



## THE DEVELOPMENT OF VII GRADE LESSON PLAN FOR SCIENCE SUBJECT WITH 3N: *NITENI*, *NIROKNE*, *NAMBAHI* (TO INQUIRE, TO COPY, TO ADD) TAMANSISWA APPROACH WITH OUTDOOR LEARNING ACTIVITY BASIS

Astuti Wijayanti✉, Retno Utaminingsih

Science Education Program, Teaching and Education Faculty  
Elementary Education Teaching Program, Teaching and Education Faculty  
Universitas Sarjanawiyata Tamansiswa, Indonesia

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### Abstract

Learning process with 3N Tamansiswa approach (Niteni (inquire), Nirokke (copy), Nambahi (add/innovate)) which is based on outdoor learning is an innovative learning inviting student to think creatively and develop their processing skills in learning. This 3N approach is in line with scientific approach in 2013 curriculum. The development of Integrated Science Lesson Plan for VII grade students based on 3N Tamansiswa and Outdoor Learning Activity was done to know that the lesson plan is proper to be used to teach integrated science for VII grade students. This research used R&D method from Sukmadinata, that it involves: 1) initial study which includes literature study and the proposal for initial draft of the product, 2) the development of integrated science lesson plan for VII grade of Junior High School students with 3N Tamansiswa approach and Outdoor Learning Activity, and 3) the evaluation with limited trials and wider trials. The data were collected by Focus Group Discussion (FGD), documentation, and distribution of questionnaire. The result showed that the lesson plan of Science Subject for VII graders with 3N Tamansiswa and Outdoor Learning Activity approaches was proper for teaching science. The quality of the lesson plan was scored averagely in 91 in good category by reviewers in FGD I. The score was increased to 99 in FGD II in a good category.

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#### ✉Corresponding Address:

Science Education Program, Mathematics and Natural Science Faculty  
of Universitas Negeri Semarang  
Telp. (024) 70805795 Postcode 50229  
E-mail: [anggrekputihr65@yahoo.com](mailto:anggrekputihr65@yahoo.com)

## INTRODUCTION

Learning tools is needed in the learning activity of Science subject. It eases teacher to handle the learning process. According to Trianto (2011: 201), learning tools is a set of tools used to manage the learning process. These learning tools can be lesson plan, students' worksheet, and instrument of evaluation or students' assessment. Based on the Ministry's Regulation Number 41 Year 2007, lesson plan is the elaboration of syllabus to direct the activity of the students in achieving the basic competence of the learning process. It becomes teachers' guidance in doing the learning process whether in the classroom, laboratory, or the fields for every basic competence. Lesson plans contain the things which are related to the learning activities in order to master a basic competence.

Based on the Regulation of National Ministry of Education Number 22 Year 2006, the structure of curriculum for Junior High School includes integrated Natural Science Subject. It explains that the learning of science for Junior High School students should have used integrated Natural Science Subject. However, the delivery of materials in the school is factually still separated and unintegrated. Students in learning integrated Natural Science should be facilitated to do observation, investigation, and inquiry to make them able to develop their mindset. Students can do a set of activities in the learning process emphasizing on the critical and analytical way to find and discover the answer of certain problems. To ease the students in building their understanding and finding what they are going to learn by themselves, teachers have to arrange a lesson plan. Somehow, the execution of science subject in the school showed that the arranged lesson plan did not reflect the activity/experience of science learning process making the students do not understand the materials. Besides, most teachers do not fulfill the standard of arranging a good lesson plan for science subject.

The root of the problems is most likely teachers' paradigm that learning is only limited to know something. Environment-based learning is rarely conducted at school. It makes the learning process poor of activity stimulating students to think, process, and cooperate. Thus, teacher

should do innovation in learning. One of the innovations is by using 3N Tamansiswa approach (*Niteni* (inquire), *niroke* (copy), *Nambahi* (add/innovate)) with outdoor learning activity method.

In Trianto (2011: 17), learning is a two-way interaction from teachers to learning participants, where both stakeholders do transfer of communication intensely and directed to certain target. Natural science is hoped not only to become a transfer of knowledge, but also to become a way to develop scientific process, thereby, the activity can develop students' scientific skills.

Outdoor learning activity is an innovative outdoor learning process which invites student to interact and discover scientific concept out of the class. The learning process out of the class is deemed as more challenging for students and bridging the relation between books' theory and the real evidence (Suherdiyanto, Mawardi, & Anggela, 2016). Amini (2015) adds that: (1) the improvement of concept mastery in the environmental education was better than the regular class, (2) the performance and attitude of the prospective teachers of the elementary school was in a good category (3) reviews their ability in implementing outdoor based instruction was in a good category (4) reviews their attitude in taking care of the school environment was in a very good category.

