

## Experience from a Faculty Exchange Program: Student Success Lessons from Cal Poly State University

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### Abstract

To increase faculty exchange activities at Indonesian universities, the Indonesian government has initiated a program called the Scheme of Academic Mobility and Exchange (SAME) wherein faculty from Indonesian universities spend some time visiting universities outside of Indonesia. This paper presents experience learned from a visit conducted by a faculty from state polytechnic of Malang Indonesia to Cal Poly State University. In particular, lessons learned by the faculty visitor on student success as a primary driver at Cal Poly will be discussed. Benefits observed from the visit will also be presented.

### Introduction

In today's increasing interconnectivity and diverse world, higher education institutions have to answer to the raising demand to internationalize their academic offerings to stay competitive in their national and global education markets. Internationalization is defined to be a process of integrating intercultural and global dimensions into the purpose and functions of the institution<sup>1</sup>. Many forms of activities have been proposed and implemented to ensure that internationalization can be achieved. Examples include student exchange programs, twinning programs, double-degree programs, and academic or research partnerships with foreign institution. Another effort that focuses on improving the overall quality of faculty's scholarship and teaching is the faculty exchange. The faculty exchange program has become popular because faculty qualification is a critical factor in enhancing the overall quality of higher education institution.

To increase faculty exchange activities at universities in Indonesia with their counterparts abroad, the Indonesian government has recently launched a program to fund Indonesian faculty to visit their research collaborator at universities outside of Indonesia. The program, called the "Scheme of Academic Mobility and Exchange (SAME)" program, aims to provide senior faculty to spend some amount of time at a university abroad to keep faculty up to date in their field and to expand their network. Academic activities that the faculty have to perform under the SAME program vary from writing textbooks, conducting collaborative research, doing comparative study on teaching & learning, to writing scientific papers. The State Polytechnic of Malang Indonesia (Polinema) has been participating in the SAME program with several universities. One of the universities that Polinema has been working with is Cal Poly State University in San Luis Obispo as the two universities have already signed a Memorandum of Agreement for academic exchange a few years ago which was renewed in 2013. One faculty exchange that occurred recently was a faculty from the electrical engineering department at Polinema visiting Cal Poly through the SAME program to conduct collaborative work with her counterpart in the electrical engineering department at Cal Poly. This paper describes the experience observed from this exchange activity focusing more on lessons learned to enhance students' success.

### Research Aim and Methodology

One of the activities planned during the visit to Cal Poly was to conduct collaborative research on renewable energy. Under the SAME program, research was commissioned to develop understanding of wider benefit to the faculty exchange program, to the country of faculty origin, to the host country of faculty exchange, and to investigate direct/indirect impact of the faculty exchange program. For the faculty visiting Cal Poly, the research methodologies used were literature study and total participation as a faculty exchange. During the 3 month visit, the faculty conducted several activities that can help her in preparing for her future research effort in renewable energy. Examples of such activities include conducting laboratory visits as shown in Figure 1, field trip to a large-scale Photovoltaic power plant, attending courses and technical seminars on campus, and interacting with students' clubs.

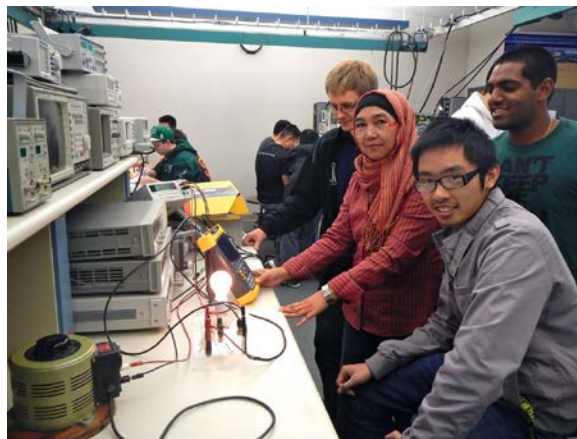


Figure 1. Visiting and observing students conducting power electronic lab experiment.

