

*State University of Makassar*

**INTERNATIONAL CONFERENCE ON MATHEMATICS,  
SCIENCES, TECHNOLOGY, EDUCATION  
AND THEIR APPLICATIONS**

*"Recent Research and Issues in  
Mathematics, Sciences, Technology, Education  
and their Applications"*

**PROCEEDINGS  
ICMSTEA 2014**

**Makassar, August 20-21, 2014**



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# Conference Proceeding

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**Mathematics and Science Faculty  
Makassar State University**

ICMSTEA 2014 : RECENT RESEARCH AND ISSUES ON MATHEMATICS,  
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APPLICATIONS

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## WELCOME SPEECH

### Forewords from the Head of Committee

Assalamu'alaykum wa Rahmatullahi wa Barakatuh

First, I want to give our welcome to all the delegates, speakers, and participants coming today.

Welcome to State University of Makassar, UNM.

This conference titled International Conference on Recent Research and issues in Mathematics, Sciences, Technology, Education and Their Applications (ICMSTEA) 2014 is assigned to the 53rd Dies Natalies of UNM. It is primarily organized by Faculty of Mathematics and Natural Science in conjunction with several committee members from other faculties within State University of Makassar.

This conference is conducted in two days from 20th of August to 21st of August in Theater Room, Pinisi Building, State University of Makassar. It involves eleven keynote speakers, ten invited speakers, and approximately 150 parallel speakers.

Ladies and gentlemen, as I previously said, the conference proudly invites twelve keynote speakers coming from several countries. Therefore, on behalf of the committee members, I would like to express my sincere thanks to the keynote speakers, specifically:

1. Professor Max Warxhauer (Texas State University, USA)
2. Professor Naoki Sato (Osaka Prefecture University, Japan)
3. Professor Peter Hubber (Deakin University, Australia)
4. Professor Susie Groves (Deakin University, Australia)
5. Dr. Frans Van Galen (Utrecht University, the Netherlands)
6. Assistant Professor Duangjai Nacapricha (Mahidol University, Thailand)
7. Dr. Siti Nuramaliati Prijono (the Indonesian Institute of Sciences)
8. Professor Baharuddin Aris (Universiti Teknologi Malaysia)
9. Professor Ismail bin Kailani (Universiti Teknologi Malaysia)
10. Professor Muhammad Arif Tiro (Iowa State University & State University of Makassar)
11. Professor Suratman Woro Suprodjo (Gadjah Mada University, Indonesia)

Next, it is my privilege to thank all organizing committee members who have been showing good work and determination for the accomplishment of this conference. All of them have been working since the beginning of the planning stage and they are still here today for all of us, even though they are very busy with their personal responsibilities.

On this occasion, I would like to apologize to all of you when there are some inconvenience things during the implementation of this conference since we, the organizing committee, as just human being.

Finally, I would like to thank to the speakers and the participants listed in this conference. May I wish you all two fruitful days of interesting and beneficial conference and also that you have a very pleasant stay in Makassar.

Thank you very much for all the attention.

Assalamu'alaykum wa Rahmatullahi wa Barakatuh.

Head of Committee,

Suwardi Annas, Ph.D.

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# STUDY ON LEARNING PROCESS (PROJECT BASED LEARNING) IN ENVIRONMENT SCIENCE COURSE

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## Abstract

The learning developed tendency of: (1) repetitive and memorizing, (2) rarely of exercise in problems solving and (3) do not empower student teachers to be actively thinking. The learning process in college not more teacher centered learning but student centered learning and emphasize to contextual learning. This research was focused to get information about learning methods in learning process in environmental science course. The subject is students of biology education in STKIP Hamzanwadi Selong (N=44). A instrument research is questionnaire about the experience students during learning process in Environmental science course especially learning methods. A analysis data with descriptive quantitative. The result of analysis data was found; (1) The form content is handout (68%). (2) The experience learning is field study (77, 27%). (3) Learning methods is discussion (93, 18%). (4) Student obstacle during learning process 79, 54 %. (5) Students can't design worksheet (81, 82%). (6) Student not teaches about entrepreneurship 86, 36 %. (7) Student doesn't know about project based learning (75 %). (8) and teacher not applied project based learning (100 %). Based on result, learning methods in learning process tend to memorized and verification, decrease directed to inquiry, to design and prove the activity.

