

The exchange programme between new and different partners, Royal University of Bhutan and Uppsala University

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Abstract—This WiP paper discusses difficulties, but also gains, in starting new collaborations, mainly when the universities differ: different natures of their strengths and weaknesses, acting in different contexts and having different international recognitions. At the same time, it is the differences that make exchanges fruitful and opens for new learning experiences. An example of such a collaboration between asymmetric partners can be found in the Department of Information Technology, Uppsala University, Sweden and College of Science and Technology, Royal University of Bhutan.

I. INTRODUCTION

Universities are a part of the globalisation. They belong to the local community in which they are situated, at the same time as they are heavily influenced by the cultural and social background of their teachers and students [1]. Further, universities carry an academic culture of their own [2]. Each subject area in science and technology, such as computer science or biology, also brings its own sets of values and norms. What it means, for example, "to be a computer scientist" and "what computer science is" are thus evolving in the interplay between the subject area, the university and its people, the local community and an internationalising world [3]. This provides students and staff with new choices on what, and where to study. [4]

In this Work-in-Progress paper, we analyse and discuss the start and development of a student and staff exchange programme between two asymmetric partners: the old and prestigious Uppsala University (UU) in Sweden and the young and explorative Royal University of Bhutan (RUB) in Bhutan. The paper intends to offer insights in an on-going work and thus to serve as a source of inspiration for the community as well as for ourselves. In future papers we intend to take the analyses further and in depth explore the underlying factors to why this exchange currently seems successful to partners involved.

II. THE TWO PARTNERS

The two societies, of which these universities are parts differ in many ways. The different economic conditions might be the most striking [5], but also traditions, social norms and cultures differ. At the same time, the activities at the two universities show important similarities, at least within the field of CS and IT. Both universities have their curricula based on the IEEE/ACM recommendations, making the course contents to a large degree overlapping between the partners. However, research is more stressed at UU, while the applications, particularly within the Bhutanese society, comes to the fore at RUB.

Bhutan is a rather young and small country, land-locked in the Himalayas between two gigantic nations: China in the north and India in the south, which in its current form stems from the early 20th century. The country stayed in self-

selected isolation and did not open to the outside world until the last few decades of the previous century. This, paired with conscious decisions taken by the king and the parliament, has led to Bhutan having its unique, rather traditional, collectivistically rooted culture. [6]

In 1999, after decades of isolation, the Bhutanese saw a different world by the launch of the Internet and television [7]. The quick and easy access to the information allowed the government and the people to regulate and make informed decisions. The teaching and learning pedagogy shifted from teachers and library dependent to online validation and video tutorials.

The foundation of Royal University of Bhutan in 2003 was a part of the modernisation process of the country. RUB consists of 10 constituent and two affiliated Colleges spread all over the country with a total of approx. 1100 staff and over 10000 students, with Computer Science and Information Technology being taught at four locations. RUB teaches all 54 programmes in English except few programmes offering at the College of Language and Culture Studies.

The Bhutanese partner in this collaboration is the Information Technology Department in the College of Science and Technology (CST), one of the two engineering colleges under RUB. It is situated in the city of Phuentsholing in the southwestern part of the country, 5 km from Bhutan-India border (see Fig. 1) The college, currently with a total of almost 1000 students and approx. 125 staff, offers 7 bachelor level engineering programmes and 1 master level engineering programme. The four years Bachelor in Engineering in Information Technology (B.E.IT), the only programme within the field, has approximately 150 students and 15 staff including lab technicians. The education is quite young, as the first batch of B.E.IT graduated in 2014. The graduates get jobs working in both private and government organisations under their different capacity. The feedback from the stakeholders for the performances by the graduates is excellent.

