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### Optimization of Internationalization Program of Biology Program FMIPA UNNES with UTM Malaysia

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#### Abstract

Internationalization Programs of the Biology study, Semarang State University (UNNES), in order to realize the vision of UNNES as an international conservation university, continues. The objective of this study is to conduct internationalization program for Biology study in the form of student mobility, Credit transfer, guest lecturer, and world-class professor at UTM. This study is an Operational Research (OR). Operational Research is a research that aims to resolve operational problems, which result is used to help solving problems using scientific methods. UNNES Biology study proposes activities in the form of student mobility, credit transfer, guest lecturer, and world-class professor for Biology Student, but then the credit transfer is not done. The results obtained from the student mobility will be the topic at a public lecture from the Biology studies program. Student mobility program is an excellent opportunity for students to have the experience and knowledge at the international level.

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## INTRODUCTION

Strengthening Internationalization Programs of the Biology study, Semarang State University (UNNES), in order to realize the vision of UNNES as an international conservation university, continues. Various support activities, regulation and infrastructure, have been prepared and implemented in order to improve the quality and service. One of the internationalization programs preparation is done by the Biology Study of UNNES.

Various programs and activities have been planned and executed, among others was forming a Task Force team of Biology lecturers to prepare an AUN Quality Assurance (AUN-QA) certificate document .

UNNES Biology study program proposes activities such as student mobility, credit transfer, guest lecturer, and world-class professors for students. By conducting the program, it was expected that the knowledge gained could be channeled and students were motivated to participate in internationalization programs that would be implemented further.

Hepple *et al.* (2017) conducted a study on student mobility in Malaysia. This study concluded that activities of student mobility could establish critical professional awareness about cultural diversity, build trust and understanding between cultures through intensive interaction with Malaysian friends and nurture a culturally responsive behavior. Based on these results, Hepple and his colleagues recommended similar activities. Merle & Craig (2017) conducted research on Guest Lecturer. This study revealed that the guest lecturer honed the pedagogical skills of students. Other than that, statistical analysis significantly indicated that inviting guest speakers directly and interacting in non-formal fashion would provide a positive and exemplary effect for the audience. Doyle *et al.* (2010) conducted a study on factors that influence the decision to study abroad. McCarthy *et al.* (2012) empirically investigated the factors that influence Canadian students to study in the US in the journal entitled factors that affect Canadian students' choice for higher education institutions in the United States.

The Internationalization programs provide an excellent opportunity for students to have experience and knowledge at the international level. The internationalization program is expected to bring in foreign teaching staff that could bring a global perspective so that education is much more diverse in terms of language, culture and politics. In addition, the proposal for this activity is also beneficial in enhancing the internationalization and cooperation between universities. So the results of this program can provide motivation and increase the interest of Biology students in following internationalization programs implemented to realize the vision of Semarang State University.

## RESEARCH METHOD

This study is an Operational Research (OR). Operational Research is a research that aims to resolve operational problems, which result is used to help solving problems using scientific methods (Duarsa *et al.*, 2013). OR in this study was conducted through the internationalization program.

The program is carried out with several activities such as student mobility, credit transfer, guest lecturer, and world-class professors. All activities are focused on the two universities in Malaysia, namely Universiti Teknologi Malaysia (UTM), located at Jalan Sultan Yahya Petra, Kuala Lumpur. All programs are designed to provide opportunities for students who have the

willingness and motivation to learn, to gain experience, to seek knowledge, and to improve the ability to communicate in the international language.

The program was attended by four students who passed the selection by Biology Study. The four students were accompanied by two lecturers of Biology Study Program. Two students and one lecturer conducted the activities in UTM (for Pure Sciences Study). The stages of the implementation of this program are: (1) establish contracts and agreements with related universities; (2) broadcasting information on all courses to students of Biology; (3) open enrollment; (4) conduct intensive classes and technical meeting; (5) the preparation of departure; (6) implementation of activities; (7) reporting.

## **RESULTS AND DISCUSSION**

The results of the institutional research activities are collected and prepared for knowledge that can be applied in Biology UNNES. Activities carried out include:

### **Student Mobility**

Aims to acquire information, knowledge, experience regarding the lecture activities, infrastructure and atmosphere at UTM. This activity is attended by UTM lecturer, UNNES Biology lecturer, UTM biology student, and UNNES biology students. The focus group discussions and guest lecturer materials, among others, are an exposition of student mobility activities, exposure of the UNNES biology curriculum, exposure of the UTM curriculum, sharing experiences about the college campus of UTM, and student mobility program. The results showed that UNNES Biology students involved in various activities at UTM, including classroom observation, where UNNES Biology students observe and listen to various matters related to the ongoing lectures at UTM. The following activities are experience observation especially in the tools and functions of labs at UTM. The results of the greenhouse observation were that UNNES biology students know the various plants that were there, and mutual sharing of knowledge about the plants in the UNNES biology greenhouse as well as in UTM Biology greenhouse. Furthermore, the material explained by UTM Biology and UNNES Biology, especially in terms of making a science curriculum, can be applied and adapted to the requirements contained in each university.

### **Guest Lecturer**

Aims to discuss academic activities between UNNES-UTM. Biology UNNES delegate two professors, Prof. Dr. Ir. Amin Retnoningsih, M.Sc. and Prof. Dr. Enni Suwarsi Rahayu, M.Sc. to give lectures in UTM Guest Lecture class. The material was on academic activities that have been carried out particularly on the academic activities of each campus. Students' enthusiasm was very nice, there were a lot of questions that give rise to new ideas so this activity was very beneficial for both parties. Aside from the UNNES, the UTM delegated also one of the professors to conduct lectures in Biology UNNES. Prof. M. Fahrul Huyop was the delegate from UTM for the Guest Lecture in Biology UNNES.

### **World Class Professor**

Aims to discuss the Research and Publication with expert guidance. Activities material such as presentation about guest lecture activities, guest lecturers biography exposure, exposure of the guest lecturer's academic activities, discussions, and offers about guest lecture program.

In this activity, UNNES Biology brought Prof. M. Fahrul Huyop as presenters about the joint research and joint publication. Speakers opened a counseling session for UNNES Biology lecturers regarding how to conduct joint research and joint publication. These activities significantly improved the knowledge and experience, especially in terms of research, so that these activities add insight to facilitate research by lecturers of Biology UNNES.

### **Credit Transfer**

Credit transfer activities could not be implemented because the Malaysia Ministry of Education hasn't released the clearance for it. The activities in this study ran well. Still, it is recommended to prepare MOU and cooperation notifications with related institutions since the beginning so that the both parties can make optimum preparation.

### **CONCLUSION**

The internationalization program in Biology study program has been successfully implemented. The original plan of the program was in the form of student mobility, credit transfer, guest lecturer, and world-class professor at UTM. Implementation of the four programs successfully undertaken by the Department of Biology, those are student mobility, guest lecturer, and world-class professor at UTM. As for credit transfer, it can not be implemented because it hasn't been authorized by the Malaysia Ministry of Education.

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