

The Suitability between Outdoor Study Environment Matters and Learning Theory in Senior High School

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Abstract: Outdoor study is one of method being developed around the world, including Indonesia. National curriculum that is student centered make teacher not only teaching in the classroom but also in the outdoor. Outdoor study makes students more active and capable to learn objects at around environment or contextual. The structure of learning plans in curriculum is not included learning theory points. Learning theory is also often forgotten in educational research bachelor and master's degree level, both classroom actions research and quasi-experiment. That condition makes the learning essence should be strengthened become weak or even disappear. This paper aim is to discuss the suitability between outdoor study environment matters and learning theory in senior high school. Paper prepared by qualitative methodology. Data collected by observation during implementation of outdoor study and interviews with teacher of geography. Data were analyzed with descriptive qualitative. The results show that the application of outdoor study is suitable with the psychological theories of intelligence and meaningful learning. The suitability is reflected in the learning activities, there are: before, during, and after working in the outdoor. The teacher ability to implement the basic of psychological theories of intelligence and meaningful learning makes learning more easily to understood and meaningful for students.

1 INTRODUCTION

Education aim to increase student skills in all domains, there are: cognitive, affective, and psychomotor. Domain that has been formulated Bloom (1976) and perfected by Krathwohl (2002) can be achieved through the application of a variety of learning methods. One of method being developed around the world such as: United Kingdom, Germany, Australia, United States of America, and Indonesia are outdoor study.

Outdoor study in United Kingdom according to Rickinson (2004) initially all subjects are teaching in the classroom. Botanical subjects began to make field observations because a lot of weakness if it does not direct interact with the object. Field observations developed by Clark (South London) into school gardens from 1896-1926 in which there is outdoor study. School gardens then developed into school journey that adopts the Jenkins (1980) concept from Germany. School journey is study of the field around students both observe and discuss geography, history, biology, and aesthetic. School journey evolved into outdoor study.

Australia is closely connected with the United Kingdom because it is one of the commonwealth countries. It causes learning in Australia is also developed and implementing outdoor study. According to Thomas (2005) one of the outdoor study application in Australia relating with environment matters in traditional adventure in outdoor environmental education.

Outdoor study programme in United States of America is outward bound. This program became forerunner to outdoor study implementation in Indonesia. According to Purnomo (2012) Indonesia first implemented outdoor study in 1990 with outward bound Indonesia programme based in Jatiluhur-Purwakarta-West Java.

Curriculum in Indonesia (national curriculum) is student centered. The way to develop the student's activity makes the teacher not only applying the learning in the classroom. Outdoor study is one of alternative learning makes students more active, enthusiastic, and motivated in the learning process. According to Sudjana and Rivai (2010) the advantages learn environment in learning process that is more attractive, so student motivation higher.

According to Johnson (1990) observation makes students learn very well when involved in an experience and a willingness to learn are higher when students can freely and actively during learning. According to Tuula and Martin (2013) outdoor in tourism matter makes students actively participate in learning activities so that they are more understanding on tourism activities which reflected the current practice of serving tourists.

Outdoor study also makes learning more contextual as direct observing the surrounding environment. Direct observation makes students understand and appreciate the neighbourhood environment. According to Sumarmi (2012), contextual learning is a blend matter that is understood in class with daily activity or outside the classroom. According to Vera (2012) that outdoor study could construct the person familiar with their surroundings environment and can direct the respect for nature and sustainability.

The learning plans structure in curriculum is not included learning theory point. Learning theory only has been studied by teachers in subjects the development of learners and or educational psychology. After graduated they no develop or linking learning theory with the teaching profession again. Learning theory is also often forgotten in educational research bachelor and master's, both classroom research action and quasi-experiment. That condition make learning essence should be strengthened become weak or even disappear. According to Sumarmi (2012) the learning application must understand the basic or theoretical for example geography learning with mind maps must understand the noted methods that developed by Tony Buzan since 1970s.

Outdoor study in this paper is practiced on environment matter. The environment in this case is the Kendeng karst hills zone near the student school location in Babat City-Lamongan. According to Bemmelen in Forestier (1998) one of the seven physiographic units in Java is the central anticlinal zone (Kendeng hill). According to Sumarmi (2012) the basic competencies that can be done with field study one of which is describes environment use in relation to sustainable development.

