Improving Students' Critical Thinking Skills: The Development of an Independent Learning Activity Unit (UKBM) Sociology Based on Discovery Learning

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DOI: 10.29322/IJSRP.9.10.2019.p9423
http://dx.doi.org/10.29322/IJSRP.9.10.2019.p9423

Abstract- Discovery learning is a constructivistic approach that emphasizes students' activism in building their own understanding and knowledge. This article aims to develop the Sociology Independent Learning Activity Unit (UKBM) based on discovery learning to develop students' critical thinking skills. This study was carried out using Thiagarajan's (4) 4-D model development model consisting of four stages: define, design, develop (disseminate) and disseminate. From the developmental stages of the results are obtained: (1) UKBM Sociology based discovery learning is highly rated by validators from material experts and media experts. Some of the aspects evaluated were content eligibility, presentation eligibility, discretion, discovery learning approach, and aspects of graffiti obtained 83% for material and 96% for media; (2) the results of the UKBM Sociology test in MAN 2 Probolinggo, namely, through the assessment of sociology teachers as peer-review (84%) and student response (88%) after learning to use UKBM showed that UKBM was considered eligible. Based on the developmental process, it can be concluded that the Sociology Independent Learning Activities Unit (UKBM) is a learning-based learning that can be used to develop students' critical thinking skills, but needs to adapt to the situations and conditions in the classroom.

Index Terms- discovery learning, Independent Learning Activity Unit (UKBM), critical thinking skills.

I. INTRODUCTION

The development of science, technology and information in the 21st century has been rapid, supported by the competition of the nations of the world, leading to high demand for skilled human resources (Leander, 2017). To meet the demands of this 21st century education, the Indonesian nation must prepare by developing and developing many competencies and skills. Some of the skills needed include analytical skills (critical thinking), interpersonal skills (communication, collaboration and responsibility), creative and innovative, and literacy skills (Suardana et al, 2018).

One of the skills is critical thinking. Critical thinking is a high-level form of thinking that involves all processes of information acquisition, understanding, analyzing, classifying, interpreting, evaluating, making judgments, and making judgments about good and bad or right and wrong (Sahika, 2018). Critical thinking is therefore crucial to facing strong information flows in the 21st century (Industrial Revolution era 4.0). The use of this critical thinking process is required in all areas, especially in decision making, how to obtain information, question the accuracy and reliability of information, read evidence-based data, and ask the right questions. therefore, the purpose of the educational program is directed at providing students with critical thinking skills (Tiruneh, De Cock, Elen, 2017).

Philosophically, learning from a cognitive perspective is an active mental process with the goal of achieving, remembering and using knowledge. This means that behaviors that cannot be measured can be measured and observed without affecting mental processes such as intention, confidence, motivation and so on (Baharuddin & Wahyuni, 2015). Learning is a transformation of knowledge that exists in the environment and then stored in the mind. Learning occurs when new knowledge is acquired or stored knowledge changes through experiences.

Robert Ennis in his essay proposes critical thinking as a rational and reflective thought that focuses on deciding what to believe or do (Ennis, 2011). According to him, in deciding what to believe or do, one is assisted by the use of a set of critical points, in this case a module that contains steps that can take and encourage learners to think seriously about a problem and find a way to solve the problem. from the results of his thinking

The development of UKBM is the development of individual units of individual learning packages that can be learned independently by learners in the sequence of subjects following the logical sequence of KD-KD in the lesson. Based on the calculation of the time

allocation of the subjects, the learning assignments and the learning experiences that will be provided to the students, there are four models in the development of UKBM. Model UKBM I, which is the development of UKBM with one KD partner, one RPP, one or more meetings and one UKBM. Developed UKBM can be a package of modular instructional materials that can be learned independently by the instructor or instructor's Textbook (BTP) with a workbook as a self-study guide for mastering the skills (Kemdikbud, 2017).

Discovery learning as one of the syntactic learning methods that will be integrated into UKBM to enhance students' critical thinking skills. In the discovery learning model, students will be given various activities to build their own knowledge optimally, such as observation, experience and reasoning (Ellizar et al, 2018). Through discovery learning, learners are given no answers, but materials to find their own answers. This occurs in a problem-solving situation where learners learn from their own experience and prior knowledge. The course also invites learners to interact with their environment, explore and manipulate objects, wrestle with questions and controversies or experiment (Wikipedia, 2019).

