The Evaluation of Higher Order Thinking Skills Assessment of Special Needs Education Students with Guided Inquiry Method

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Abstract: The competencies that have to be achieved by the Special Needs Education students of FKIP Lambung Mangkurat UniversityBanjarmasin with the enactment of curriculum based on KKNI are to develop science and technology, skills, attitude and behavior as professional education teachers. Guided inquiry study method gives the opportunity to Special Needs Education students to be actively involved in solving the problem. The aims of the research are (1) to understand about guided inquiry learning method, lecturers' needs for HOTS level assessment instrument (antecedent phase). (2) to analyze learning implementation and students'learning difficulties (transaction phase), and (3) to know about students' ability on HOTS level assessment (outcome phase). This research used descriptive method with Stake's evaluation model. The research was conducted in the special needs education program of FKIP Lambung Mangkurat University Banjarmasin, with the subject of 50 students and 2 lecturers. Questionnaires were used as data collection. The results: (1) the lecturers have understood the guided inquiry method, but the learning implementation is still concentrated to the lecturers, the students are passive (2) in arranging assessment, the lecturers have not fully used the case study model to reach HOTS level, and (3) the students' ability in completing assessment in high level (27%), moderate (42%) and low (31%). The conclusions are the lecturers have not been able to implement the real learning inquiry. It is required to review the questions together and train the students to be active so that they are able to accomplish the assessment with HOTS level.

Keywords: HOTS Assessment, special education needs students, guided inquiry.

Based on Presidential Regulation No. 8 of 2012 on the Indonesian National Qualification Framework regarding the level, equalization and application of Indonesian human resources qualification. The determination of standard qualification is expected to encourage the establishment of an education profile country, where the S1 Special Needs Education is included in the 6th qualification level.

The quality of Special Needs Education is an important thing in the development of education in order to produce the human resources for the education of children with special needs as a driver of educational development. The Study Program of Special Needs Education Lambung Mangkurat University Banjarmasin is one of study program which is expected to be able to produce the competent graduates to solve the problem of special needs education in society with a scientific approach. Djemari Mardapi (2003) that: improving the quality of education can be through by improving the quality of learning and also the assessment system. These two things are related to each other, a good learning system will produce a good quality of learning. Furthermore, a good assessment system will encourage the lecturers to innovate a good teaching strategy and motivate the students to learn more.

The students of S1 Special Needs Education are expected to be able to follow the innovative and productive learning and also to practice the high-level thinking to enter the competition in the working world nowdays. The students are required to be able to collect the data, analyze, formulate the actual problems and then create the plan of learning for the children with special needs. The improving of high-level thinking skills become the one of the priorities in learning subject of Special Needs Education's Study Program. The students require to develope themselves in thinking, not only have low-order thinking skills (LOTS), but also until the students have the higher order thinking skills (HOTS).

The students should be accustomed to face the problems that require high-order thinking skills, because HOTS is the ability to examine, connect, and evaluate all aspects of the situation and problems (Emi Rofiah et al; 2013). Including the collecting, organizing, remembering, and analyzing the material. The ability to draw the right conclusion from the data and determine inconsistencies and also the contradiction in a group of data are a part of high-level thinking skills. High-level thinking skills, not just thinking processes to memorize and relay the information which is known to be needed in the Special Needs Education's Study Program.

Figure 1. Countenance Stake Model
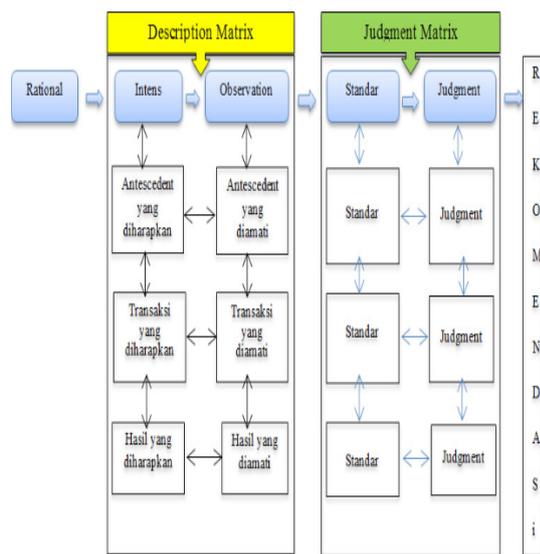
The learning process of the Special Needs Education's Students can use guided inquiry method, because with this method the students engage in learning activities which is designed to develop an understanding of how scientific knowledge is acquired and also the critical thinking habits. Guided inquiry can increase the scientific literature and skills of the scientific process, so guided inquiry can improve high-order thinking skills of the students (Brickman *et al.*, 2009).