**Keywords:** Study, Project based learning, Environment science course

## 1. Introduction

The Learning process in college is not more teachers centered but student centered and contextual learning process, this is training to think process student about what will be done to solve a problem in around them. Generally, in learning process lecturers apply talkative method, discussion, and sometimes given a task to fulfilled a content in one of semester like make a paper, and make a summary that sourced from internet or other articles, rarely use strategies or method that make students active and creative. This is causes students habitual to convergent thinking and not trained for divergent thinking. Depdiknas (2002) states learning biology tendency use talkative methods, discussion and sometimes executed practice but is like verification. Learning biology given as memorized, verbal learns and decrease to relate with a life issues students.

Biology as one of the basic science always have a progressing,

especially in the XXI century, it can be understand that the biology will thrive. If education have purpose to educate the children and deliver them to understand the environment and manage it well, it's meant the concept should be rhythm with the advancement of science and technology. A change of biological status is challenge for biologists and biology educators. To face these challenges need to prepare strong person, including the educators or other words prepare qualified human resources. Prepare qualified human resources it's meant empowering a whole person that is the physical aspect and way of thinking. The Indonesian young generation needs prepared to enter the globalization era. They are obviously critical and have importance awareness of preserving the environment for utility generation and next generations will be managing natural resources (Rustaman, 2004). Through learning biology, students can understand the concepts and train of thinking skills.

De Porter and Hernacki (2000) suggested the curriculum contains three elements of presented, that is: (1) *academic skills*, (2) *life skills*, and (3) *physical challenges*. Therefore, the students in learning process not enough to own the concepts acquired during at course, but also willing and want to apply for the role and solve the problems in their life and social life.

Environmental Science is one of the branches of biology that is taught in universities, especially at program study biology education STKIP Hamzanwadi-Selong. In course, one of them is discusses about the impact of environmental pollution. One of the real phenomenon easily observable by students is about environmental pollution caused by sewage wastes both organic and inorganic wastes that result from human activities.

In this case, needed to handling and necessity takes a critical - creative thinking skills to find an alternative solution to utilize the waste that it can produce economically valuable products (Fatmawati, 2013). Result from observation learning have done, the lecturer do not emphasis to train critical and creative thinking each learning, and still limited of paper presentations and discussions.

## 2. Material and Method

This research used descriptive statistics to description or describe the object through sample or population data, without make the analysis and conclusions are generally (Sugiyono, 2011). A sample study is students biology (N=44) have through of environmental science course were held on June 14, 2014.

The instrument research is a questionnaire to get information about implementation the environmental science at program study biology education STKIP Hamzanwadi Selong.

The form of questionnaire is presented as follows.

Name	
Identification number student	
Semester/program study	
Date	

### **Instruction:**

You are required to put (x) on the answer that is considered appropriate

### **Question**

1. What the form content you get in the Environmental Science?
  - a. textual
  - b. textbook
  - c. Handout
  - d. Module
2. What the experience learning you get during present in the environment science course?
  - a. Field study
  - b. Practicum
  - c. Make a product
  - d. No one the mention
3. What the learning method used by lecture at environment pollution content?
  - a. Talkative
  - b. Discussion
  - c. Practicum
  - d. Tasks
4. Have you feel obstacle during accept a contents at course?
  - a. Yes
  - b. No
5. Can you design worksheet?
  - a. Yes
  - b. No
6. Do you get about entrepreneurship at course?
  - a. Yes
  - b. No
7. Do you know about project based learning?
  - a. Yes
  - b. No
8. Has your lecturer applied project based learning at course?
  - a. Yes
  - b. No

