



**UTY**

UNIVERSITAS **T**EKNOLOGI YOGYAKARTA



# Proceeding ISQAE 2016

5<sup>TH</sup> INTERNATIONAL  
SEMINAR ON  
QUALITY & AFFORDABLE  
EDUCATION

**"Enriching Quality and Providing Affordable Education  
through New Academia"**

7<sup>th</sup>- 8<sup>th</sup> December 2016  
The Sahid Rich Jogja Hotel  
Yogyakarta  
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# Proceeding

# ISQAE 2016

## 5<sup>TH</sup> INTERNATIONAL SEMINAR ON QUALITY & AFFORDABLE EDUCATION

**Enriching Quality and Providing Affordable Education  
through New Academia**

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**Jointly organized by:**



**Hosted by:**



**7<sup>th</sup> - 8<sup>th</sup> December 2016**

**Faculty of Education  
Universitas Teknologi Yogyakarta, Indonesia**

***Proceeding of the  
5<sup>th</sup> International Seminar on  
Quality and Affordable Education***

***Enriching Quality and Providing Affordable Education  
through New Academia***

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***Edited by:***

Juhansar  
Tri Widodo

***Reviewed by:***

Erwin Akib, Ph.D., M.Pd.  
Mariani Md. Nor, Prof. Dr.  
Mustaqim Pabbajah, Dr., M.A.  
Nadiroh, Prof., Dr.  
Orbanus Naharia, Prof. Dr.  
Yusof Boon, Prof. Dr.

***Cover designed by:***

Ari Prasetyoadji  
Suhatmojo Eko Wibowo

***Proofread by:***

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Phone (+62 274) 623310 (ext.) 167 - Fax. (0274) 623306  
E-Mail : [fp@uty.ac.id](mailto:fp@uty.ac.id)  
Website: [www.uty.ac.id](http://www.uty.ac.id)

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## **Acknowledgement**

### **Rector of Universitas Teknologi Yogyakarta**

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***Assalamu Alaikum Waramatullahi Wabarakatuh***

Ladies and Gentlemen,

I am grateful indeed that God blesses us for participating in the 5<sup>th</sup> International Seminar on Quality and Affordable Education (ISQAE) 2016. I welcome the General Secretary of the Ministry of Research and Technology for Higher Education of the Republic of Indonesia. I am sure that the Ministry of Education supports Universitas Teknologi Yogyakarta to conduct scientific activities. I am also thankful that many professors, lecturers, teachers, and students attend this seminar to share knowledge and ideas.

Universitas Teknologi Yogyakarta always supports the faculties to hold international seminar and other academic activities for the lecturers and students. We like to maintain our cooperation with national and international universities to carry out national and international programs. We believe that our lecturers and students must have national and global experience to enhance their capabilities.

In addition to conducting international programs to improve the capabilities of lecturers and students, UTY is happy to work together with other universities and the government to increase the quantity and quality of research and publication. We are proud to have some MoUs with international universities in research and publication development aspects. Also, we are planning to build 16-floor tower for UTY's Research Park.

Today, The Faculty of Education of UTY is holding an international seminar and it is our commitment to conduct national and international scientific events every year. We dedicate our efforts to the development of science and technology.

Again, thank you for participating. My special thankful appreciation goes to ISQAE consortium members; Universitas Negeri Jakarta, Universiti Malaya, Universiti Teknologi Malaysia, Universitas Negeri Manado, Universitas Muhammadiyah Makassar that have supported us. I really wish all presenters and participants a very valuable conference. Hopefully it will bear precious knowledge and ideas.

***Wassalamu Alaikum Waramatullahi Wabarakatuh***

Yogyakarta, 7<sup>th</sup> December 2016  
Yours Sincerely,



**Prof. Bambang Hartadi, Ph. D., M.M., C.A., C.P.A.**  
*Rector of Universitas Teknologi Yogyakarta*

## **Acknowledgement**

### **Dean of Faculty of Education Universitas Teknologi Yogyakarta**

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Respected the General Secretary of the Ministry of Research and Technology for Higher Education  
Respected the Rectors and Deans of ISQAE Consortium members  
Respected all speakers, presenters, and participants

#### ***Assalamu Alaikum Waramatullahi Wabarakatuh***

I welcome you to the 5<sup>th</sup> ISQAE 2016 held by Faculty of Education, Universitas Teknologi Yogyakarta. I hope you participate actively to develop knowledge and ideas related to the improvement of education that we may serve to our students. The discussion on education is a continuous activity. It will support the effort to improve the quality of education system, and educators. The target of improving quality is influenced with the social and economic conditions of society in the system.