The inquiry learning method generates the motivation of the students to encourage higher order thinking such as the research result of Caitriona Rooney (2012); the high thinking of students skill can be improved from the result of research conducted Madhuri *et al.* (2012) explains that the inquiry-based learning approach is better than conventional approach to improving high-order thinking of the students. And then, Jensen *et al.* (2014), argues that many educators are failed because they only give the question about the content to know the students thinking skills. That's why the questions should be really measure high-level thinking skills. The high-level of understanding may be a key factor to encourage the students to effectively gain an in-depth understanding of the material. The understanding support not only the application, analysis and evaluation, but also about the facts. This is because the presentation of the material through guided inquiry stages involved the students directly in the learning process.

The assessment of test that used for the evaluation learning in Special Needs Education Study Program of Lambung Mangkurat University (ULM) still uses the theory of multiple choice questions in the form of vignette, in addition most of them are only the questions on the level of knowledge (C1), understanding (C2)

and application (C3). The assessment of tests implied by the capable of Indonesian National Qualification Framework in the Special Needs Education's Study Program of Lambung Mangkurat University leads to the level of analysis (C4), synthesis (C5) and evaluation (C6) which requires the ability of HOTS thinkers. Therefore it is necessary to develop the assessment test to the higher order thinking skills level.

One of the factors to achieve the goals of the education is the undertaken of learning process, and the important factor for the effectiveness of learning is the evaluation of the process and also the learning outcomes. (Hendryarto, 2013) suggests that evaluation is a systemic activity to identify, clarify and applying the criteria to determine the success of a program. According Samawi (2017) evaluation is a series of activities to improving the quality of performance or the productivity of an institution of implementing the program. The evaluation will obtained the information about what has been achieved or not, so we can do the repairment.

Referring to this case, the appropriate evaluation model in this research is the evaluation model of Countenance Stake. The countenance stake model consists of two matrixs, as follow: (1) the description matrix consists of intent and observation categories and (2) The matrix of consideration consists of standard categories and workable considerations after the description matrix is completed. In each category there are three focuses: (a) antecedent (context) is a condition that exists before the instruction related to the result, (b) transaction (process) which is the process of instruction's activity and (c) outcomes is the effect of experience, observation and work result (Hendryarto, 2013). The design of this research as in Figure 1.

It creates an evaluation framework to assist evaluators in collecting, organizing, and interpreting quantitative and qualitative data. The essence of evaluation activities is the process of generating information as an alternative decision. The relevant steps of stake evaluation are Input (Antecedent), Process (Transaction), and Products (Outcomes) (Hopson *et al.*, 2001). The description of the Outcome Stake model is the impact of the implementation of the learning program.

The goals of research are: (1) the understanding of lecturers on guided inquiry learning method, and lecturer needs of assessment instruments HOTS level (antecedents phase). (2) Analyzing the implementation of learning process and also the students' learning difficulties (transaction phase), and (3) Knowing the ability of students to assess HOTS level (Outcome phase).

Table 1. Classification of level categories in percentage form

No	Range	Information
1	76 % - 100 %	Good
2	51% - 75%	Enough
3	26% - 50%	Less
4	1% -25 %	Bad

Table 2. Understanding Guided Inquiry Learning Method

No	Statements	Answer Score Yes	No	Score Total
1	Inquiry Model Setting	4	0	100
2	Implementation According directive	1	3	33
3	Study Cases Development	3	1	75
4	Improving Student's Potential	1	3	33
5	The Active Students	1	3	33

Figure 2. The Result of Final Test
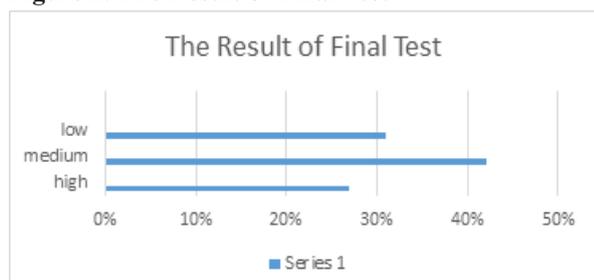
METHOD

This research is a descriptive evaluation research, with countenance stake model. Purposive sampling technique is considering the purpose to get the data about learning process. The research subjects are 4 lecturers and 38 students of Special Needs Education Program of Lambung Mangkurat University Banjarmasin in the third semester of academic year 2017/2018.

