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Developing of Integrated Thematic Learning Model through Scientific Approaching with Discovery Learning Technique in Elementary School

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Abstract

The purpose of this study describes teachers comprehension about integrated thematic learning of scientific based, development of planning integrated thematic learning model of scientific based with discovery learning technique in elementary school and the necessary of developing integrated thematic learning model with discovery learning technique in elementary school. The subject research is 22 teachers who are teaching integrated thematic learning in city and regency of Blitar. Based on the findings research indicate of comprehension development model with scientific approaching was obtained average 68,16%, application of development model 57,56%, approaching development 61, 83%, observing 62,14 %, questioning 54,55%, experimenting 47, 72%, associating 34,08%, networking 61,36%, compiling the lesson plan 68,18%, media development 54,54%, learning strategy 46,97%, learning scenario 62,66 %, keas management 56,82%, the necessary development model 63,89.

Keywords: Discovery Learning, Model, Thematic, Scientific

Introduction

The success implementation of elementary school curriculum 2013 in learning activities of elementary school class was expected by government and society which was determined by comprehension and manager interest especially elementary school teachers. In this case, elementary school teachers expected own their comprehension, awareness, creativity skill, patience, and perseverance in implementation of elementary school curriculum 2013 that had implemented by developing integrated thematic learning model scientific based using discovery learning technique in elementary school.

Although the teachers had experienced to implement of curriculum 2013, however much of the teachers didn't have comprehension to implement of curriculum yet even learning strategy itself. Beside elementary school teacher didn't have concept and comprehension yet about elementary school integrated thematic learning application in curriculum 2013 that was completed with scientific approaching, they didn't have comprehension yet about the way to develop of integrated thematic learning by using technique or apply kinds of learning model.

The others empirical evidence seen in previous study about developing learning model in elementary school that didn't remain yet to fulfill the expectation and desirability of curriculum demand, the first, the research of (Mudiono, 2000) about the effectiveness of reading instruction in V (five) grade of elementary school expressed that the reading instruction was not still effective yet and matching of the demand and curriculum renewal that was applying. The second, the research about teacher ability in reading comprehension instruction still obtained the result that teacher in planning and applying reading comprehension instruction in elementary school still had score averages, presentation, and decrease of category (Mudiono, 2001). The third, the research had done by Mudiono (2009 and 2010) got the result that reading instruction by using techniques of Directed Reading Thinking Activities (DRTA) teachers in city and regency of Blitar was not fill the demand of curriculum yet that applied at the present (KTSP, 2014). The fourth, research of developing focus literacy model narration writing with probing-prompting technique that applied by Mudiono (2013 and 2014) it was less of activating the student when have interaction with the material that students comprehended critically in activity developing of science, observation, developing of thought power pattern, and improving students communication.

Based on this interpretation, it was one of the efforts to increase the success of integrated thematic learning in elementary school curriculum 2013 that was completed with scientific approaching, so developing integrated thematic learning model through scientific approaching with discovery learning technique in elementary school designed to guide the students more active when they share the statement, discussion, seminar, reading, and trying to get the confident.

Research Methodology

The research design uses development research (Borg and Gall, 1978:626). The subject research is 22 teachers who are teaching thematic learning in city and regency of Blitar. Data analysis technique applied of interpretation (1) teacher comprehension about integrated thematic learning scientific based, (2) developing of integrated thematic learning scientific based with discovery learning technique in elementary school, and (3) the necessary of developing integrated thematic learning model with discovery learning technique in elementary school. In this first year obtained a beginning design product thematic learning model with discovery learning technique in IV (four) Grade level of elementary school used as the beginning prototype model.

The expert test validation and group discussion focused together with member of researcher applied for data analysis in qualitative toward eligibility developing integrated thematic learning model of scientific based with discovery learning technique according to demand of elementary school curriculum 2013. In this case, Patton (1990:304) affirm that analyze the data in qualitative applied for organizing, classifying, auditing, editing, and defining all of the information.

Research Findings

Based on the research finding of teacher comprehension aspects about developing of integrated thematic learning model through scientific based acquired average 68, 16% designate that integrated thematic learning is one of learning model which implemented with combining of various learning material contents that organized in a certain topic, developing of indicators, and achieving learning purposes. Besides, a good comprehension through utilizing of integrated thematic learning and teacher has comprehension that the students in expressing of the ideas and thought competence in integrated thematic (Mudiono, 2013:43). The correlation of integrated thematic learning virtue through scientific approaching, integrated thematic learning has preferences to increase the self confident of self finding process or it called inquiry technique because the learning process centered to the students with teacher limited roles (Llewellyn, 2013).