According to Ki Hadjar Dewantara, learning process should improve learners' potentials by 3N; "*Nitèni*" (inquire), "*Nirokke*" (copy), and "*Nambahi*" (add/innovate) (Yunianto, 2014). *Nitèni*, is called as to inquire in English. *Niteni* is human cognitive process. It is derived from the word "titen" which is directed to the ability of observing, acknowledging, and catching the meaning precisely to behavior, characteristics, procedures, and facts from certain observed object by observing and comparing deeply, sharply, and clearly involving all human senses. The first activity of learning process is observing by understanding a problem, reviewing, observing different objects, phenomena, environment, books, and methodical reference or execution. In the observation, the initial stage was the introductory. Observing in learning process does not merely mean reading, seeing, but

comprehending and actualizing something well. Inquiring has specific skills which should be taught by a teacher to the students that they can observe something correctly.

*Nirokké* or copying is an activity where people copy all the things they see, hear, and feel. Copying is not a wrongdoing. It means duplicating people's self to a model which method, spirit, and problem management is going to be copied as a learning material which is easy to absorb and understandable. However, this thing is not considered as plagiarism. Instead, this is a learning process where students tend to become a teacher whom they are going to duplicate. *Nirokké* is a hundred percent of duplication as the learning step. In learning, *Nirokké* can be done by modelling. Students can copy other people's behavior (teachers, friends, society, etc) and this vicarious experience is learning from other people's success and failure (Fatmawati, Maryani, & Laila, 2015).

*Nambahi* or to add is adding the obtained information from two previous steps, *Nitèni* and *Nirokké* to make it a better perfection based on the hearts, souls, mindset, and conscious. *Nambahi* (to innovate/to add value) is a final point which does not only an activity of copying other people's product. In *Nambahi*, there have been an innovation, or completing something based on individual needs through managing, changing, modifying, innovating, repairing, decreasing, and thinking creatively to create different senses of new principle that the learning experience will result a discover or possibility of invention. *Nambahi* decreases the percentage of duplication, making everything different from its origin.

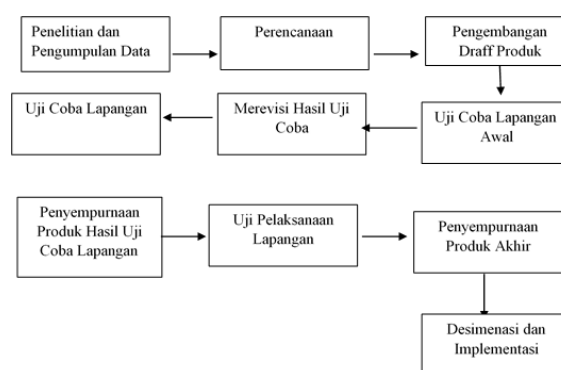
The learning of natural science based on the environment has not commonly applied in schools. Recently, science learning process is mostly developing classroom activity which does not make the materials close to students' daily life. It causes students difficult in understanding the concept of science, especially in applying science in their developing life.

Through 3N Tamansiswa and Outdoor learning activity for science learning, teacher can plan and implement the use of the environment and scientific process in learning science. The activities of *Niteni*, *nirokké*, *Nambahi* which is done

by the students is hoped to make them able to understand and construct their understanding that they can solve the scientific problems in their daily life. Besides, the application of 3N in outdoor activity can make the students develop their creativity.

## METHODS

This research used Research and Development approach. Research and Development are the process to develop and validate a product of education (Borg & Gall, 1983).



**Figure 1.** Steps of Research & Development

From the 10 steps of research and development of Borg & Gall, the used steps in this research is the modification from those 10 steps to three steps of research theorized by Sukmadinata, which are: 1) initial study which includes literature study, fields study, and the creation of products' initial draft, 2) the development of lesson plan for integrated science subject for VII grade students based on 3N Tamansiswa approach and Outdoor Learning Activity, and 3) the limited and wider evaluation (Sukmadinata, 2015). This research was limited until the step of developing the tool.

The technique of data analysis was using descriptive qualitative method (Miles & Huberman, 1992). This research aimed to develop the lesson plan for integrated science subject for VII grade students based on 3N Tamansiswa approach and Outdoor Learning Activity. This research was done in 8 months in the even semester from the academic year of 2016/2017 and the odd term of the academic year of 2017/2018.