## 4. Result and Discussion

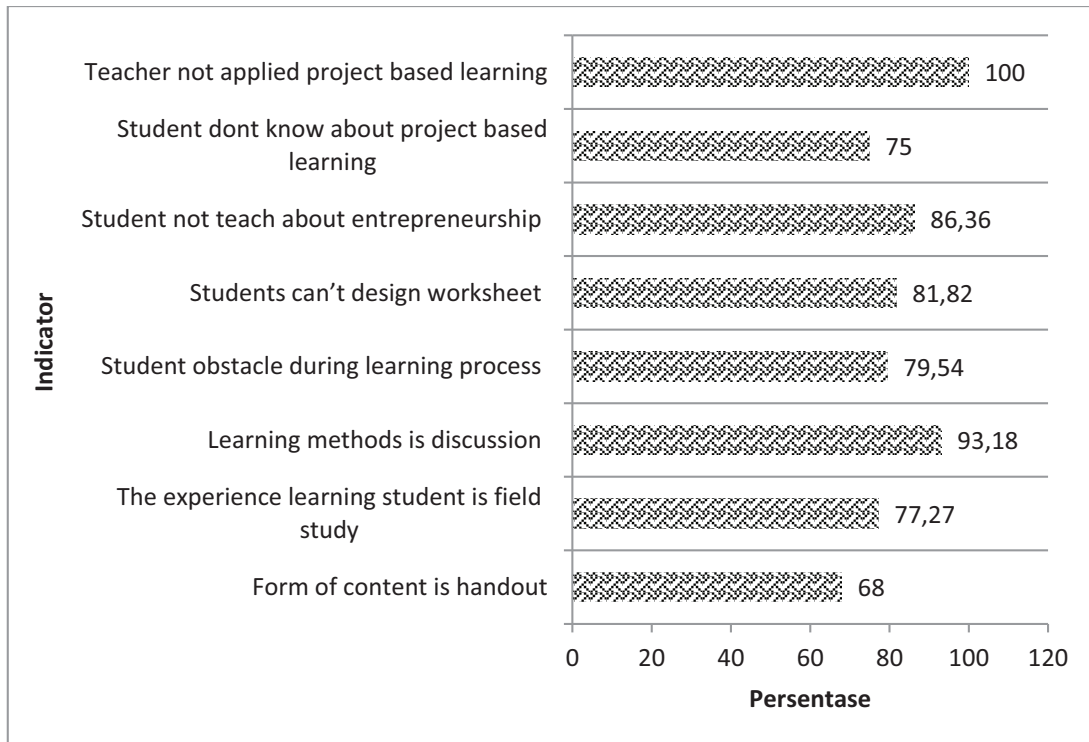
A Learning is process become more know before learn than ever that



occurs in certain environments such as at home, school, and in the organization. Specifically for the school, a learning is process undertake by students, interaction with teachers and other students, and learning resources. This is accordance with UUSisdiknas No 2 tahun 2003 which stated that learning is interaction between

educators, students and learning resources in the environment learning.

To find the learning process has done during lectures, especially the environmental science courses so used a questionnaire and distributed to students. The analysis data using the percentage (%), the results of analysis is (form presented at graph):



Graph. The answer of questionnaire on Learning Process in Environment Science Course

Several factors that influential in the learning process among: students, lecturer, and other external factors. Generally, students just accept contents from lecturer, assignment to search journals or article in internet that associated with material course. The lecturer, rarely apply learning methods that engage students actively in the learning process. Other factor is limited facilities and infrastructure owned by a college to supporting of implementation the learning process. Dominant factor causing low interest student toward a decrease on is implementation of learning in the classroom which is tend used talkative and discussion method.

During take on education in college, students not enough to simply accept a theory but they need to be equipped with life skills, creative learning strategy, and inculcate soul of entrepreneurship, that is soul courage and willingness to face problems and life naturally, soul of creative to solve and find solutions the problems, soul of independent and not depend on others persons (Dewajani, 2008). The inculcate of entrepreneurship is not meant to teach students become an entrepreneur but equip them how to overcome the problems on creative, by utilizing natural resources in surrounding them.

The learning orientation of life skills gives a new situation, after take one education students has owned life skills that can be used to overcome the problems of life by using a variety facilities in the around them. Equipping students with the life skills, at least the students have confidence in their life. One of learning strategy to apply it using a project-based learning. Project-based learning is a systematic teaching strategy and engages learners to acquire knowledge and skills through a structured process of inquiry toward authentic a question and complex, and designed carefully to obtain the product (BIE, 2007: Dikti, 2008).

## 5. Conclusion

Equipping students with *life skills* in learning process through project-based learning is one way to teach and educate students in order to overcome the problems faced, to enterprise, and have confidence to compete in globalized era.

## Acknowledgements

Thanks to my students of program study biology education STKIP Hamzanwadi Selong academic years in 2013, 2012, 2011, and 2010 which have helped in collected data.

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