be able to improve individual personality achievements such as tolerance, democracy, critical thinking, patience and also being able to argue their opinions, so that the learning atmosphere is better. centered on students.

The learning results of the attitude scores obtained by students, after carrying out learning activities using learning-by-doing-based economic student worksheets, showed that 15 students had very good attitudes, while 17 students got good attitude scores. From these results it can be concluded that the highest attitude scores were good scores. , thus the good and very good categories because when studying using learning-by-doing based economics worksheets, students cooperate with each other, are responsible, diligent, active, thorough and disciplined. Attitude assessment is not only useful for knowing psychological factors that influence learning, but is also useful as feedback for learning development.

From the test results obtained, both the knowledge (cognitive), skills (psychomotor) and attitude (affective) domain values, it can be concluded that the results of the development of student worksheets based on learning by doing can help students improve their thinking abilities. So it can be said that the quality standards for student worksheets have been achieved well because the scores obtained by students have reached the minimum completeness criteria. The use of teaching materials can help in delivering the material so that it is appropriate to the learning tools, so that all students can understand the learning material that has been delivered by the teacher and they become enthusiastic in participating in the learning process. This results in student learning outcomes being more optimal and better.

In principle, this learning by doing based student worksheet can be applied in a learning process based on constructivist learning theory, cognitive theory (information processing and cognitive development), applying a problem-based learning model that applies discussion methods, group work, with a learning-oriented approach. or student-centered (student centered approach).

CONCLUSION

Based on the results of research on the development of learning-by-doing based Student Worksheets for Economics Subjects for Class X Social Sciences 3 at State High School 5 Jambi City, the following conclusions were obtained:

First, the development of student worksheets based on learning by doing was carried out using a 4-D model with the stages of definition, design, development and distribution. The definition stage includes initial, final analysis, students, tasks, concepts and learning objectives, in accordance with the 2013 Curriculum. Student Worksheets were developed to help students develop competency attitudes, knowledge and skills, as well as apply cooperative material in solving daily problems through assignments field and observation. At the design stage, media is selected and Student Worksheets are designed initially. The development stage involves validation of materials and media, as well as revisions based on teacher responses until the Student Worksheets are suitable for testing. The distribution stage was not carried out due to limited research time.

Second, the validation results of Student Worksheets by material and media experts show a high level of feasibility, with a percentage of 86.40% by material experts and 80% by media experts. Teacher and student responses from small and large group trials showed that Student Worksheets were very interesting, with percentages of 90.40%, 96.17%, and 98.28% respectively. Third, the learning results of Class Classical completion reached 100%, with an average score for the knowledge aspect of 3.47 (B+), the skills aspect of 3.70 (A-), and the attitude aspect of 3 (Good).

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