The authors are linking learning theory with outdoor study in every step of learning. Outdoor study learning steps according to Sumarmi (2012) include: class preparation, selecting area, group dynamics, managing equipment in the field, working in the outdoors, back in the classroom, and student final report. That steps accordance with Abdurrahman (1995) include: preparation,

implementation, and evaluation. This paper aim is to discuss the suitability between outdoor study environment matters with learning theory in senior high school.

2 METHODOLOGY

This research used quantitative methodology with kind of case study. Subjects were teachers and students of grade XI IIS Senior High School Muhammadiyah 1 of Babat, Lamongan second semester of 2015/2016 academic year, which consists of XI IIS 1 Class. That class was got the application using the outdoor study (observation, interviews, and map media).

The data collected in this research is to get the learning theory underlying outdoor study are reflected in the outdoor learning activities. Data obtained by observations and interviews on research subject. Implementation of the data collection carried out for six weeks. Data was analyzed using descriptive quantitative. Quantitative descriptive means data collected described by the sentence and confirmed by literature sources. According to (Fatchan, 2013) one of data collection on qualitative research is observation and interviews, then analyzed by descriptive ways.

3 RESULTS AND DISCUSSION

3.1 Results

The results showed that outdoor study learning suitable with the psychological theories of intelligence by Piaget and meaningful learning by Ausubel. Suitability reflected in the learning activities through before, during, and after working in the field. The teacher ability to implement the basic psychological theories of intelligence makes learning easy to understand because it appropriates the student cognitive development. Students cognitive development grade XI (aged between 16-17 years) this case include the formal operational stage. This stage, students are able to experience the outdoor study learning with scientific paper as a student report.

Students are also directed by teachers to experience assimilation and accommodation process. The assimilation process is obtained by students before, during and after working in the field. The accommodation process is obtained by student after

working in the field step. The step before working in the field (preparation) includes: class preparation, selecting area, group dynamics, and managing equipment in the field. The step during in the field (implementation) includes the step of working in the outdoor. The step after the field (evaluation) includes back in the classroom and final student report.

In step preparation class, students learn the matter. Students also understand and able to fill out instruments and also using the equipment. This step student experience assimilation process, in this case the students begin to understand the object generally like prior knowledge they have. Selecting area step, the students know the location will be observed: karst hills districts Babat-Lamongan (damage) and District Baureno-Bojonegoro (preservation). Students also understand the focus of the observed (physical and social). This steps students experience assimilation process, in this case the students understand the object in specific location, including focus observed.

Group dynamics step, the students divided into 11 groups of three to four for the interview process. This step students experience assimilation process, in this case the students understand the object study in groups. Managing equipment in the field step, students understand and practice using the instrument to be used to collect data. Students also determine the equipment to be used (HCl, pipettes, and cameras). This stages students experience assimilation process, in this case the students understand the object and relate it to the way data collection.

Working in the outdoor step, students take the data and observe the facts on the field. This stages students experience assimilation and accommodation process. Assimilation process occurs when students understand the object directly by observation and interviews. The accommodation process occurs when students know the changes that occur on the object.

Back in the classroom and final student report step, students make scientific paper related to damage and preservation karst hills environment. Teachers provide guidance at the same time observing the students' activity in the working scientific paper process. This step students experience the assimilation and accommodation process. The assimilation process occurs when students understand the object after processing data from the field and link it with the literature. The accommodation process occurs when students know

the object changes from the field were examined in-depth by the literature.

The teacher ability to implement meaningful learning makes learning more meaningful for students, in the sense that students are able to apply the benefits of learning in daily activity. Students experience two dimension of meaningful learning. The first dimension is obtained by students before and after working in the field. The second dimension obtained by student after working in the field and during working observations report.

In class preparation step students enter in first dimension, in this case the students prepare to get information input individually. Selecting area step students enter the first dimension, in this case the students prepare and obtain information object location to visit. Group dynamics step students enter the first dimension, in this case the students prepare to receive input information in group.

Working in the outdoor step, students enter the first and second dimensions. The first dimension when students get information in the form of data and facts on the field. The second dimension when students collaborate the information with temporary knowledge that obtained class preparation step. Back in the classroom and student final report step students enter on the first dimension, in this case the students collaborate information with a comprehensive knowledge through discussion and literature study.

