

1. Outline

【Name of project】(Adopted year: FY2014, Country(India))

International academic-industrial collaborative PBL for science and engineering related personnel bridging Japan and South Asia with distinct culture and diversity

【Summary of Project】

In this project, Project/Problem-Based Learning (PBL) is conducted by students from India and Japan. PBL is a collaborative and practical learning approach, conducted through establishing projects or finding problems based on preliminary surveys, site visits, and/or participating in internships, and then providing proposals or solutions to the problem which Indian society and companies face by technical side. We aim to foster engineers with science backgrounds capable of taking leadership, and planning strategies, for Indian and Japanese companies and their governments, through our students' mutual inspiration, and cooperation and participation of engineers from companies.

Important points of achievement are as follows,

- ① Development and provision of short to long-term various programs for undergraduate and graduate students.
- ② Students in Japan learn diverse culture and history in South Asia in addition to developing own English ability. Students in India learn Japanese language, culture and history during the stay in Japan.
- ③ Enhance development of DMDP and JD program with co-operating university.



【Summary of Exchange program】

(1) IIT-H International industry-academic collaborative PBL program

The teams consist of IIT-H students and Ritsumeikan University (RU) students find out the existing local problem and implement PBL to provide solutions while joining site visit and internship.

This program consists of 2 types as receiving IIT-H students at RU and dispatching RU students to IIT-H, dispatching and receiving duration is 10 days respectively and implemented for 6 months.

(2) IT internship program at Symbiosis International University (SIU)

Implement PBL with SIU students to provide solutions to the problem while having a lecture of major subject concerned with IT, visiting companies and learning business English.

(3) Short to long-term program for students in India and Japan

Implement PBL through internship focusing on research among 4 universities, RU, IIT-H, SIU and Nitte University.

(4) Exchange program

Implement PBL through internship focusing on research among 4 universities, RU, IIT-H, SIU and Nitte University, and have a lecture and earn credits of major subject.

【Global Human Resource on the project】

〔Students in Japan〕

- Engineer with science backgrounds capable of offering solutions of local problems by taking leadership
- Persons understanding Indian diverse society and communicating in English
- Tough persons working under environment in developing countries

〔Students in India〕

- Engineer with science backgrounds capable of offering solutions of local problems by leading Indian government and companies
- Persons understanding Japanese society and working in Indian government and Japanese or related companies

【Feature on the project】

Project/Problem-Based Learning (PBL) is conducted by students in India and Japan, PBL is a collaborative and practical learning approach, conducted through establishing projects or finding problems based on preliminary surveys, site visits, and/or participating in internships as well as involving participation of engineers in India and Japan, and students in South Asia. To conduct effectively, develop DMDP, JD program and practical program including course work in addition to the development and implementation of various programs such as short to long-term program which meet the stage of their growth.

【Exchange number】

	2014	2015	2016	2017	2018
Outbound	5	30	45	55	60
Inbound	10	15	25	25	25

2. FY2014 Progress

【Name of project】(Adopted year: FY2014, Country (India))

International academic-industrial collaborative PBL for science and engineering related personnel bridging Japan and South Asia with distinct culture and diversity

■ Exchange Programs



Student-Mobility

○ Outbound

Pursued research in the laboratory where fits student's research field and obtained the outcome which leads to improvement of future research

○ Inbound

Pursued research in the laboratory where fits student's research field and obtained the outcome which leads to improvement of subsequent research.

Enlarged the circle of interaction by introducing Indian culture to RU students.

[IITH International industry-academic collaborative PBL program/
SIU IT internship program]

Made an adjustment of program contents in 2015 with co-operating universities

[Short to long-term program]

Research has been carried out successfully based on the research field of students both in Japan and India

	2014	
	Plan	Results
Outbound	5	3
Inbound	10	2

■ Forming the University Network with Quality Assurance

Coordinate the program contents while discussing in each university and sharing information with co-operating universities in order to assure the quality and provide the attractive program for students. In 2014, short-term program was conducted and discussed the program contents while cooperating with the relevant companies for the programs held in 2015 such as IIT-H industry-academic collaborative PBL program, SIU IT internship program. Moreover, to assure the quality of the program, the program contents had been discussed repeatedly on administration side and promotion committee. Also, presentation had made at the external evaluation committee to obtain third-party opinion for abundant contents.