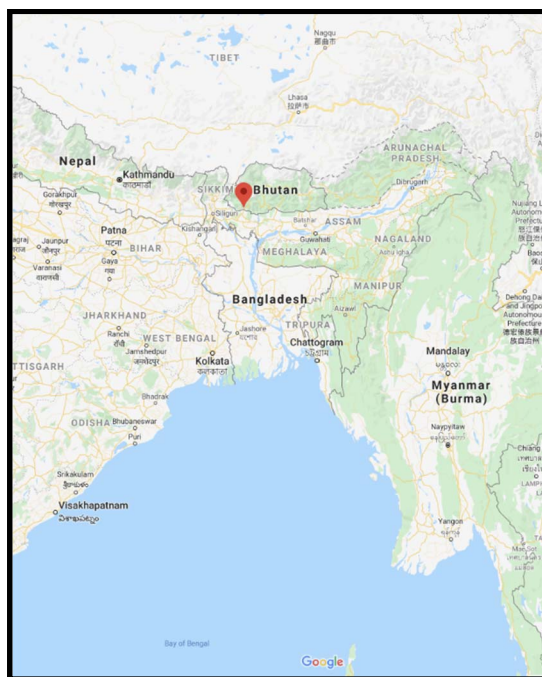


Fig. 1. Phuentsholing, Bhutan

RUB gives top priority to build its capacity through academic and research collaborations with many institutions and universities both at the international and national levels. For example, in RUB, CST has successfully collaborated in several EU sponsored projects since 2006 and currently has three active projects namely Erasmus+ International Credit Mobility Project in collaboration with Technical University of Valencia in Spain, Capacity Building Higher Education Project EU-Asia Collaboration for aAccessible Education in Smart Power System (eACCESS) project with Lodz University of Technology in Poland and another Erasmus+ International Credit Mobility Project with Uppsala University in Sweden. RUB considers UU as one of the most active and impactful collaboration partners from Europe for exchange of experiences, unique values and practices in the CS/IT in higher education. A past project or relevance in this context is Curricula Development of Interdisciplinary Master Courses in Energy Efficiency Building Design) to implement master level education in Bhutan and Nepal.

Uppsala can be found 66 kilometres north of the capital of Sweden, Stockholm. (see Fig. 2). UU is ranked among the top 100 in most rankings. With its history dating from 1477, it is the oldest university in northern Europe. It is a comprehensive university with more than 40 000 students and approximately 5 000 researchers and with a yearly turnover (revenue) of almost 700 million Euros. International collaborations are important: For example, there are almost 500 international student exchange agreements, distributed over 70 countries, and a large number of research collaborations, both departmental and university wide. The Department of Information Technology has an international reputation for its research, in for example data science and computer networks, and teaches different specialisations, at levels from bachelor to doctorate, in computer science and information technology. At this department the working language is English. While the introductory programming courses generally are taught in Swedish, the majority of the courses are given in English.



Fig. 2. Uppsala, Sweden

III. INITIALISATION OF THE EXCHANGE PROGRAMME

The collaboration was jointly initialised by a few staff members from UU together with four Bhutanese students, who studied in Uppsala during the autumn semester 2016 in the EXPERTS - SUSTAIN project. This EU funded Erasmus Mundus Action 2 project was different in its character than the current ICM project. In the previous EU project, the partners were networked, with several partners in Europe and Asia in each network. Today the partners in ICM work in pairs, giving closer contacts between the two universities involved.

The four students from RUB did academically good at UU, but stood out as seen from the UU perspective for their engagement and moral commitment. They did not only engage in their own learning but were also committed for the learning of their peers and the success of the course. During their studies, two of the students took the course Computer Science Education Research. Their final project in the course, about the learning of programming at introductory courses at their college at RUB, was developed into a conference paper together with the first author of this paper [8]. The two students also reported that they had developed their understanding of what research is and how it is conducted during their time in Uppsala. These reports led to another, auto-ethnographic publication, where the students themselves, together with the first author of this paper and a colleague from Finland, analysed their steps in gaining insights in what research means [9]. Furthermore, the two students were instrumental in establishing academic contacts between RUB and UU.

IV. STUDENT EXCHANGES

The current collaborative programme between UU and RUB is sponsored by the European Union under the Erasmus+ ICM project and offers scholarships for exchanges of students and staff. The students study at the partner university for a semester, while staff visits last for one or two weeks.

Autumn 2019 four new students came from RUB to UU. They continued the tradition and brought Bhutanese values into UU and the exchange. RUB also observed that the students were more open-minded and engaged after the exchange programme. The students shared their academic experiences, learning of CS, the importance of generating knowledge, and the research culture amongst other students at RUB.