The learning tool is validated using the validation of experts through Focus Group Discussion (FGD). Learning tools will be considered good if not less than 75% validators give good score to the learning tools as the consideration to revise the developed learning set. The questionnaire of natural science lesson plan for the VII grade students in this research focuses on these categories:

Interval	Category
$0 \leq X \leq 50$	Not Good
$50 < X \leq 100$	Good

The evaluation of questionnaire to the lesson plan for integrated science subject for VII grade students based on 3N Tamansiswa approach and Outdoor Learning Activity was analyzed by counting the percentage of teachers' and students' percentage. If the validator gave score less than 75%, there should be a revision. The categories of validation of questionnaire evaluation to the lesson plan are as follows

Interval	Categories
$0 \leq X \leq 20$	Not Very Good
$20 < X \leq 40$	Not Good
$40 < X \leq 60$	Fairly Good
$60 < X \leq 80$	Good
$80 < X \leq 100$	Very Good

## RESULT AND DISCUSSION

In the initial stage, the researcher did initial researches consist of literature study, fields study, and the initial creation of products' draft. In this step, it obtains the picture of the facts, hopes, and the alternatives of solution to the remaining problems. This step was done in the observation in Taman Dewasa Ibu Pawiyatan Junior High School. This analysis was related to the problems of teaching in natural science subject, the condition of the school, the use of media, and students' characteristics.

This step began with analyzing the core and basic competence which is in line to the outdoor learning activity. It was then continued with elaborating the indicator of learning to the material of energy sources. This analysis is helpful

to determine the format of lesson plan as the support of the learning process with *Niteni*, *Nirokne*, *Nambahi* principles in the school with outdoor learning.

Based on the observation to the curriculum and the nature of learning materials, one basic competence was chosen as the target of development. Basic competence 3.5, analyzing the concept of energy, sources of energy, and the transformation of energy, including for the photosynthetic as well as 4.5, regarding the transformation of energy, including the photosynthetic.

The steps of development to natural science subject for VII grade students with 3N Tamansiswa approach and outdoor learning activity for the determination of form and design of lesson plan was adapted to the standard of education process by taking the material in teachers' and students' book based on 2013 curriculum with 2016 revision version in the odd semester 2017/2018 using the material of photosynthetic. The main activities uses the approach of 3N (*Niteni*, *niroke*, *Nambahi*) added with the outdoor learning activity model.

The development of this lesson plan was continued with the trial process with limited and wide trials. In this stage, there were expert appraisal and developmental testing. This step produced initial product for the learning material in the form of lesson plan for integrated science subject for VII grade students based on 3N Tamansiswa approach and Outdoor Learning Activity which was reviewed by experts of learning tools and materials, thereby, the lesson plan will be enhanced well by the first revision of lesson plan. Then, the sets of lesson plan were scored by some reviewers, 2 peer reviewers from the teachers of natural science subject, resulting the second revision.

The inputs of the lesson plan from the reviewer in the first FGD were: the scoring aspect of basic competence were the indicator of competence goals did not reflect the analysis of core competence. In the point of 4.1.1, IPK was made more specific, like presenting the result of experiment/ trials/ observation. The score of character in the learning objective also should be adapted in every step of learning activities.

The materials of the lesson plan should be repaired. The materials should be made in more brief way or in each point with main mapping or highlight to the essential materials adapted to the objective of the learning process. The materials can be clarified by factual, conceptual, procedural, remedial, and enriching explanation and exercises. The materials for the learning process should also be adapted with the depth of the focus based on the indicator and objectives of learning process. The choice of ingenhout material was considered right and correct to the competence and able to be executed outdoor.

The perception of outdoor should be clarified that it was not merely a study tour and exploration of the nature, instead, it is more likely can be the observation of the environment around school. In the point of approach/ strategy/ methods contained with 5M or 7M scientific approaches companied by 3N (*Niteni, Nirokne, Nambahi*) outdoor. The table of the core steps should be removed and entered to the learning activities. The steps of the learning process should be synchronized with the scientific approach.

The media, tools, and source of learning should be filled with slides/ pictures/ videos/ practicum about the materials which are going to be mentioned or written. The reference of the learning process should be explained as the guidance for the teachers and students. It can also be taken from the internet.