〈 Discussion at IITH 〉

■ Promotion of Student-Mobility Environment

<Receiving students in India>

Provided the dormitory for international students, meals in accordance with their dietary restrictions and daily life assistance during the program.

<Dispatching RU students>

Requested the accommodation, meals, daily life assistance during the program to host universities. Deliver a lecture of Indian culture prior to dispatch for intercultural understanding.

■ Internationalization of the university

Information disclosure and Publication of outcome

Program contents are frequently updated on the website to share the information and disseminate the outcome of this program. Furthermore, share the information with the departments related to International Affairs for globalization of entire university.

■ Notices

None

3. FY2015 Progress

【Name of project】(Adopted year: FY2014, Country(India))

International academic-industrial collaborative PBL for science and engineering related personnel bridging Japan and South Asia with distinct culture and diversity

■ Exchange Programs



[RU-IITH International industry-academic collaborative PBL program/ SIU IT internship program]

On the RU-IITH International industry-academic collaborative PBL program, each team consisted of 2 RU and 2 IITH students held a work-shop to solve the problems such as Water, Transport, Disaster, Energy and Healthcare, those are facing Indian society. Tackling the problem by cooperating with IITH students helped RU students develop the faculty of solving problem and communicating in English, it also helped an intercultural understanding. Moreover, students recognized their own problems to be improved and it will be a nourishment for their future growth. IITH students learnt Japanese science and technology as well as how to progress in Japanese manner, and elicited the solution.

[Short-term program]

Each student pursued his/her research after choosing a host institute based on the research field. Furthermore, a student who had joined this program in the past entered graduate school as a regular student.

Student-Mobility

○ Outbound

Accomplished the target of dispatch by 120%, even after the program finished, the relation still lasts and it leads to network construction.

○ Inbound

Accomplished the target of acceptance by 153%, the project has come to be known among the collaborating universities and the relationship is being developed.

	2015	
	Plan	Results
Outbound	30	36
Inbound	15	23 *(9)

*Extra number of invitees on Sakura Exchange Program in Science

■ Forming the University Network with Quality Assurance

Coordinate the program contents while discussing in each university and sharing information with co-operating universities in order to assure the quality and provide the attractive program for students. Moreover, to assure the quality of the program, the program contents had been discussed repeatedly on the administration side and the promotion committee. Also, presented at the external evaluation committee to obtain third-party opinion for abundant contents.



<RU students having explanation of Water Purification Plant>

■ Promotion of Student-Mobility Environment

<Receiving students in India>

Provided the dormitory for international students, meals in accordance with their dietary restrictions and established daily life assistance during the program.

<Dispatching RU students>

Requested the accommodation, meals, daily life assistance during the program from host universities. Deliver a lecture of Indian culture prior to dispatch for intercultural understanding.

■ Internationalization of the university

Information disclosure and Publication of outcome

Program contents are frequently updated on the website and made a written report of each program to disclose the information and disseminate the outcome of this program. Furthermore, share the information with the departments related to International Affairs for globalization of entire university.

■ Notices

None

4. FY2016 Progress

【Ritsumeikan University】

【International academic-industrial collaborative PBL for science and engineering related personnel bridging Japan and South Asia with distinct culture and diversity】
(Adopted year: FY2014, India)

■ Exchange Programs



The final presentation by RU and IITH students

[RU-IITH International industry-academic collaborative PBL program/ SIU IT internship program/ Study in NU program]

In the RU-IITH International industry-academic collaborative PBL program, five teams (each team consisting of three of RU and two of IITH students) held workshops to propose a solution for the problems facing Indian society such as water treatment, transport control, power supply and healthcare service* (*by two teams).