International Seminar on Quality and Affordable Education (ISQAE) 2016 is a seminar that will discuss and find recommendations to the governments and institutions that play role in it. The seminar is conducted by a consortium consisting of Universitas Negeri Jakarta, Universiti Malaya, Universiti Teknologi Malaysia, Universitas Negeri Manado, Universitas Muhammadiyah Makassar. The consortium will be inviting other institutions from South East Asia countries to work together to improve the quality of education in all countries of South East Asia.

ISQAE 2016 certainly considers some matters in education such as economic condition, advancement of technology, political situation, and etc. However, it is not only in the point of view of considering them as threats but also in the point of view of considering them as opportunities. Educators should have a lot of ways to generate improvement in their countries. They have big responsibility for improving the quality of new generation in their countries.

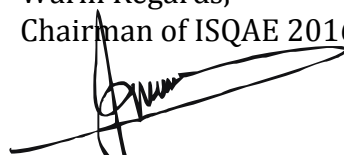
Education must become a major factor of problem solving system in a country. However everyone in a country has a right of having education. Education must be affordable. The government and all educators should talk and then can determine factors to make education affordable. The factors that guarantee the quality and affordability of education can become new academia.

We expect to have solutions. Therefore, we invite educators from South East Asia countries. We are certain to get ideas from educators coming from similar areas with similar cultures of life.

Again, thank you for participating. I wish you have good and valuable conference.

#### ***Wassalamu Alaikum Waramatullahi Wabarakatuh***

Warm Regards,  
Chairman of ISQAE 2016



**Dr. Mustaqim Pabbajah, M.A.**  
*Dean of Faculty of Education - UTY*

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## **DEVELOPMENT DESIGN AND THEMATIC TASK IMPLEMENTATION OF WATER CYCLE FOR INTEGRATION PROCESS CONCEPT – LOCAL CONTEXT – GLOBAL CONTEXT TO XI IPA 1 SMA NEGERI 1 MANGANITU STUDENTS**

**Theresje Mandang**

[t.mandang@yahoo.com](mailto:t.mandang@yahoo.com)

Department of Physics, Faculty of Science and Mathematics, University of Manado, Indonesia

### **Abstract**

*This research develops instructional design of thematic task which integrated local context – concept – global context for water cycle theme. The aim of this research is to: describe students' learning process in working on thematic task's water cycle instruction with concept – local context – global context. Data accumulation technic is using observation form for students' learning process. Quantity analysis is used as data analysis method. Quantity analysis is used for describing research variable indicators, material plan implementation (students' learning process). The result of this research shows that at thematic learning process which integrated concept – local context – global context, students, teachers, parents, and society, students are involved actively in working on thematic task's instruction, discussion, also interview. According to the result of this research, it comes to conclusion that learning based on thematic task could help to build an interactive learning process and giving knowledge to students in relating concept – local context – global context based on experience.*

*Keywords: Thematic Task, Water Cycle, Approaching of Concept, Local Context, Global Context*

### **Introduction**

Human life is very dependent on the availability of clean water. Hydrological cycle is where the water undergoes a process that never stops from the atmosphere to the earth and back to the atmosphere through condensation, precipitation, evaporation and transpiration. According Sumarno (2014), the hydrological cycle is a related process, where water is transported from the ocean to the atmosphere (air), ashore and return to the sea. This process occurs continuously. Soil water balance are now starting disturbed by human activities that exploit natural resources. Eg illegal logging and no replanting resulting in lack of water infiltration into the soil so that rain water can not be absorbed into the soil but flows directly into the sea and eroding topsoil caused flooding and landslides. In addition, a trend that occurred during the dry season is the reduced availability of water due to lack of water catchment areas

Learning to recognize the importance of preserving nature in order to support the process of the water cycle should be applied in education in order to build knowledge and awareness in protecting the environment, utilize water efficiently and controlling factors that determine the availability of fresh water. Education according to Dewey (2002) is the process of establishing the fundamental skills intellectually and emotionally more towards nature and fellow human beings. Education also needs to be raised learning materials sourced from the surrounding environment. According Kazempour (2014) about collaborative learning environment can be emphasized in scientific practice, critical thinking and problem solving.