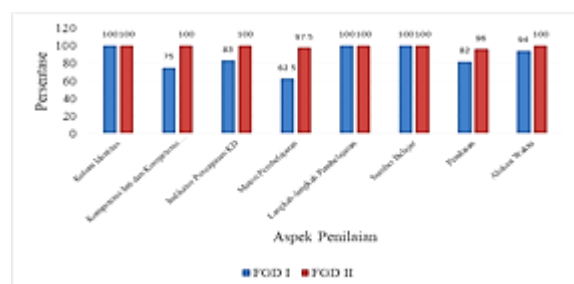
The scoring aspects of the lesson plan should also be corrected that the observation of behavior should be able by using the observation sheet for students' behavior. The test of students' performance should be change with psychomotoric skills evaluation sheet. The scoring for students' behavior were mentioned in a column of table which is measured by the activities based on the learning objectives. The essay written tests should also contain the column of key answers and scoring. In the scoring, the practicum test can be written as a) preparing tools and devices, b) formulating hypothesis; c) determining the variables of the experiment, d) doing the experiment outdoor, e) tabulating the data, f) drawing graphic, g) interpreting the data; g) concluding the experiment's result.

This revision stage included the formative evaluation for the perfection of the developed

product. The evaluation should be done in every step, defining, planning, developing, and distributing. After that, the FGD II could be started. The suggestions from the experts to lesson plan for integrated science subject for VII grade students based on 3N Tamansiswa approach and Outdoor Learning Activity in the second FGD were the aspect of achievement to outdoor basic competence can be executed everywhere. It should be planned and done based on the competence of the subject which should be mastered by the students. The indicator of achieving the competence can be elaborated as two or more learning objectives.

The approach/ strategies/ model/ methods should be written as the blue print of 3N and the indicator of its activities. The steps of the lesson plan in 3N, especially the main activities should be made as a blue print to make students able to do *Niteni, Nirokne*, as well as *Nambahi*. The arrangement of *Niteni, Nirokne, Nambahi* can be arranged everywhere based on the arranged main activities. Thus, it will not be segmented as the learning process has to follow certain order. 3N is similar to current system of scientific approach. In *Niteni*, teacher can do modelling by splitting and uniting something. *Nirokne* will appear more when the students do outdoor practicum. In the newest scoring aspect, there should be an addition of passing grade criteria and the remedial/enrichment exercises for students. The written test should be adjusted to learning objectives.

The description of quality of learning tools of integrated science for VII grade students using the respective approach and methods from the review of the experts of learning tools, experts of materials, teacher reviewer, and students' responses can be seen in the following Figure.



**Figure 1.** The Quality of the Lesson Plan from the Review in FGD I and FGD II

The quality of the Lesson Plan in FGD I was measured as getting the average scoring percentage of 91 and categorized as good. The score was increased in FGD II as 99 with good category. The scores showed the the lesson plan of integrated natural science for VII grade students based on 3N Tamansiswa approach and outdoor learning activity was proper enough to be used in the real learning of science.

The improvement of learning process can be started from the planning which aims to plan a learning process which can teach students and be centered to them as well as how is the students can actively participate in the learning process. Kusumawati (2016) explains that teachers need supervision about the problems in arranging a lesson plan where most of them are not proper enough (only reach 59.375%); and the competence of teacher who can do the learning process from the lesson plan only reaches 60.8. Thus, there should be an evaluation and input to teachers' skills in arranging and implementing their lesson plan. Besides, in order to handle the difficulty, the researchers have to develop the lesson plan which is used as the model for teacher in conducting the learning process of science outside of the class.

Based on the mapping analysis of the standardized process, the component to arrange a lesson plan has real difficulty in elaborating the content of the lesson plan with 3N and outdoor learning activity. In the end, 3N, whether *Niteni*, *Niroke*, or *Nambahi* can be explained as the approach of learning with model outdoor learning activity.

In Nisa (2015), the characteristics of outdoor learning contain exploration through discovering and inquiring. Meanwhile, the object of the learning process has the effect to students' cognitive, affective, and psychomotor skills, thereby, they have good mastery to the skills and knowledge. The second character is there are prediction, observation, and explanation. The third characteristic is there is a report for communication, whether oral, written, picture, photo, or audiovisual. The fourth is the learning process is designed to be joyful to raise an attraction to study. It enhances the combination / collaboration between 3N approach with outdoor learning activity.

The planning of *Niteni*, *Nirokne*, *Nambahi* can be designed everywhere with many activities in line with the initial core activities. Therefore, it will not be segmented as a learning model which should follow certain order. 3N is similar to current system of scientific approach. In *Niteni*, teacher can do modelling by splitting and uniting something. *Nirokne* will appear more when the students do outdoor practicum.