In the newly implemented program "Study in NU program", RU students investigated problems of transport control and power supply in India, and proposed a solution after local investigation and site-visits in India.

[RU Research program]

Each student pursued his/her research after choosing a host institute based on the research field.

Student-Mobility

○ Outbound

Accomplished the target of dispatch by 104%, even after the conclusion of the program, the relation of students still lasts as exchanging information via SNS.

○ Inbound

Accomplished the target of acceptance by 104%, the project has come to be known among the collaborating universities and the relationship is being developed.

	2016	
	Plan	Results
Outbound	45	47
Inbound	25	26*(10)

*Extra number of invitees on Sakura Exchange Program in Science

■ Forming the University Network with Quality Assurance

Not only during the program, but also before and after the implementation, coordinated the program contents as discussing with co-operating universities in order to assure the quality and provide the attractive program for students. Moreover, to assure the quality of the program, the contents had been discussed repeatedly on the administration side and the promotion committee. Also, presented at the external evaluation committee to obtain third-party opinion for abundant contents.



Visit to cultural heritage with NMAMIT students in Karnataka

■ Promotion of Student-Mobility Environment

<Receiving students from India>

Provided a dedicated dormitory for receiving students, and meals in accordance with their dietary restrictions. Organized supporting staff to establish daily life assistance during the program, supporting staff assisted receiving students in using university facilities such as dormitory, cafeteria etc.

<Dispatching RU students>

Requested host universities to provide accommodations, meals, daily life assistance during the program. Delivered a lecture of Indian culture prior to dispatch for intercultural understanding.

■ Internationalization of the university

Information disclosure and Publication of outcome

Program contents are frequently updated on the website and made a written report of each program to disclose the information and disseminate the outcome of this program.

Published program brochure and University brochure to encourage enrollment in the Graduate School. Furthermore, keeping to share the information with the departments related to International Affairs for globalization of entire university.

■ Notices

Strengthened the tie with the collaborating companies in order not only to visit or observe their company, but also to exchange opinions on the proposals for a solution on PBL which students engaged in.

The proposal for a solution on PBL was improved practically as it was reviewed from the viewpoints of novelty, effectiveness and feasibility.

The inquiries for the admission of Graduate School from the participating students in this program has been increasing, it shows a growing interest in our university among the collaborating universities.

5. FY2017 Progress

【International academic-industrial collaborative PBL for science and engineering related personnel bridging Japan and South Asia with distinct culture and diversity】

(Adopted year: FY2014, India)

■ Exchange Programs

[RU-IITH International industry-academic collaborative PBL program/
SIU IT internship program/ Study in NU program]

In the RU-IITH International industry-academic collaborative PBL program, five teams (each team consisting of three of RU and two of IITH students) visited each other's university for about 10 days and held workshops to propose a solution for the problems facing Indian society such as water treatment, transport control, power supply, healthcare service and waste management.

[Global Workshop]

In the newly implemented program "Global Workshop", invited students not only from India but also from Southeast Asian countries and held a workshop on the topic of approaching to strategies to attain "safety, security and environmental conservation" as leading engineers. It provided the opportunity to find the potential of collaborative research as well as the development of new research.

[RU Research program]

Each student pursued his/her research after choosing a host institute based on the research field.



<Discussion at the workshop>

Student-Mobility

○ Outbound

Accomplished the target of dispatch by 100%, the attendance of past participants tightened the vertical connections.

○ Inbound

Accomplished the target of acceptance by 152%, the project has come to be known among the collaborating universities and the relationship is being developed.

	2017	
	Plan	Results
Outbound	55	55
Inbound	25	38

■ Forming the University Network with Quality Assurance

Coordinated the program contents not only via e-mail but also via TV conference with co-operating universities in order to assure the program quality and improve the procedure to accelerate communication between both university students.

Moreover, to assure the quality of the program, the contents had been discussed repeatedly on the administration side and the promotion committee. Also, presented at the external evaluation committee to obtain third-party opinion for abundant contents.