3.2 Discussion

The suitability between outdoor study with the psychological theories of intelligence by Piaget. Piaget is a cognitive psychological scientist from Switzerland who became one of the pioneering constructivistic learning theories. Piaget's theory begins from disagree against empiricism and rationalism. The empiricism theory or seen from the biology view that the knowledge gained from the senses activity on the surrounding environment. The rationalism or general view is knowledge comes from logical reasoning. According to (Piaget, 1951) It is therefore natural that the psychological theories of intelligence should come to be placed among biological theories of adaptation and theories of knowledge in general. Piaget theorized that the process of gaining knowledge is a combination of empiricism and rationalism view is referred to as the psychological theories of intelligence.

Outdoor study is observation process with senses directly and also conducting logical reasoning. Direct observation of geography objects in the field

involves many senses experienced by students, rather than just in the classroom. Student reasoning process can be obtained on all of outdoor learning steps. That reasoning there are when before to the field, during working in the field, and after from the field. The activities related to karst hills environment matter. This indicates that the outdoor study is suitable with the psychological theories of intelligence. According to Dahar (2011) "Piaget found observation and logical reasoning is important because one does not happen without the other (interdependent)".

Observation and logical reasoning according to Piaget (1951) through two processes namely assimilation and accommodation. Assimilation is a process to understand the object. Accommodation means that the student thought process against the object changes. This is consistent with the student aim doing the outdoor study in order to understand the real environment directly and observe the change. According to Gunarsa (1982) "that assimilation and accommodation occur together and complement each other, each time the child adaptation with environment". According to Paisley et al. (2008) outdoor study makes students more familiar with the environment well.

The psychological theories of intelligence is also discusses the cognitive or intellectual development stages or namely construction of operations. The first stage at age <2 years, second aged 2 to 7-8 years, the third 7-8 to 11-12 years, and the fourth > 11-12 years. Each stage has a certain ability to acquire knowledge. The higher stage, the child receives knowledge of more complex (Piaget, 1951; Dahar, 2011; Rahyubi, 2012).

These research subjects age between 16-17 years, or enter the four stages of intellectual development. The fourth stage or the formal operational stage, children have the ability to think hypothetically, logical, and based on the theoretical. That ability consists at the making scientific paper elements. This is shown that learning by Piaget theory at this stage suitable for training student writing ability scientific papers. According to Rahyubi (2012) at this stage (four) children are able to think logically, with the formal theoretical thought based on the proportions, hypotheses, and can draw conclusions. According to Sumarmi (2012) outdoor study has the power to test the hypothesis with empirical methods.

The suitability between outdoor study with meaningful learning theory by Ausubel. Meaningful learning has two dimensions. The first dimension is knowledge input gained byself or with the teachers

guidance. The second dimension, student linking input on existing cognitive structure. According to Dahar (2011) for Ausubel, meaningful learning is process of linking new information on the relevant concepts in person cognitive structure.

The suitability this theory with outdoor study is currently at two learning dimension. The first dimension is information input (observations and interviews) obtained byself and with little teacher guidance while working in the field. The information is then processed by student at second dimension, meaning students collaborating information with geography material in the school (concepts that already exist). The second process can be put in the form of scientific paper. Both of these things make student field observations process meaningful for students self. According to Gunarsa (1982) that Ausubel and Sullivan in 1968 are show interactional relation between concept and basic structurally development. According to Arsyad (1997) that direct observations provide the most complete impression and meaningful on existing information and ideas.

Outdoor study makes students learning more meaningful. Meaningful learning is because students can understand the importance of knowledge to real life after observing the phenomenon on the field. Knowledge in this case the importance of the karst hills environment to life. According to Sudjana and Rivai (2010) that the many benefits can get from field study activity (specialy environment), one of which is the essence of learning more meaningful because the students are faced with the situation and the real situation. According to Vera (2012) that the outdoor study could form person that familiar with their surroundings environment and can direct attitude respect for nature and sustainability.

Meaningfulness of learning is reflected in the student scientific paper, especially in the preservation solution. Students write alternative solutions that demonstrate concern and awareness of their surroundings karst hills environment. Giving solutions according to what is observed in the field (contextual) to be more value in student scientific paper. According to Prasetya (2014) the process of learning in outside the classroom can provide direct experience so that lessons more concrete and real, means of learning more meaningful. According to Özdilek (2011) environmental outdoor education learning can raise awareness and positive attitude towards the environment.

Based on observations by author that Piaget and Ausubel is the most powerful learning theory that underlying the outdoor study. In addition to the two

theories, small linked especially behaviorism learning theory. Figures such as: Watson, Pavlov, Thorndike, Hull, Guthrie, and Skinner. The theory of these figures generally say that learning comes from changes in behavior of children (students) committed by an adult (teacher). The theory is obtained mostly from testing on animals first. According to Rahyubi (2012) that the behaviorism theory children tend to be passive, response only using habituation method, and can be more powerful if there is an attempt reward-punishment.