Based on Setyawanto & Basuki (2013), learning material is the content of the curriculum which is given to the students according to the designed indicator. The learning materials describe the competence which is objected by the indicator. The materials are classified in two types: declarative and procedural knowledge. The second classification separate knowledge into 4 types: facts, concepts, principles, and procedures. Declarative knowledge contains the information, concepts, facts, etc. Procedural knowledge contains the processing skills. The materials of facts are the materials of object name, name of certain places, name of people, symbol, historic occurrence, name of things' component, etc. The materials of principles are related to formulas, quotes, and paradigm postulate. The materials of procedure are related to the steps of doing certain things in order. The correction of arranging the learning materials was related to the classification of learning materials, facts, concept of principles, and procedures.

Learning strategy which can be chosen are doing reinforcement that the students can be motivated in actively doing learning process. The active learning supposed to be done by the students in the main activities. It needs the involvement of discussion to plan the learning method or model; the planning or interaction between learners and learning materials, tteachers and students; how is the process of sharing between students or group of students; how is the intervention of teacher in classroom level, group, or individuals; and how are the activities done in the class in the end of learning process. In order to make the learning process works well, there should be a good management of time allocation.

The execution of outdoor learning activity should be done in group. In Safitri, Retnoningsih, & Irsadi (2014), group work is made heterogeneously and objected to make students

have skills to plan something together, organizing activities, being responsible to group, helping the communication and interaction between groups, etc. Marini, Rahayuningsih, & Retnoningsih (2016) add that each student has the responsibility to observe, group, and measure the things they see in the surrounding location for learning. In the end, when the students come back to the class, they can actively do their tasks.

The main activities of the lesson plan can be seen as: 1) Teacher briefs the students to group outside the classroom. Students will be grouped in 4-5 members (*Niteni*); 2) Teacher distributes the worksheet and the materials needed for outdoor activities; 3) Teacher explains the exercise done by the students based on the principle of *Niteni*; 4) Teacher informs the rules in doing outdoor activity; 5) Teacher demonstrates / models the tools which are going to be used in outdoor activities / experiments (*Niteni*); 6) Teacher invites the students to formulate problems and hypothesis from the worksheet. (*Niteni* dan *Nambahi*); 7) Teacher invites the students to identify the variable of the experiment and decide the way to solve the problems. (*Niteni* and *Nambahi*); 8) Teacher guides the groups to conduct experiment from the worksheet according to the procedures to solve the unidentified problems. (*Niteni* and *Nirokne*); 9) Teacher guides and confirms the group to use the experiment tools to collect the data inside / outside of the classroom (*Niteni* and *Nirokne*); 10) Teacher invites the students to predict in conducting their experiment; 11) Teacher invites the students to observe, note in table, and draw a graphic from the observation (*Niteni*, and *Nambahi*); 12) Teacher asks the groups to analyze the obtained data from outdoor activities (*Nambahi*); 13) Teacher confirms the information to every group in an evaluative discussion. (*Nambahi*); 14) Teacher gives chances to all groups to present and concludes the experiment together. (*Nambahi*); 15) Teacher gives chances for other groups to response the result fo discussion in the class. (*Nambahi*); 16) Teacher gives confirmation and reinforcement to the result of the discussion (*Nambahi*); and 17) Teacher and students conclude the result of the experiment as well as motivate the students to be gratitude to the learning process to God the Almighty(*Nambahi*).

The execution of the learning process with 3N Tamansiswa approach and outdoor learning activity was also assisted with student worksheet. The worksheet has been adjusted with 3N approach and students' processing skills. It is in line to Widiyatmoko (2013), the conceptual relation from relevant natural science study will create a cognitive scheme, that the students get the whole materials absorbed by them. The input for students learning was scoring aspects were not planned. There was no clarification whether the scoring will use test or non-test, written or oral, observation f the performance, measurement of behavior, scoring of studets' product or exercise, project and/or product, portfolio, and self-assessment. The development of this lesson plan was delivered in authentic scoring according to the learning activity done by students. The evaluation was added with criteria of passing grade and remedial/enriching exercise for students. The written test was readjusted to the objective of learning process.

## CONCLUSION

3N Tamansiswa is the approach of learning emphasizing on *Niteni*, *Niroke*, and *Nambahi*. 3N is collaborated with outdoor learning activity which can increase students' processing and critical thinking skills in learning science. Students is asked to be more active in the learning process, thereby, the learning will be meaningful. Students will be easy to find scientific concept in every learning activity. The lesson plan of integrated natural science subject with 3N Tamansiswa and outdoor learning activity is hoped to be able to become a model of lesson plan for teacher in planning and conducting learning process based on the standardized process of 3N Tamansiswa and outdoor learning activity.

This development of lesson plan is hoped to help teachers in implementing their lesson plan systematically that it can make the learning process structured, interesting, joyful, challenging, and motivating for students. Besides, this lesson plan is also hoped to be used and developed for other subjects.

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