Teacher comprehension through the implement of discovery learning obtained the average 57, 56% they comprehend that students contributed actively for finding the information and gained the knowledge by their selves, analyzing, concluding the information which was acquired in order to get more meaningful learning. Teacher comprehension about developing integrated thematic learning model using kinds of the ways (1) stimulus in order to the students can be explored (2) problem statement, the meaning is the students identification of the problem (3) data collection, the meaning is the students collecting a lot of information (4) data processing (5) verification. The correlation of developing integrated thematic learning model of scientific based through discovery learning technique teacher has excellent comprehension development be able to help the students mastered of skill in cognitive process, gain the knowledge individually, and arouse students motivation.

The teacher comprehension through developing scientific approaching in observation aspect obtained average 62, 14% teacher prioritizes meaningful learning process and has certain strength (minister of education and culture, 2013:43). Comprehension of development scientific approaching in asking aspect gained average 54, 55% teacher had have comprehension that the opportunity to the students widely for asking concern what did they see, observe, read or look. Trying aspect obtained average 47, 72% reflected that the students can dig and collect the information from various resources through the various ways.

The comprehension of development scientific approaching in associating aspects can implement the way of teacher to arrange learning material in ready to teach form appropriate of curriculum demand, teacher does not much apply the communicative method or lecture method, learning material compiles gradually began from simple to complex materials, learning activity oriented to the result that can be measured and observed, and every mistakes have to be checked or corrected (ministry of education and culture, 2013: 13).

The comprehension of development scientific approaching in built networking aspect had acquired average 61, 36%. Indicate that this aspect implemented the students by writing or telling what did the students find in the activity to look for the information, associating, and finding system. Next, those results presented in the classroom and scored by teacher as the students learning outcome individually or group (ministry of education and culture, 2013: 44). Development of approaching in this communication

aspect has the highest score than four the other aspects (observing, asking, trying, and reasoning) because it needs more practices intensively and needs a lot of time.

Teacher comprehension through applying the scientific approaching in observing aspect, teacher provides a freedom to the student in individually or group for expressing their idea or concept based on the object that the student was seen and felt. The learning began to ask the question, suggest reading the book, and the other students activity that aim to problem solving preparation. In this stimulation stage functioned for providing study interaction condition that can develop and help the student in exploration of material. In this case, stimulation using asking technique applied by asking questions that could face the students in internal condition motivating the student able to exploration. The comprehension of implementation scientific approaching in observation aspect can involve the students in comprehending the object, so the result of observation concrete object to the abstract have relation with fact, concept, procedure, or the other more abstract object (ministry of education and culture, 2013: 44).

The comprehension of implementation scientific approaching in the asking aspect the teacher when learning implementation in the classroom applied the strategy or technique in order to the student has encouragement to ask the question that began from factual matter characteristic to the student ability to make conclusion. The comprehension of implementation scientific approaching in applying of trying approaching reflected the teacher aroused the student for determining or choosing the data based on the questions that asked by student, seeking and determining data resource, and collecting the data. The comprehension of implementation scientific approaching other trying aspect intended for developing various domain of studying purposes, such as attitude, skill, and knowledge that done through the steps (1) determining theme or topic appropriate with basic competence, (2) learning the ways of using tool and material that available and have to available, (3) learning of relevant basic theoretical and the previous experiment result, (4) implementing and observation of experiment, (5) writing the occurring phenomena, analyzing, and collecting data, (6) concluding of the experiment result, (7) making report and communicating of the experiment result.

The comprehension of implementation of reasoning reflected the teacher provided various problems that have correlation about learning theme or sub theme which can motivate the student for reasoning activity using rational language critically and creatively. The comprehension of implementation reasoning approaching also indicates that teacher is motivating and guiding the student for doing self clarification and can increase the brain power critical and creativity. It was reflected of the effort of teacher to increase the skill of reasoning process in developing of knowledge, so example the environment and also has ability to use scientific method and scientific behaved to solve the problems facing in the daily life.

