

LEARNING IN HIGHER EDUCATION ORIENTED HIGH LEVEL THINKING ABILITY BY SETTING WEB-BASED DEVELOPMENT

Syamsul Arif

State University of Medan (Unimed), Indonesia

achmadyuhdi@gmail.com

Abstract: *Higher Order Thinking Skills (HOTS) is a competency that must be achieved by students as stated in the 2013 curriculum. Indirectly, Unimed - LPTK which will create graduates to become teachers has a central role in realizing students who have such high-level thinking skills. Previously, when becoming a student at Unimed, high-level thinking skills of students had to be honed and improved continuously so that when becoming a teacher, Unimed graduates were able to train students to think high-level through HOTS-oriented questions. This study aims to: 1) Describe the relevance of the semester final exam questions compiled by the lecturer on the measurement of high-level thinking skills of Indonesian Language and Literature Department students, FBS Unimed, 2) Describe the relevance of teaching materials used by students to improve higher-order thinking skills, and 3) Developing a HOTS-oriented Indonesian language and literature learning assessment course module at Unimed FBS Language and Literature Department. This study uses a research and development (R & D) approach. The stages that will be carried out in this study include: defining, design, develop, and disseminate. The results showed that the learning planning tools made by the lecturers did not integrate the achievement of students' high-level thinking skills.*

Keywords: *HOTS; assessment; learning; Indonesian Language; literature*

I. Introduction

As a future teacher candidate, students of the Indonesian Language and Literature Department, Unimed FBS must always hone four teacher competencies since studying at the lecture bench. The four competencies are: pedagogy, professional, personality, and social. Based on these four competencies, pedagogical competence is an ability that distinguishes LPTK and non-LPTK graduates.

Pedagogic competence is the teacher's ability to understand students, make lesson plans, carry out learning, and assess learning (Wau, 2017: 17-18). One indicator of teachers mastering pedagogic competence is the ability to assess learning both from the aspects of implementation and students. Assessing activities are one of the important activities in learning. Assessment is a systematic process to determine or make decisions, to what extent the program objectives have been achieved (Amirono and Daryanto, 2016: 1). The results of assessing activities can be taken into account by teachers in improving the quality of learning.

Assessment is a systematic process in collecting, analyzing, and interpreting information to determine how far students can achieve learning goals (Nurgiyantoro, 2016: 7). Assessment of learning outcomes by teachers can be done in the form of tests, observations, assignments, or other required forms. Assessments made by teachers must be based on certain criteria. This indicates that the assessment is based on the measurement of the achievement of the specified competencies. In addition, the assessment must be systematic and valid (Permen No. 23 of 2016).

The 2013 curriculum requires international standard assessment. This requires teachers to make tests based on international standards. The test can relate to higher order thinking skills, contextual assessment (contextual assessment), and PISA (program for international student assessment). This demand is still not running as expected if viewed from the condition of the teachers in the school. The Directorate of High School Development in the Guide to the Preparation of International Standard Questions (2015) explained that most high school teachers tend to only measure low-order thinking skills. The questions compiled by the teacher generally measure recall skills. The teacher still focuses on knowledge theoretically not yet focused on contextual. This reality is not in accordance with the demands of the 2013 curriculum.

These problems not only occur in teacher teachers in Indonesia, but in some countries. Based on the journal *Assessment Techniques and Students' Higher-Order Thinking Skills* by Abosalem (2016) revealed that in 2005-2006 as many as 86% of teachers in Abu Dhabi still measured recall skills. The same data was also found in a national survey in Indiana in 2009 by Kiuvara, Graham, and Havekn (in Smith and Szymanski, 2013: 17) found that 47% of teachers had not assessed higher-order thinking skills. This figure indicates that the teacher needs to improve his ability to make high-level thinking skills.

Learning in the 2013 curriculum is expected to help students think deeply and creatively about a material. Therefore we need a tool that can improve higher order thinking skills in students. Higher order thinking skills can help students improve their logical abilities and reasoning, analysis, evaluation, and creation. This ability will certainly greatly assist students in solving problems encountered in everyday life.

The various problems faced by the students above, of course, cannot be separated from the role of the teacher in planning, managing, and evaluating the implementation of learning. As a LPTK that produces future teacher candidates, Unimed has a central role in producing reform teachers who are able to follow the pattern and flow of development in the current era of globalization. As future teachers, of course they must be prepared at any time to change the curriculum, so that teachers can become pioneers in realizing the goals of national education.

In connection with training students' high-level thinking skills, as prospective teachers — students must first become accustomed to developing and completing questions about measuring these higher-order thinking skills. The questions of high-level thinking skills in the context of assessment based on the taxonomic cognitive level revision measures the ability to analyze, evaluate, and create. Referring to the opinion of Sudjana (2016: 135-136) that the composition between good low-medium-high category level has a ratio of 3: 4: 3. Center for Educational Assessment in the Formulation of Higher Order Questions Thinking Skills (2017: 7) describes

three cognitive levels, namely: 1) remembering (low level), 2) understanding and application (medium level), and 3) analysis, evaluation, and creation (high level).

One of the courses that supports students' ability to conduct learning evaluation / evaluation is the Assessment of Indonesian Language and Literature Learning. This subject is a compulsory subject with a weight of 3 credits that students must take. Through this research, a needs analysis of HOTS-oriented course materials / modules will be conducted. Previously, an analysis of the teaching materials for the subjects used by students in the course was carried out. The purpose of the analysis is to find out the content and content of the material in the teaching material, whether it contains material that supports students to think high or not at all

II. Research Methodology

This research approach uses research and development (R&D). This development design is Research and Development or Research Development. This research begins with a preliminary study of the exam questions prepared by the teacher to students. The development is in the form of the development of Android-based e-learning media by using the *Schoology* application as a learning supplement for assessment of language learning at the FBS Unimed. This article is a Second phase as part of the research and development activities carried out which is the design phase of the program. In this phase, it transfers the obtained information from the analysis phase into the form of documents that will be the purpose of the developed media, one of the documents produced is a storyboard document.