The standard matrix or the criteria in this case relates to the intense of inclusive education learning program and the results of observation. The judgment matrix is an academic quality guide. The evaluation flow of the Countenance Stake model consists of four steps, the first step, collecting data, logical analysis, and empirical analyst. Data analysis technique in this research is descriptive analysis percentage

In this research, data analysis is used to determine the category or type of descriptive percentage obtained on each indicator. The result of descriptive calculation percentage then can be interpreted in sentence form. The classification of category levels in percentages is shown in Table 1.

FINDINGS AND DISCUSSION

The results of data collection through observation using the questionnaires in field study activities can be obtained results as follows.

The Understanding of the lecturers about guided inquiry learning method.

"The inappropriate meetings' number with the skills to be taught, so the inquiry model can only be done at least two meetings at the time of the material review" (1st and 3rd Respondents). But a lecturer can do as maximal as possible to learning with guided inquiry model with this explanation: *"the skills which delivered are not entirely taught in skills but rather on analytical learning by providing the variation of study cases with different settings, training the students to collecting the focus data, analyze, diagnose, planning and implementation according to client's safety priorities".*

The Lecturer's need for HOTS level assessment instruments (antecedents phase).

The assessment on Inclusive Education subjects was conducted three times; First, a middle test by giving the task of preparing a fictive study case and seminar. Second, the final test of the semester by doing the written questions, multiple choice in vignette or case study but not all questions at level of analysis (C4), synthesis (C5) and evaluation (C6), this is supported by the interview result: *"it is very difficult because the study case at the HOTS level requires creative thinking, critical and reflective applicative skills, because as a lecturer the time for clinical practice and encounter pathological case are very rare".*

This is accordance with the opinion of Hammen *et al.* (2004) the development of HOT-level instrument required the ability of the lecturers in creative thinking that produces something new, critical thinking capable of making logical decisions and believed in truth and reflective thinking in choosing and deciding of a solution about the problem.

Analyze the implementation of learning process and student learning difficulties (transaction phase).

The data observation's result of the implementation learning in the classroom have no problem actually, the students' difficulties to accepting the learning is admitted by the students that they lack of independent learning in the library.

The students feel happy along the learning process but the number of assessment data of children with special needs that must be understood in the laboratory for the assessment of children with special needs being an obstacle in conducting upbringing or learning

focus, so it takes the ability of lecturers to doing the learning process with guided inquiry model. In UIUC's inquiry page website (copyright 1998-2004 inquiry page version 1.35) stated that the inquiry process in the learning process is done through 5 stages: asking phase, investigate, generate, discuss, and reflection phase. Every step in this process naturally encourages new questions, investigations, and opportunities for teachable moments. The Students' ability to assess HOTS level (Outcome) in figure 2.

Based on the result of final semester examination, the subjects of the students' assessment with special needs resulted of the students ability with high level (27%), moderate (42%) and low (31%). With guided inquiry learning model is very necessary for students, because it is difficult to learn to analyze and solve problems in the subject of assessment of children with special needs, therefore lecturers are expected to provide learning by applying guided inquiry model and training the active students to be able to complete assessment with HOTS level. Based on the students' questionnaire data analysis, they do need the assessment instrument, which can train them in learning of the assessment of children with special needs in the laboratory, especially in the analysis of assessment results.

CONCLUSIONS AND SUGGESTION

Conclusion

Based on the goals of this research and the results of the analysis above, it can be concluded that: From four lecturers of the assessment of children with special needs subject have understood the method of guided inquiry, but the implementation of learning is still centered by lecturers, the students still tend to passive. Not all of the lecturers are able to arrange assessment using case study model in order to achieve HOTS level. The ability of students to assess the level of learning in the assessment of children with special needs with inquiry model resulted high level (27%), moderate (42%) and low (31%)

Suggestion

Institutions pay attention to the ability and competence of the lecturers to be adjusted and provided with additional skills with the opportunity to update the knowledge. The Preparation of questions can be done in the form of workshops by the team with still focus to vision and mission of institution and also the Semester Learning plan. Prepared the guidelines of practicum and valid assessment instrument to avoid ambiguity in understanding vignette and solving the problems.

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