### Indonesia Higher Education and Faculty Exchange Program

Despite Indonesia's population of approximately 240 million, the number of young Indonesians attending college is relatively low. A report from the Indonesian Ministry of National Education's National Strategic Plan 2010-2014 cited the need to continue the work on increasing higher education access, particularly in some regions of the country<sup>2</sup>. Indonesia higher education institutions are mostly owned by private institutions. Out of 3,079 campuses nation-wide, only 82 institutions are state owned with student body of roughly 4.3 million. There are 5 types of Indonesian higher education institutions as seen in Table 1.

Table 1. Indonesia higher education institution.

No.	Higher Education Institution Form	Service Provided
1	Academies	provides only one particular applied science, engineering, or art
2	Polytechnics	provides applied/practical specific skills
3	Advanced Schools	provides academies or professional education in one specific knowledge
4	Institutes	consists of many colleges/departments on one knowledge discipline
5	Universities	offers training and research in various disciplines

As Table 1 shows, polytechnic is a form of higher education institution that provides specific applied/practical skills. Polinema falls within this category. As a higher education institution,

Polinema embraces internationalization as part of its mission and strategic plan. This is viewed to be significant as internationalization of higher education institution is considered a means to increase national competitiveness<sup>3,4</sup>. In this context, every higher education institution is expected to play a role with the support of the Indonesian Directorate General of Higher Education (DGHE) to improve national competitiveness as well as to prevent or minimize the possibility of negative effects from globalization. Government's support for internationalization come in various programs such as funding for international seminars/workshops, international scholarship, student exchange program, and faculty exchange program.

As previously mentioned, a faculty exchange program funded by Indonesia's DGHE is called Scheme Academic and Mobility Exchange (SAME). This program was first implemented in 2012. In 2013, the program continued with 68 faculties participating in the program. Each faculty is expected to participate in the program by visiting a university outside of Indonesia for the duration of 2 weeks to 3 months. Many different activities may be conducted during the visit: writing textbook or developing teaching material; sitting-in classes or comparative study of teaching and learning; planning collaborative scientific activities; doing research and writing scientific paper; attending and presenting a seminar; developing a curriculum, and observing teaching-learning techniques. One of the 68 faculties selected in the 2013 SAME program was from Polinema.

### **Cal Poly as a Host of Faculty Exchange with a Student Success Lesson**

Polinema is a polytechnic institution which started in 1982. At the time the country had a total of 8 state polytechnic institutions which has now grown to 30 state polytechnics. Polinema has been recognized nationally as one of the frontier polytechnic and one of the best engineering polytechnic in Indonesia. Polinema's curriculum follows the learn-by-doing philosophy which consists of 45% theory and 55% lab/project. The campus has 6,845 students with a student to faculty ratio of 17. In 2013, students' success rate in being hired right after graduation is 75.9%. Since 2008, Polinema has a memorandum of agreement with Cal Poly State University in San Luis Obispo (Cal Poly). During the past few years, a Cal Poly faculty has been visiting Polinema several to perform several academic activities including technical presentation, short courses, guest speaker, and judge for a national engineering competition hosted by Polinema. Table 2 summarizes some information on the two campuses.

Table 2. Cal Poly and Polinema.