Thematic task is a task that is drafted and implemented in an integrated or interactive cross-field of study, involving components of learning implementers (teachers, students, parents and community). Material assignment focuses on the theme of the environment (physical, social, cultural), relevant global issues, and concepts related to the field of study

(Medellu 2013). Thematic approach to the themes of learning, allowing students to make a natural relationship between learning subjects. The model in this study was developed from a basic thematic instructional tasks with a model that includes three main components: (1) the elements of the local context, (2) concepts, and (3) the context / global information. Students can apply the concepts into everyday life by identifying local context that allows activities such as observation, experimentation, discussion of local issues etc. Based on local context identified concepts and networking concepts formulated. Further events are identified that correspond to local contexts that occur globally or for a wider context At this stage have done the enrichment of local learning context with global information found with instructional media such as the Internet, newspapers, television, etc.

Results of a survey by the development team at Sangihe, thematic task shows that learning materials come only from books and did not take advantage of the surrounding environment as a learning resource (Mandang, 2013). Students are not faced with the object of science learning in the form of the real world around him. This causes difficulties students apply the concepts into everyday life. The design of materials and learning activities connecting context with the concept to develop an integrated manner: knowledge, skill and affection (Medellu, 2014).

Thematic learning creates a learning atmosphere of democracy. Definition of learning democracy is a learning process that is based on values - values of democracy, the respect for the ability, uphold justice, implementing equality of opportunity and pay attention to the diversity of students (Soeyasa 2012). The learning process is the need for an open atmosphere, intimate and mutual respect. Instead needs to avoid the stiff learning atmosphere, full of suspense and loaded with orders and instructions that make students become passive, listless, bored quickly and experience fatigue. Democratic atmosphere in many learning will also provide the opportunity for students to practice and develop to realize the rights and obligations or their ability.

### **Research Purposes**

This study aims to: Describe the process of student learning in the work assignment instructions thematic water cycle by integrating the concept - the local context - the global context.

### **Research Methods**

#### **Research Design**

This research is basically a research and development (Research and Development). Sugiyono (2011) states that research is the development of research methods used to produce a specific product and test the effectiveness of the product. The development of thematic task-based learning device includes two stages of learning software design tasks thematic basis, and the development of thematic task learning device.

#### **Research Subject**

Subjects were students of SMA Negeri 1 Manganitu, according to the design assignment instructions thematic themed water cycle using a model of integration of the concept-context (includes three main components: (1) the elements of the local context, (2) concepts and networking concepts, and (3 ) context / global information), is assumed to have been or are being followed regularly in the classroom learning about the concept of science subjects Physics, so the implementation of the thematic task instructions into contextual enrichment of the concept of learning is carried out regularly in the classroom.

#### **Research Time and Place**

Time: January-February 2014

Place: SMA Negeri 1 Manganitu

### **Stages of Development, Research and Indicator Variables**

Activities and students productivity in the learning process (follow tutorials, group interaction). The indicator used to measure these variables are: 1) The percentage of students who attend group learning activities over 80%. 2) The percentage of students who attend the tutorial activities over 80%. 3) students ask questions relevant to the material tasks / activities. 4) The percentage of students answer questions correctly asked the teacher or other students. 5) The percentage of students correctly answered questions posed parent / community. 6) The percentage of students who are actively involved in more than 80% in conducting observations. 7) The number of groups that include the task on time. b. activities of groups of students in the development of materials (thematic task) independently. The variables used include: 1) A large variety of activities developed by groups of students based on the material and thematic task scenarios. 2) The number of the relevant context defined groups. 3) Frequency of implementation of learning activities outside scenario as initiative groups in the context of mature mastery of tasks or procedures.

### **Data Collection Techniques**

Data is collected using: a). Student assignment sheet for data collection mastery of concepts, relationships between concepts, linking concepts and contexts across fields of study, the identification of relevant concepts with issues / problems within the theme. b). Format observation for data: student participation in the design, student learning. c). Format observation for data: the ability of students (developing draft thematic material duty cycle theme of water according to the characteristics of local / neighborhood school) and teacher productivity (carrying out tasks and learning activities, thematic).

### **Data Analysis Techniques**

Methods of data analysis using quantitative analysis. Quantitative analysis is used to describe the indicators of research variables, implementtasi design of materials (student learning). Data for each indicator were obtained and analyzed descriptively percentage with the following formula:

