

Elementary Teacher Student Perspective to Natural Science Learning as Accomodate Effort of Need Study Capability

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Abstract: *Research on elementary teacher student perspective to natural science learning has been conducted as a preliminary study to determine the extent of tuition have accommodated the development of students' skills in terms of aspects of cognition, affective aspects, and aspects konasi (tendency to act). The result showed that average percentage of student perspective to natural science learning of all three aspects (konasi, affection, and konasi) only reached 35.88% with the details of the aspects of cognition \pm 59.24%, 23.08% \pm affective aspects, and aspects konasi \pm 25.31%. This is supported by the natural science knowledge test data recorded in the minds of students at 38.46% than the data from the aspect of affection and konasi. Based on these results it is necessary do an innovation in learning science in an effort to accommodate students' learning abilities prospective elementary teachers become more be qualified.*

Keywords: natural science learning, ability to learn.

1. Introduction

The main problem in learning formal education is the low absorptive capacity of learning or learners. This is evident from the average student learning outcomes are always still very concerned. This achievement from the result learning conditions that conventional and very few even hardly touch the sphere dimensions learners themselves, that is how to actually learn it (learning to learn). In a more substantial, that the learning process until today is still dominated by learners (teachers) and does not provide access for students to develop independently through discovery and thought processes.

Oliver et al (2010) suggested that the capacity to think is something fundamentally as curriculum content and achievement standards of natural science learning. In line with this opinion by Prayekti (2006, in Permanasari, 2010) suggested that science education as part of general education plays an important role to prepare students yag able to think critically, creatively, logically, and berinsiatif in response to issues in society caused by the impact development of science and technology.

Natural science knowledge would think activity can be a vehicle to improve the quality of human resources (HR) Indonesia, especially in developing thinking skills. Establishment of thinking skills is crucial in building the personality and patterns of action in society, therefore natural science learning should be empowered to develop these skills (Liliasari, 2010). In the effort, teacher and elementary teacher student on the natural science learning as the first basic concepts of formal education is important and needs to build thinking skills so that students gain a solid foundation for continue study that it is able and accustomed

to face the challenges of the phenomenon of life.

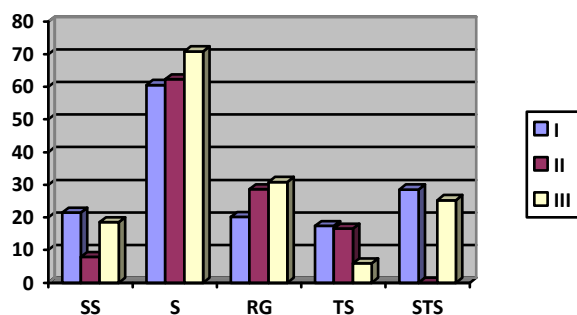
Based on the description, it is highly recommended that natural science learning in the schools should: (a) provide experience to students so that they competently perform a variety of measurements, (b) convey to the students the importance of empirical observations to test a scientific statement, (c) thinking exercises that support the learning activities as the application of mathematics to problems associated with natural events, (d) introducing the technology world through creative activities.

2. Methods

The study was conducted using a descriptive method, to measure the perception or the views/opinions of prospective elementary teachers students to natural science learning especially biology basic concept lecture. Research subject were 35 students majoring in semester 6 PGSD Padang State University. Research data collection using instruments; anget/attitude scale contains statements consist of aspects of cognition, affect, and konasi each of which uses a scale of five, namely: SS (strongly agree), S (agree), RG (in doubt) , TS (do not agree), and STS (strongly disagree). Attitude scale and the interview is to find out, (I) students understanding to benefits of lecture/cognition, (II) the sense of satisfaction and pleasure to the lecture/affectation, (III) the tendency of behaving in class. IPA knowledge test contains items multiple choice questions to measure mastery of the concept of science after attending meaningless to them. Processing data using calculations percentage technique with calculated the average percentage of each category is measured from the scale of attitudes and IPA knowledge test.

3. Result and Discussion

The research tried to accommodate the developing needs of students learning skill in natural science learning. Problems still weak learning skills of elementary teacher in managing the learning process in schools is a reflection of a learning experience for college is still a bit conditioned the development of skill or ability required in solving problems encountered in life. It can be seen from the perspective of students' learning has been experienced as shown in the chart below:



Thus, based on the data above student perspective to natural science learning still is not satisfactory because average percentage of attitude scale questionnaire for all three categories of less than 50% with the details of aspects of cognition $\pm 25.31\%$, \pm affective aspects 23.08% , and $25.31\% \pm$ konasi aspects.

Based on the above conditions can be said that they are getting only teaching assignment without emphasis on the development of student thinking patterns so that students do not feel the lack of progress in developing learning skills, the knowledge gained is not last long in their minds as the process through which the dimensions of the thought process has not touching high levels such as the level of analysis, the application level, and the level of evaluation. This was confirmed by quantitative data by giving lectures about the test of the basic concepts of biology which they had lived last semester. Of the 50 pieces of multiple choice questions was only 38.46% recorded in the attainment of knowledge that students minds. The results of the interviews revealed that eight students have gone through a learning experience that is merely the fulfillment of academic tasks, not to mention conducive learning provide opportunities kemampuan development thinking and still a bit of feedback given by teacher.

The ability to learn is the students ability after undergoing a learning process which is also known as learning outcomes. Hamalik (2003) suggested that the outcomes of learning or study skills are the patterns of actions, values, understandings and attitudes, as well as apperception. More specifically, the achievement of learning outcomes is a form of behavior change that tend to settle out of the cognitive, affective, and psikomotori. Furthermore Benjamin S.Bloom (Hamalik, 2003) argues that learning outcomes can be grouped into two kinds of knowledge and skills. Knowledge includes knowledge of the facts, procedural, concepts, and principles. While skills include thinking skills or cognitive skills, skills to act or motor skills, being or acting skills, and interaction skills.