This research uses Jarome Brunner's discovery learning model approach to develop the Self-Study Unit (UKBM) module aimed at improving learners' critical thinking skills and being able to motivate themselves to achieve their (competent) competencies.

II. IDENTIFY, RESEARCH AND COLLECT IDEA

This research uses Thiagarajan's (1974) Four-D Model in product development, which consists of four stages namely, define, design, develop and dessiminate. The collected data consists of primary and secondary data. Primary data is data derived from direct assessment through observation, questionnaire or interview. While secondary data in this study were obtained from the analysis of the textbook documents. Data analysis in this study was used to analyze two data, first to describe data from module analysis, analysis of UKBM validation results, teacher and student response questionnaire after using UKBM. Second, to describe the effectiveness data of UKBM Sociology's use of discovery learning to develop critical thinking skills. data analysis is ongoing, through the reduction, display and conclusion / verification stages.

III. WRITE DOWN YOUR STUDIES AND FINDINGS

A. *A. The process of Development of an Independent Learning Activity Unit (UKBM) Sociology Based on Discovery Learning*

The development of the Independent Learning Activity Unit (UKBM) Sociology-based discovery learning to enhance students' independence in learning (discovering concepts) began in January 2019. Researchers used a 4-D model in the development of UKBM Sociology Class X-based discovery learning adapted from Thiagarajan. The process involved in this research covers the stages of define, design, develop and dessiminate.

1. Stage I : Define

Tabel 1 Define Stage

<table>
<tr><th>Front Analysis</th><th>Description</th><th>End Analysis</th></tr>
<tr><td rowspan="3">1. Curriculum: maintenance of SKS program in MAN 2 Probolinggo using curriculum 2013
2. Learning Administration:
o o The book that teachers use to teach is only a Government book and still uses the worksheet
o No UKBM is used in the learning process
3. The Learning Process:
o The learning process is still teacher centered, students listen to notes, take notes, do assignments from teachers and worksheets.
o Students tend to be passive and have no initiative to learn
o There are no group divisions according to their individual abilities, such as fast, normal and slow learner groups.</td><td>Learner Analysis :
o Students tend to be passive
o Students' independence in learning
o Low student literacy skills
o Low learning motivation
o Ability to discover sociological concepts and relate them to low field facts
o Low critical thinking skills</td><td rowspan="3">Learning Objectives :
o Enhance student learning independence
o Improve students’ critical thinking skills</td></tr>
<tr><td>Concept Analysis :
o Identify key concepts, detail, and outline learning steps
o KI / KD analysis</td></tr>
<tr><td>Task Analysis:
o Structural analysis: summarizes the indicators of achievement of competencies
o Procedural analysis: determining learning design (RPP)
o Process analysis: grouping tasks in each meeting</td></tr>
</table>

Based on the formulation of the learning objectives and the preliminary analysis conducted, the purpose of the learning is to develop critical thinking and to enhance students' self-reliance in discovering sociological concepts and then linking them with self-discovery facts, so discovery learning is an appropriate learning model to integrate in the development of UKBM Sociology.

2. Stage II : Design

The purpose of the planning phase was to produce a draft I prototype UKBM Sociology in class X semester 2. The discovery of the UKBM Sociology based discovery learning was an attempt by researchers to make it easier for students to study sociology independently, how to find their own concept with the help of UKBM with study guides, contextual illustrations and problem-solving exercises that develop critical thinking skills. During this planning phase several steps have been taken, including:

a. Systematic Design of UKBM

b. UKBM Sociology Early Design (Cover Page, Identity, Learning Process, Learning Activities, Cover)

3. Stage III: Develop

This phase of development is aimed at modifying the UKBM Sociology prototype that has been developed in the earlier stages. This phase will produce the final form of the development product after revision based on feedback from experts / practitioners and experimenters. The feedback received from the validator will be used as the basis for the UKBM Sociology's refinement. This step will take two steps: expert validation and product testing.

a. Expert Appraisal

Qualitative assessment of Sociology based on discovery learning is based on validation results from material experts and media experts. Comments, critiques and suggestions as well as refinement activities are considered for eligibility decisions. Validator in this study is a lecturer in the Faculty of Social Sciences and Law at Surabaya State University. Here's an overview of UKBM Sociology's findings based on discovery learning.