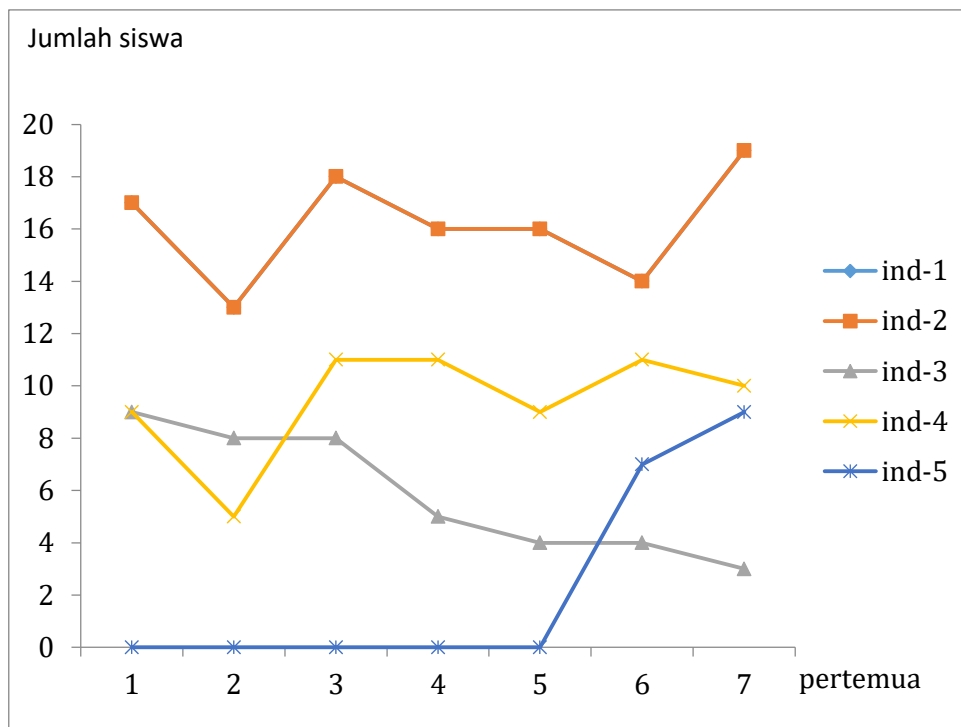
$$\text{Score} = \frac{\text{total score indicator}}{\text{number of students}} \times 100 \%$$

### **Research Results**

Results of research tasks thematic learning in SMA Negeri 1 Manganitu for student learning are as follows: a. Activities and productivity of students in the learning process (follow tutorials, group interaction): 1) The percentage of students who attended the study group was 78.95%. 2) The percentage of students who attended the tutorial is 78.95%. 3) Students ask questions relevant to the material tasks / activities is 0%. 4) The percentage of students answer questions correctly asked the teacher or other students is 21.05%. 5) The percentage of students correctly answered questions posed parent / community is 15.79%. 6) The percentage of students who are actively involved in more than 80% in the conduct of observation is 84.21%. 7) The number of groups that include the task on time is 78.95%. b. Activity groups of students in the development of materials (thematic task) independently. The variables used include: 1) A large variety of activities developed by groups of students based on the material and thematic task scenario is 0%. 2) The number of relevant contexts that defined the group is 74%. 3) Frequency of implementation of learning activities outside scenario as initiative groups in the context of mature mastery of tasks or procedures is 0%. Based on the basic instructional materials, there are seven activities that integrate concepts - Local context - the global context. Indicator - an indicator of student learning process variables were observed in this study to approach the concept - the local context - solid global context are presented in Figure 1, as follows:



**Figure 1. Graph Indicator of Student Learning**



### Discussion

Based on the results, it can be described as follows: a). Graph of the student learning process for indicators 1 and 2 (1 students who attend learning activities group), (2 students attending the tutorial activities) meeting on 1 to 7 meeting is not stable or up and down, because at the meeting of 2 and 6 presentations of students attend tutorial activities decreased because there were some students who were absent for reasons vary due to the location of a home away from the place of study and some are absent due to illness. b). Graph of the student learning process for indicator 4 (students answer correctly questions the teacher / others) From the graph above the indicator 4 is not fixed, the activities 3, 4, and 6 students are more enthusiastic to answer questions from teachers and parents. d). Graph of the student learning process for indicator 7 (The number of groups that include the task on time) is good, each member of the group has always put the task on time at every meeting. In this study, parents and the community play a role in learning. Democratic schooling or learning needs the support of all personnel involved in the management of the school (Ozcan, 2005). Parents play an important role in the learning process of democratic child (Bekoe and Quartey, 2013). So in this study for the students' learning process, show the student activity in learning, good discussions, questions and answers, as well as interacting with parents, teachers, and community

### Conclusion

The student learning process for thematic task water cycle by integrating the concept - the local context - the global context, showing activity of students in the learning process and the involvement of teachers, parents and the community in learning activities. Students are also involved in working on the task of thematic instruction, discussion, and question and answer session conducted between researchers and students, fellow students in a group, students with parents. In the process of field training, students are actively involved in the activities of observation and practice.

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