The comprehension of implementation network approaching shows that teacher gave direction to the student for creating activity analysis to communicate new activity done. Dasna and friends (2015:7.3) explain that learning analysis activity done before developing an activity. In this activity, analysis designed systematically and directionally to achieve learning outcome (Dick and Carry, 2009). The comprehension of implementation approaching reflected teacher applies the reflection through the activity that the students done. In this case, teacher makes the intervention for giving direction to the students reflects the activity that was done.

The comprehension toward implementation planning of integrated thematic learning with discovery learning technique primary in formulating indicator obtained average (68, 18%) was proper with basic competence and indicator was developed, learning goal was formulated of proper indicator and completed in 4 aspects: audience, behavior, condition, and degree. Teacher develops and categorizes learning material contents in decision (1) coverage of learning material contents was appropriate with indicator competence and basic competence, (2) material contents was organized systematically, (3) material was organized appropriate in the field.

Developing and categorizing media in integrated thematic learning with discovery learning technique acquired average 54, 54 % indicate teacher had planned using more than media, planned media can be used by students and it was appropriate with learning purposes, and planned media can clarify all of learning material contents. In this case, Asyhar (2012: 39) stated that learning media arouses the students motivation because the learning was more interesting, centering students attention, and joyful learning. Furthermore, said by Santrock (2001:332) that using media in the classroom would give significant impact for increasing the way of student thought. By using variations media, in addition the learning was more interesting and joyful, it would make easy the students comprehending all of the material content taught.

Teacher's comprehension in developing integrated thematic learning strategy with discovery learning technique acquired average 46, 97% indicate (1) learning was designed in appropriate competence or goal that will achieve and students characteristic (2) learning implemented organizing, (3) learning enables to grow the positive habit, (4) learning based on the time that was planned, (5) learning implemented contextually. Besides, it also indicates that learning was designed with competence and the student characteristics, learning implementation was organizing, and learning was planned in time allocation.

Teacher's comprehension in developing of integrated thematic learning model with discovery learning technique shows that learning model used for (1) determining or describing something, (2) helping in learning analysis, (3) determining, explaining, describing relationship of learning activity, (4) visualizing a condition or situation is for producing a learning outcome prediction. It is line with statement of Arends (1997:7) that learning model referred to learning approaching that was used, including the aims of teaching, learning activity steps, learning environment and class management.

Teacher's comprehension concerning kinds of activity used to plan of integrated thematic learning model with discovery technique reflected (1) teacher mentions of learning stages that adjusted with indicator and learning material, (2) sort of activity appropriate with student development and environment and have variation. It was in line with the statement of Collins (1991), Pappas (1995), and Goodman (1998) that sort of activity was in order to more variation had better implemented in entire of unity and sourced in a topic.

Teacher's comprehension in compiling steps of integrated thematic learning model with discovery learning technique reflected (1) written the opening, core, and closing, (2) each of steps formulated clearly and organizing, (3) learning steps reflect of activity for achieving the goal, and (4) learning steps were proper with indicator and learning material contents. Teacher's comprehension in determining time

allocation of integrated thematic learning model with discovery learning technique indicated (1) all of time allocation wrote in learning design, (2) time allocation for every step (opening, core, and closing) wrote in learning design, (3) time allocation of core activity was bigger than sum of time activity in opening and closing, and (4) time allocation for every step (opening, core, and closing) detailed proportionately.

Teacher's comprehension in determining the way of motivating students shows learning design (1) planned of activity appears sense of curious to the student, (2) prepared the interesting media proper with learning goal, (3) wrote some interesting questions to the students, (4) and involved the students in learning activity. Teacher's comprehension in preparing the questions indicated teacher preparing the low level cognitive questions, found comprehension question and application, and analysis question or systematic or evaluation.

Class management design in integrated thematic learning with discovery learning technique acquired average 56, 82% showed (1) room rearrangement and studying facilities designed in the level of learning activity, (2) room rearrangement and studying facilities was proper with sort of learning activity, (3) room rearrangement and studying facilities was proper in time, and (4) room rearrangement and studying facilities was proper with the students environment. Comprehension in planning determined the ways to categorize the students, teacher planned (1) arrangement of handling students (individual, group, and classical), (2) students assignment clearly, and sequence, step and ways of working in clear sequence, and (4) opportunity to the students for discussing the assignment.

Teacher's comprehension toward determining of procedure and sort of assessment in integrated thematic learning with discovery learning technique acquired average 63, 63% indicated (1) wrote the procedure, sort, and assessment instrument, (2) procedure and sort of assessment designed in the goal properly, (3) planned of sort assessment by criteria in clear and measure, and (4) planned form of instrument suitably with sort assessment.