III. Discussion

1. Grouping Question Items Based on Higher Level Thinking Skills

Based on the categorization of odd semester final exam questions based on high-level thinking skills, the following data is obtained.

Table 1. Grouping Question Items Based on Higher Level Thinking Skills

| | Multiple choice number | Essay | Total | % |
|-----------------------|------------------------|-------|-------|-----|
| Analysis (C4) | 8, 11, 12, 13 | 4 | 5 | 20% |
| Evaluation(C5) | - | - | 0 | 0 |
| Created (C6) | - | - | 0 | 0 |
| Total | | | 5 | 20% |

The results of the analysis based on the high-level thinking skills of the final semester exam questions found that the questions contained high-level thinking skills, namely as many as five items. The questions of high-level thinking skills consist only of cognitive processes of analysis.

2. Setting Web Based Learning

The meaning of *Schoology* according to Aminoto, T and Pathoni (2014: 21) is a website that combines e-learning and social networking. The concept is the same as *Edmodo*, but *Schoology* has many advantages. Building elearning with *Schoology* is also more profitable than using *moodle*, because it does not require hosting and managing *Schoology* (more friendly users). Certainly, the features are not as complete as *moodle*, but for e-learning learning, it is very

adequate. The features that *Schoology* has are as follows: Courses, Group, Discussion, Resources, Quiz, Attendance, and Analytics.

The menus contained in the *Schoology* application include: a) Courses, with courses menu, the users can create new classes, join classes that have already existed or browse through the predefined class list. b) Groups which functions like the wall messages of the group members and can also post on the wall messages. When joining a group, the users can search for parts of the group that the users want. c) Resources are to maintain, to track the documents, files and images that users upload in the class. d) Recent Activity is to display the latest news contained in the account. e) Calendar, to display the calendar page that was posted earlier in the Recent Activity. f) Messages are to send messages or view the messages among the fellow users, and g) People is to be able to see a list of the users in a class.

Yuhdi (2018) explains the steps that can be taken in designing android-based learning using *Schoology* applications, they are: 1) making courses, 2) using access codes, and 3) adding and managing learning materials with course material. Thus, the design of Android-based learning media with LMS uses *Schoology* in Indonesian phonology courses conducted at this stage of the research described in the following sections.

IV. Conclusion

The conclusion can be drawn as follows: a) Courses, with courses menu, the users can create new classes, join classes that have already existed or browse through the predefined class list. b) Groups which functions like the wall messages of the group members and can also post on the wall messages. When joining a group, the users can search for parts of the group that the users want. c) Resources are to maintain, to track the documents, files and images that users upload in the class. d) Recent Activity is to display the latest news contained in the account. e) Calendar, to display the calendar page that was posted earlier in the Recent Activity. f) Messages are to send messages or view the messages among the fellow users, and g) People is to be able to see a list of the users in a class.

References

- Amirono dan Daryanto. 2016. *Evaluasi dan Penilaian Pembelajaran Kurikulum 2013*. Yogyakarta: Gava Media.
- Brookhart, Susan M. 2010. *How To Assess Higher-Order Thinking Skills in Your Classroom*. Virginia, USA: ASCD.
- Direktorat Pembinaan SMA. 2015. *Panduan Penyusunan Soal Higher Order Thinking Skill's Sekolah Menengah Atas*.
- Kemendikbud. 2016. *Media Komunikasi dan Inspirasi: Jendela Pendidikan dan Kebudayaan*. Jakarta: Kemendikbud.

- King, F. J., Goodson, L., Rohani, F. (2004). *Higher Order Thinking Skill. A publication of the Educational Services Program, now known as the Center for Advancement of Learning and Assessment.*
- Nurdiyantoro, Burhan. 2016. *Penilaian Pembelajaran Bahasa Berbasis Kompetensi.* Yogyakarta: BPF.
- Sudijono, Anas. 2009. *Pengantar Evaluasi Pendidikan.* Jakarta: Raja Grafindo Persada.
- Sudjana, Nana. 2016. *Penilaian Hasil Proses Belajar Mengajar.* Bandung: Remaja Rosdakarya.
- Sugiyono. 2016. *Metode Penelitian: Kuantitatif, Kualitatif, dan R&D.* Bandung: Alfabeta.
- Wau, Yasaratodo. 2017. *Profesi Pendidikan Edisi Revisi.* Medan: Unimed Press.
- Abosalem, Yausef. 2016. *Assessment Techniques and Students' Higher-Order Thinking Skills.* International Journal of Secondary Education. Vol. 4(1). 1-11.
- Shidiq, Ari Syahidul, Mohammad Masykuri, dan Elfi Susanti. 2015. *Analisis Higher Order Thinking Skills (HOTS) Menggunakan Instrumen Two-Tier Multiple Choice pada Materi Kelarutan dan Hasil Kali Kelarutan untuk Siswa Kelas XI SMA N 1 Surakarta.* Prosiding Seminar Nasional Pendidikan Sains (SNPS) Pengembangan Model dan Perangkat Pembelajaran untuk Meningkatkan Kemampuan Berpikir Tingkat Tinggi. 159-166.
- Widodo, Tri dan Sri Kadarwati. 2013. *Higher Order Thinking Berbasis Pemecahan Masalah untuk Meningkatkan Hasil Belajar Berorientasi Pembentukan Karakter Siswa.* Cakrawala Pendidikan. Vol. 42 (1). 161-171.