No.	Information	Cal Poly	Polinema
1	Year established	1903	1982
2	Student Body	18,762	6,845
3	Student faculty ratio	22	17
4	Academic calendar	3 quarters/year	2 semesters/year
5	Type of institution	teaching institution	teaching institution
6	Accreditation institution	ABET (US)	BAN-PT (Indonesian)
7	Job recruitment	Carrier Service	Job Placement Center

Cal Poly with a student body of 18,762 and student faculty ratio of 22 has the "Mustang Way" pride slogan aimed to educate students with 5 strong characters:

1. Focused on excellence
2. Embrace one another

3. One community
4. Accept responsibility
5. Lead by example

These Mustang Way characters along with the learn-by-doing philosophy give a strong foundation for Cal Poly's pursuit of knowledge and scholarly achievement which continue to strengthen, enrich, and remains relevant to contemporary needs. Cal Poly also strives to create an atmosphere of mutual respect, celebrating the positive differences that make them unique. Personal commitment and participation in the Cal Poly community is the cornerstone of the Mustang experience. Students at Cal Poly are to support one another while also taking pride in accepting personal responsibility, thus strengthening the Cal Poly family.

In addition to the Mustang character and learn-by-doing philosophy, Cal Poly has student success as its primary driver. The student's success has been inspiring all the staff and faculty to serve students at their best with the belief that student success drives faculty and staff success, which is in turn nurturing a very positive academic atmosphere on the Cal Poly campus. Positive academic atmosphere has been proven to develop and inspire whole-system thinkers who can help solve society's most complex problems. One example of how student success can be achieved is by having the Career Service as a division of Student Affairs which is offering numerous workshops aimed to increase student potential. Academic departments within Cal Poly contribute to the student success through well-structured curriculum and well-equipped undergraduate teaching and research laboratories. Unlike in many research universities, the majority of labs are instructed by professors instead of graduate students. The university also recognized the importance role of student academic clubs in supporting both its learn-by-doing and multidisciplinary learning experience. Faculty are encouraged to get involved in applied research with companies within and around the central coast area. Being a comprehensive polytechnic university with six colleges, Cal Poly provides a distinctive niche in higher education, not just in California, but nationwide. These are the reasons Polinema chose Cal Poly as a host for the SAME faculty exchange. Upon returning to Polinema, the visiting faculty has proposed to her administration several changes on campus following the student success model she observed at Cal Poly. For example, more workshops and seminars should be offered by the career service at Polinema to help students improve their soft-skills and thus supports student success. More outreach activities coordinated by either each program or student club should be encouraged by the administration. Polinema should also continue the effort in upgrading their labs through state funding and industries.

Both the visiting faculty from Polinema and the host faculty at Cal Poly strongly believe that the faculty exchange program benefits both campuses. To Cal Poly faculty and students, the faculty exchange program provides the opportunity to learn how polytechnic schools outside of the US is structured. Recognizing and understanding the similarities and differences in the curriculum are also part of what have been learned from the visit. The following further lists the benefits gained from the faculty exchange activities<sup>5</sup>.

#### *Benefits of Faculty Exchange*

1. Career enhancement
2. English language proficiency

3. Cosmopolitanism and intercultural sensitivity
4. Personal growth and wider experiences both through on-campus activities and wider interaction with the host country society
5. Social benefit and networks by keeping contact using international network facilities

#### *Benefits of Faculty Exchange to Country of Origin*

1. Capacity building and societal development as a result of the professional activities, benefit of up-skilling and acquisition of new skills, to broader impacts within societal or economic development and capacity building
2. Personal multiplier effects where the impact through the professional activities

#### *Benefit of Faculty Exchange to Host Country*

1. Promoting trust especially in issue of mutual understanding and soft power
2. Host country influence during capacity building which will contribute to socio-economic development
3. Professional networks as potential professional networks offer the possibility of future business transaction and collaborations of economic values
4. Host country faculty and students have more knowledge about other country's socio, economic, and technology.

Several outcomes were achieved from the faculty visit to Cal Poly. These include co-authoring technical papers and book, collaborating on grant proposals, and planning for laboratory developments at Polinema.

### **Conclusions**

Faculty exchange programs including the one presented in this paper has demonstrated several tangible benefits as it relates to faculty's capacity building and networking, personal growth, and potential future transaction or collaboration. With today's era of globalization, the demand for internationalizing higher education has increased and will continue to be so. Faculty exchange along with other programs will help universities achieve this goal.

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