Teacher's comprehension of arranging the assessment in integrated thematic learning with discovery learning technique indicated the questions made suitably with indicator, every question measure the indicator, every question wrote by using the understandable language and in good form, and planned for instrument suitably with sort assessment. In this case, Syarif and friends, (2009) that assessment used to take a policy certainly to collect the information related with the goal achievement that reached by learning activity.

The importance of integrated thematic learning using scientific basic with discovery learning technique convinced one of affective model that implementation in the elementary school acquired average 63, 89% convinced that integrated thematic learning built with scientific approaching as a highly affective teaching model because it was able to contain and touch integrated physical dimension even academic, so this model needed to develop in elementary school.

Besides, integrated thematic learning through scientific approaching with discovery learning technique developed by other technique: inquiry technique, project based learning technique, and problem based

learning technique, (curriculum, 2013). Integrated thematic learning needs several of requirement and the other instrument aid for necessity of learning activity. Example set of curriculum 2013 equipment, video recorder, lesson plan, and learning scenario designed by researcher and teacher determined as teacher model in thematic learning in elementary school.

Conclusion

The conclusion of this study covered several matters. The first, in the small scale teacher was comprehended the necessary of developing the model of integrated thematic learning using scientific approaching with discovery learning technique in IV (four) grade of elementary school. the second, based on the comprehension of respondent got from filling the questioner and the interview result obtained the answer population a few of teacher did not understand the necessary of integrated thematic learning model of scientific based with discovery learning technique implemented in elementary school.

The third, teacher in developing integrated thematic learning model through scientific based with discovery learning technique had relationship with the materials requirement analysis that material had appropriated with curriculum 2013 demand, considering of interest or requirement of students, school environment, media, and students ability. Besides, teacher built the interaction with students attained to implement of collaboration or approval each other, so the learning activity could be interesting and impressing and created the student could think critical and creative to receive something.

The fourth, the material development in developing of integrated thematic learning of scientific based with discovery learning technique developed by teacher based on the curriculum 201, it was proper with requirement analysis. The fifth, even though it had got comprehension of several teacher about the necessary of developing integrated thematic learning model of scientific based with discovery learning technique implemented in elementary school, but the most of teachers who were applied the curriculum 2013 need it and agreed that development of learning model product used as the example of teacher in implementation of thematic learning in elementary school.

Practical suggestions

The correlation of this finding research there were parties deserving the suggestion such as the lecturer of teaching curriculum development lesson in teacher training of elementary school, for research institution of dedication to society, for the researcher, the next development interested with substance of developing integrated thematic learning model using certain techniques in elementary school.

Lecturers who teach all of lessons in S1 degree program of elementary school education and preschool department suggested improving their student ability especially to make planning and socializing thematic learning appropriate with curriculum 2013 demand.

For dedication to society expected this research can be socialized continuously through this activity. It means teachers of elementary school as class teacher have same comprehension to design and implement integrated thematic learning of scientific based with discovery learning technique in elementary school.

The researcher required to conduct the development related with this substance by the using the ways (1) doing the research of development learning model using other technique (inquiry, problem based learning, and project based learning) and (2) doing the next research to look for or find the other writing learning model in elementary school the most effective from kind of other model that was produced in this research. Besides, for teachers who teaching thematic learning in IV (four) grade of elementary school in the city and regency of Blitar suggested they can implement the product of developing model integrated thematic of scientific based with discovery learning technique related with requirement analysis such as: curriculum equipment, syllabus of teaching, lesson plan, and learning scenario that was designed innovatively in elementary school.

References

Arends, R.2009. Learning to Teach. New York: McGraw Hill Companies. Inc.

Asyhar, Rayandra. 2012. Creative Development of Learning Media. Jakarta: Reference

Borg and Gall. 1978. Education Research and Development. New York Longman Inc.

Collin, G and Dixon. R. 1991. Integrated Learning Planned Curriculum Arts. Gasfort Boksshelt Publishing.

Dasna, I. Wayan. 2015. Design and Learning Model Innovative and Interactive. Jakarta: Open University.

Dick. W& Carey. L, 2009. The Systematic Design of Instruction. Baston: Pearson.

Goodman, Kenneth. 1998. What's Whole Language? Ontario: Kenneth Goodman.