Teachers knowledge to effort suit the learning theory with learning process make learning more structured and leads to a clear purpose. In fact, teachers tend to ignore the theoretical basis of existing learning and doing teaching activities as usual. This makes the learning process tends to be routines activity and dominated memorize. The history of education is important and should be the basis for learning. According to Rickinson (2004) school gardens later developed into school journey which adopted the Jenkins concept (1980) from Germany. This means that the development of education today should not forget the concept of the past which it is based.

4 CONCLUSIONS

The results showed that outdoor study implementations suitable with the psychological theories of intelligence and meaningful learning. The suitability is reflected in the learning activities before, during, and after working in the field. The teacher ability to implement the basic psychological theories of intelligence and meaningful learning makes learning more easily to understood and meaningful for students. Teacher when implementing learning models or method should consider the basic theory underlying the study. It aims to learn more structured and led to the clear purpose.

REFERENCES

- Arsyad, A., 1997. *Media pembelajaran*, PT Raja Grafindo Persada. Jakarta.
- Abdurrahman, 1995. *Belajar dan pembelajaran*, Alfabet. Bandung.
- Bloom, B. S., 1976. *Taxonomy of educational objectives the classification of educational goals: handbook 1 cognitive domain*, Longman Inc. London.
- Dahar, R.W., 2011. *Teori-teori belajar dan pembelajaran*, Penerbit Erlangga. Bandung.
- Fatchan, A., 2013. *Metode penelitian kualitatif: 10 langkah penelitian kualitatif pendekatan kontruksi dan fenomenologi*, UM Press. Malang.
- Forestier, H., 1998. *Ribuan gunung, ribuan alat batu: prasejarah song kepek, gunung sewu, Jawa Timur*, Kepustakaan Populer Gramedia. Jakarta.
- Gunarsa, S. D., 1982. *Dasar dan teori perkembangan anak*, PT TBK Gunung Mulia. Jakarta.
- Jenkins, E. W., 1980. Some sources for the history of science education in the twentieth century, with particular reference to secondary school. *Jurnal Studies in Science Education*. 7, p.27-86.
- Johnson, D. W., 1990. *Reaching out: interpersonal effectiveness and self-actualization*, Prentice Hall Inc. New Jersey.
- Krathwohl, D. R., 2002. A revision of bloom's taxonomy: an overview. *Theory Into Practice Journal*, 41, p.212-218.
- Özdilek, Ş. Y., 2011. Community and nature as curriculum: a case study of an outdoor environmental education project. *The International Journal of Educational Researchers*. 3(1), p.33-45.
- Paisley, K., et al., 2008. Student learning in outdoor education: a case study from the national outdoor leadership school. *Journal of Experimental Education*. 30(3), p.201-222.
- Piaget, J., 1951. *The psychology of intelligence*, Routledge & Kegan Paul LTD. London, 2nd edition.
- Prasetya, S. P., 2014. *Media pembelajaran geografi*, Penerbit Ombak. Yogyakarta.
- Purnomo, A., 2012. *Pengaruh pembelajaran outdoor terhadap pengetahuan dan sikap pelestarian lingkungan mahasiswa SI pendidikan geografi universitas kanjuruhan malang*, PPs UM. Malang.
- Rahyubi, H., 2012. *Teori-teori belajar dan aplikasi pembelajaran motoric*, Penerbit Referens. Majalengka.
- Rickinson, M., 2004. *A review research on outdoor learning*, National Foundation for Educational Research and King's College. London.
- Sudjana, N., Rivai, A., 2010. *Media pengajaran*, Sinar Baru Algensindo. Bandung.
- Sumarmi, 2012. *Model-model pembelajaran geografi*, Aditya Media Publishing. Malang.
- Thomas, G., 2005. Traditional adventure in outdoor environmental education. *Australian Journal of Outdoor Education*. 9, p.31-39.
- Tuula, R., Martin, A. J., 2013. Organization management and the development of a qualification system in the outdoor recreation sector: a case study of Estonia. *Journal of Outdoor Studies*. 7. P.80-87.
- Vera, A., 2012. *Metode mengajar anak di luar kelas (outdoor study)*, DIVA Press. Yogyakarta.