Table 2 Results of UKBM Sociology Validation

No.	Subject	Average	Category
1.	material expert validator	83%	Very Good
2.	media expert validator	96%	Very Good
	Average Overall Aspect	**90%**	Very Good

Description :

No	Interval Nilai	Kategori Nilai
1	0-20	= Very Good
2	21-40	= Good
3	41-60	= Good Enaough
4	61-80	= Poor
5	81-100	= Bad

Adapted from: Riduwan (2012)

From the validation of the validation results in table 2 above it can be shown that overall assessment of UKBM Sociology based on learning learning for class X semester 2 was highly rated (90%). The conclusion is that the UKBM Sociology is eligible to be tested in the Sociology learning process for class X semester 2 in MAN 2 Probolinggo.

b. Discovery Learning UKBM Sociology Test

The UKBM Sociology test phase is a developmental testing phase that includes reviews from sociology teachers and limited trials to learners represented by 5 students. This trial phase is a UKBM eligibility test, aimed at finding areas that need improvement based on the responses, responses and comments of teachers and students. Teacher / student assessment / response to UKBM to UKBM Sociology based on this learning will be the source of conclusive assessment that UKBM Sociology is suitable for use in Sociology learning and disseminated. Here's an overview of UKBM Sociology's findings based on discovery learning.

Table 3. Recapitulation of UKBM Test Results

No.	Subject	Average	Category
1.	Teacher Respon (*peer-review*)	90%	Very Good
2.	Student response to limited testing	87%	Very Good
3.	Student Response in Extensive Trial	87%	Very Good
	Average Overall Aspect	**88%**	Very Good

From the recapitulation of the teacher and student response questionnaire in table 4.16 above it can be seen that the overall assessment of UKBM Sociology based on learning learning for class X semester 2 was highly rated (88%). This indicates that Sociology UKBM is effectively used in the IPS classroom. Developed Sociology UKBMs can help teachers achieve their learning goals by developing critical thinking skills and improving students' independent learning.

4. Stage IV: Dessiminate

The process of dissemination is a final stage of development. The stage of dissemination is to introduce the development product to be accepted by the user, either individually, as a group, or system (Thiagarajan, 1974). Dissemination is done with the purpose of getting feedback, suggestions and ratings as the final product improvement step. Some things to keep in mind in the decimation phase are user analysis, time selection and media.

User analysis is performed to identify and determine the users of the product being developed. Users can be individuals or groups. The product to be introduced is UKBM Sociology based discovery learning for class X semester 2. Therefore, the product users in this case are high school students and teachers of Class X / MA. This UKBM dissemination is carried out throughout the semester for the secondary education calendar as the UKBM specializes in developing materials for semester 2. In addition to users and time, the dissemination media is also important. The dissemination of this research was conducted at the MAN 2 Probolinggo Madrasah Working Group forum and via internet media (posting UKBM on personal blogspot page).

IV. GET PEER REVIEWED

Here comes the most crucial step for yourresearch publication. Ensure the drafted journal is critically reviewed by your peers or any subject matter experts. Always try to get maximum review comments even if you are well confident about your paper.

For peer review send you research paper in IJSRP format to editor@ijsrp.org.

V. IMPROVEMENT AS PER REVIEWER COMMENTS

Analyze and understand all the provided review comments thoroughly. Now make the required amendments in your paper. If you are not confident about any review comment, then don't forget to get clarity about that comment. And in some cases there could be chances where your paper receives number of critical remarks. In that cases don't get disheartened and try to improvise the maximum.

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VI. CONCLUSION

Based on the results of the development of the Sociology Learning Learning Unit (UKBM) Sociology Based on discovery learning to develop students' critical thinking skills, it can be concluded: the development of UKBM sociology based learning learning based on Thiagarajan's 4-D development model. The long development process of UKBM has resulted in the discovery of UKBM sociological products based on discovery learning. Based on the validation of material and media experts, the sociology UKBM is judged to be worthwhile in terms of content, presentation, power, approach to discovery learning, and aspects of gravitation with little revision. As a result, assessments of teachers and students who have tried to work with UKBM indicate that UKBM Sociology is based on discovery learning effective for use in learning.

APPENDIX

Appendixes, if needed, appear before the acknowledgment.

ACKNOWLEDGMENT

The preferred spelling of the word “acknowledgment” in American English is without an “e” after the “g.” Use the singular heading even if you have many acknowledgments.

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