Llewellyn, D.2013. Teaching High School Science through Inquiry and Argumentation. Thousand Oaks, California: Corwin a SAGE Company.

Minister of education and culture, 1996. Curriculum Primary Education of Basis Program and Elementary School Development. Jakarta : Minister Of Education And Culture.

Minister of education and culture. 2013. Concept or Information of Curriculum 2013. Jakarta: Minister of Education and Culture.

Mudiono, Alif. 2000. The Effectiveness of Reading Comprehension Learning In Elementary School. Research Report. Malang: Research Center of Institute of Teacher Training and Education Malang.

Mudiono, Alif. 2001. Teacher Ability Of Reading Comprehension Learning In Elementary School. Research Report. Malang: Research Center of Institute of TeacherTraining and Education Malang.

Mudiono, Alif. 2009. Developing Of Guided Reading Learning Model with Directed Reading Thinking Activities Technique in Elementary School. The First Year of Research Report. Malang: Research Center of IKIP Malang.

Mudiono, Alif. 2010. Developing Of Guided Reading Learning Model with Directed Reading Thinking Activities Technique In Elementary School. The Second Year of Research Report. Malang: Research Center of IKIP Malang.

Mudiono, Alif. 2013. Developing Of Focus Literacy Writing Narration Learning Model with Probing-Prompting In Elementary School. The First Year of Research Report. Malang: Research Center of IKIP Malang.

Mulyasa. 2006. Curriculum of Education Unit Level. Bandung: PT. Remaja Rosdakarya.

National Education Department 2006. Education Curriculum Unit Level: Basic Standard Competence of Common Lesson. Surabaya : National education Department.

Pappas, C.C., Kiefer, B.Z., L.S. 1995. An Integrated Language Perspective in the Elementary School White Plans. NJ: Longman Publisher.

Patton, M.Q. 1990. Qualitative Evaluation Methods. London: S. age Publication.

Santrock, J.W. 2011. Educational Psychology. New York: McGraw-Hill.

Syarif, E., and Friends. 2009. Supplement Module Qualified Group Teacher Activities: Writing Learning. Jakarta. National Education Department.Sadeghi, Ali Mansour, Hassan Zadeh, A., Bagheri, the power of God; Amiri, Ali Naqi (2012). Internal and external factors affecting customer satisfaction in Salehin credit and financial institutions (banks and future), the Fourth Conference on Marketing of Banking Services, Tehran, IRIB International Conference Center.

Saidi, N., Karimkhani, MJ and lively wine, S. (2012). Evaluate the impact of intellectual capital on employee performance across the organization. Rubber Industry Quarterly, 16 (65): 58-66.

Salehi Kerdabad, Mazandaran, S. (2010). The relationship between innovation and performance. Third National Conference of creativity, TRIZ (TRIZ) and engineering and management of innovation. Tehran: Tehran home teacher.

Schweyer, A. (2004). Talent Management Systems, Best Practices in Solutions for Recruitment, Retention and Workforce Planning, Wiley, New York, NY.

Soltani, A. (2008). Breeding ground for performance management, human resources, policy advocacy scientific journal, 19 (92): 20-23.

Sweem, Susan L. (2009). Leveraging Employee Engagement through a Talent Management Strategy: Optimizing Human Capital through Human Resources and Organization Development Strategy in a Field Study, dissertation, available at: http://www.umi.com/pqdauto.

Tahmasbi, R., H. M., S.; Lyjbary, H. and Khorasani, A. (2013). Developing indicators for identifying talent in strategic business SAPCO (case study: the area of manufacturing and supplying piece), Public Management Research, 6 (20): 97-119.

Tajuddin, M. and Maly Tafti, M. (2008). Why ?, Talent Management magazine Tdbyr.shmarh 191, pp. 62-63.

Taleghani, GR; Amini, S., Ghaffari, A., Dvsy, H. (2013). The relation between talent management and performance of faculty members, Journal of Public Management, 5 (3): 83-102.

True, Muhammad Ali, Ahmad, I. and R. Seals, H. (2009). Effects of organizational justice on employee performance. Organizational Culture Management, 7 (20): 79-101.

Weiss, A., & mackay, N. (2009). The Talent Advantage: how to attract and retain the best and the brightest. John Wiley & sons, Inc. Hoboken, New Jersey

Yamini, M. (1992). Systems of universities. Tehran: Institute for Research and Planning in Higher Education.