The ability to learn can be reflected from the lessons learned. Learning outcomes are a reflection of the quality of students' learning and reasoning ability. Development of Traffic thinking or reasoning power can be seen from the students' ability to set, adjust, alter or improve his mind so that students can act more appropriately. Schunk (2012) revealed that the learning based on self-regulation refers to the systematic process of students in directing the thoughts, feelings, and actions they are to achieving their learning goals. Thus, the ability to learn can be reflected from a person's response to an object.

Widoyoko (2012) revealed that in order to assess a person's attitude toward a particular object or condition made by looking at the response observed in the face of the object. Person's response in the face of an object by Eagly, AH & Chaiken, S. (1993, in Widoyoko, 2012) can be divided into three, namely: cognitive responses, affective responses, and behavioral responses. Cognitive responses associated with what is known about the object attitudes, affective responses associated with a person's feelings or emotions associated with the attitude object, whereas behavioral responses related to the action arising from the person's attitude when facing object. Premises other words, the response is a cognitive representation of what is known, believed, and understood by the individual owner's attitude. Affective response is related to aspects of emotional feelings. The response behavior is the tendency to behave in accordance with certain attitude of a person. Furthermore Mar'at (1994, in Widoyoko, 2012) used the term for all three components of attitude in a row in terms of cognition, affect, and konasi.

The description it is important an understanding of the nature of science teaching and natural science learning for teacher till they can know the abilities to learn what will be procured to students prospective teachers. By knowing exactly urgency capacity or skill in life is very useful for them in solving the problems encountered in the practice of teaching and everyday life. Natural science education is expected to be a vehicle for students to learn about themselves and about the scientific nature. Natural science education inquiry and also directed to do so can help learners to gain a deeper understanding of nature.

In order for students to understand the inquiry and use in studying natural science (IPA), the teacher must understand the inquiry and inquiry-based methods. What teachers need to know and be able to use inquiry effectively? To answer this question, the Science Teacher Development Professional Standards classified into two categories, namely: (1) learning science through inquiry, (2) learn to teach science through inquiry. Prospective teacher preparation program engages students regularly and effectively in scientific inquiry and facilitate understanding of the role of inquiry in the development of scientific knowledge. Inquiry with respect to: (a) the process of asking questions and solving problems, (b) reflect and construct knowledge from data, (c) collaboration and exchange of information in finding a solution, (d) developing concepts and connecting empirical experience. (NRC, 2000). Furthermore, Trianto (2010) suggested that the inquiry is not only developing intellectual abilities but all this potential, including the development of emotional and inquiry skills is a process that begins with

formulating the problem, formulate a hypothesis, collect data, analyze data, and make conclusions.

Another factors causing description has not increased ability to learn natural science students are learning less than the maximum structuring factor conditioning the learning or learners in giving meaning construction experience and training knowledge. Hilgard (Sanjaya, 2011) suggests that the achievement of learning ability in accordance with the notion of learning itself, expressed "*learning is the process by which an activity originates or changed through training procedures whether in laboratory or in the natural environment as distinguished from changes by factors not attributable to training*". Based on this description it can be concluded that learning is not just accumulating knowledge. Learning is a mental process that occurs in a person causing munculkannya change behavior or attitudes. Mental activity that occurs because of interaction with the environment conscious individuals.

Schunk (2012) revealed that in developing the competence of any field requires a mastery of process capability. General skills such as problem-solving skills and critical thinking skills so urgent as achievement of learning outcomes include cognitive, motor, and social skills. While the specific skills related to the application of the process of construction of meaning knowledge. The most important thing to consider educators is how to develop the ability of learners primarily associated with problem-solving abilities.

4. Conclusion

Achievement of students by field of attitude scale aspects of cognition are less than 60% ($\pm 59.24\%$) can be concluded that the lecture had lived not optimal to develop students' learning skills. Overall average percentage of the aspect of cognition, affect, and konasi only reached 35.88%. This was confirmed by test data procurement of the concept that is also low, only reaching an average of 38.46%. It is thus important for teacher to understand natural science and re-learning natural science so that the above facts can be minimized.

Based on the natural science (IPA) as a process and product, making the science is important for the development of other sciences. Science teachers must have the knowledge and strategies to enhance creative thinking skills. For that we need to teach science standards because, as a matter of science that serve to improve the quality of life, as a basis for the development of language skills/logic and problem solving, which can make a decision (scientific findings) as a hobby or future opportunities.

5. Recommendation

Natural science learning in primary schools is the spearhead for learners in formal education to develop and hone their learning skills appropriate level of development mindset learners. Facts on the ground gives a signal that natural science learning given by teacher or learning process experienced by students learning patterns do not imply intact (still limited to the transfer of knowledge and the acquisition

of the concept) so that learning can not optimally developed. To equip prospective teachers will be understanding of the true natural science learning will require learning innovations that meet the standards of science teaching.

Based on the results of this study recommended natural science lecturing that can develop various skills of learners with innovations such as problem-based learning (Problem Based Learning, PBL), which empowers all potential learners. Akcay (2009) suggested that PBL is essentially making the students gain an understanding and mastery of knowledge, problem solving ability, learn to direct or manage their own learning, and group participation. PBL can improve higher-order thinking skills through the provision of critical questions yag problems that require students to think and search and analyze the data in the resolution of the solution of the problem.

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