<Observation of Laboratory equipment>

■ Promotion of Student-Mobility Environment

<Receiving students from India>

Provided a dedicated dormitory for receiving students, and meals in accordance with their dietary restrictions.

Organized supporting staff to establish daily life assistance during the program, supporting staff assisted receiving students in using university facilities such as dormitory, cafeteria etc.

<Dispatching RU students>

Requested host universities to provide accommodations, meals, daily life assistance during the program.

Delivered a lecture of Indian culture prior to dispatch for intercultural understanding.

■ Internationalization of the university, Information disclosure and Publication of outcome

Program contents are frequently updated on the website, and made a written report of each program to disclose the information and disseminate the outcome of this program.

Published program brochure and University brochure to encourage enrollment in the Graduate School.

Furthermore, keeping to share the information with the departments related to International Affairs for globalization of entire university.

■ Notices

Strengthened the tie with the collaborating companies and provided the opportunity to exchange opinions on the proposals for a solution on PBL which students engaged in.

The proposal for a solution on PBL was improved practically as it was reviewed from the viewpoints of its novelty, effectiveness and feasibility.

The past participants of the PBL program joined the discussion as advisors and it made their proposals improved and highly developed.

6. FY2018 Progress

【Ritsumeikan University】

【 International academic-industrial collaborative PBL for science and engineering related personnel bridging Japan and South Asia with distinct culture and diversity 】
(Adopted year: FY2014, India)

■ Exchange Programs



<Discussion at the project debrief session, symposium>

[RU-IITH International industry-academic collaborative PBL program/ SIU IT internship program/ Study in NU program/ Global Workshop]

In the RU-IITH International industry-academic collaborative PBL program, five teams (each team consisting of three of RU and two of IITH students) visited each other's university for about 10 days and held workshops to do research and propose a solution for the problems facing Indian society such as water treatment, transport control, power supply, healthcare service and waste management.

[RU Research program]

Each student pursued his/her research after choosing a host institute based on the research field.

[Final Project Debrief Session, Symposium]

Held a final project debrief session, symposium for the purpose of announcing this project outcome over five years and making use of the outcome for further development.

Student-Mobility

○ Outbound

Accomplished the target of dispatch by 105%, newly expanded into dispatching students from each lab and doing research related to research themes at their labs.

○ Inbound

Accomplished the target of acceptance by 148%, the project came to be known among the collaborating universities and the relationship was deeply developed.

	2018	
	Plan	Results
Outbound	60	63
Inbound	25	37

■ Forming the University Network with Quality Assurance

The university, companies, and students exchanged ideas based on their respective positions at the project debrief session, symposium. Graduates reported in their video messages what the attraction and the improvement points of the program they had realized after graduation were. According to those ideas, discussed further development of globalization of the university.



<Task sorting at Global Work Shop>

■ Promotion of Student-Mobility Environment

<Receiving students from India>

Provided a dedicated dormitory for receiving students, and meals in accordance with their dietary restrictions. Organized supporting staff to establish daily life assistance during the program, supporting staff assisted receiving students in using university facilities such as dormitory, cafeteria etc.

<Dispatching RU students>

Requested host universities to provide accommodations, meals, daily life assistance during the program.

Delivered a lecture of Indian culture prior to dispatch for intercultural understanding.

■ Internationalization of the university, Information disclosure and Publication of outcome

Made a Final outcome report summarizing program contents and its outcome over five years to disclose the progress of internationalization of the university and how the fostering of engineers with science backgrounds in Japan and India had been promoted.

Program contents were frequently updated on the website to disclose the information and disseminate the outcome of this program. Published university brochure to encourage enrollment in the Graduate School and made a written report of each program, and utilized them for outcome reporting.

■ Notices

Based on implementation in the project, confirmed that the following programs will be provided after FY2019. Consequently, continues the cultivated collaboration with each university in India and promote the fostering of engineers with science backgrounds capable of being active internationally in both countries.

- IITH Research program
- Nitte University Research program
- RU Research program
- Internship program at companies