It is hard to recruit students from UU to go to RUB. Informal discussions with UU students offer quite "obvious" explanations: From a CS/IT perspective, it seems to be more valuable, they argue, to go to countries like Taiwan, China, or Korea, just to mention a few of the alternatives that are at hand for the UU students.

V. TEACHER EXCHANGES

As a part of the teacher exchange, two staff members from UU held a two-week intensive course at RUB during the spring of 2019, on subjects related to computer science education research methodology, with a particular focus on ethical considerations in IT. The teaching had the form of lectures, intertwined with small assignments to the students and discussions. The teachers reported that in the beginning, the students were extremely attentive but shy and, more or less, refused to answer even the simplest. This can be contrasted to the final lecture, when the discussions on different ethical value systems, Bhutanese and Western, got

vivid, with everyone in the room being both learners and teachers. The two teachers also found the classroom atmosphere different. The students were dressed in their traditional Bhutanese clothes, *gho* and *kira*, listened carefully and took notes, not on their computers or telephones, as these were banned during lecture time, but on paper (see Fig. 3). The different atmosphere was also visible, the teachers argued, in that the students showed much appreciation for being selected for their education at CST. Further, they seemed more respectful to the foreign teachers, but also their local staff and possibly even each other than what Uppsala students usually are.

The teachers from CST/RUB going to UU were exposed to the teaching and learning environment of UU, meeting new values, cultures, and the social life in Sweden. The faculty took an active part in the teaching at UU, as well as presentations of studies in Bhutan and the Bhutanese tradition and custom. They were also discussing how teaching took place at CST and UU, participated in seminars and interacted between scholars from different regions to build international partnerships. These activities gave a sense of belongingness, the importance of globalisation and appreciation of foreign cultures, customs, and values. The significant takeaways from the exchange were ideas on the development of a new teaching and learning pedagogy, the introduction of international perspectives to the classrooms, acknowledgement and collaboration with the international partners to address the shared problems.

VI. CONCLUSION AND FURTHER WORK

The collaboration between the two universities has already brought positive impacts to both universities with similarities as well as differences coming to the fore.

The teacher and student exchanges have resulted in extensive visits between the partners. Both students and staff, who have travelled in both directions, have reported to "have grown" and to have had a personally enriching experience by seeing their subject, computer science, in new perspectives. Certainly, experiences of this kind are not limited to the individuals taking part in the exchange. There have, at both sides, been formal seminars as well as many informal discussions about the "other" partner, making the experiences becoming diffused to both academic communities. The most



Fig. 3. Teaching at CST, RUB. Note how the students are dressed, in *gho* (for men) and in *kira* (for women)

commonly discussed insights for students and staff travelling to UU is how research is integrated in education at all levels, while travellers in the opposite direction, to Bhutan, have been particularly impressed by the extent to which ethical considerations, in different ways, are parts of the education.

Already at this stage, with the project starting 2019, positive "side effects" of the collaboration can be found. A lecturer from Sherubtse College, RUB, is currently (since Feb 2020) working on and analysing data from Bhutan in his new position as a PhD student at the Department of Information Science at UU. Further, the two universities have initialised the work to jointly submit an EU Erasmus Plus Capacity Building application, EthITA. "Ethics in IT Education for Asia" in Feb 2021. These two follow-up projects involve several other departments/colleges at the two universities and are thus important for the dissemination.

The EU scholarships have been instrumental for the exchange both of students and staff. Bhutanese students have, with very few exceptions, not the economic strength to study for a semester in Europe. As mentioned above, we have difficulties encouraging CS/IT students from UU to decide to study their discipline in Bhutan. Without the scholarships, this would be still more difficult. The scholarships are important for the RUB staff as the possibilities to get local funding for long distance journeys are limited because of the financial strength. Finally, Uppsala staff have good travel opportunities within their research projects, but the possibilities to travel for explorative projects related to education are very limited.

Several staff exchanges were planned in both directions for spring 2020, but these visits have been postponed as a result of the current Covid-19 situation. At the moment of writing, June 2020, the staff exchanges planned for autumn 2020 are at risk. The two partners have further agreed not to organise any mutual student exchanges during autumn 2020.

It might be hard to point to concrete changes in education as a direct result of this project. Still, as was noted above, as universities are shaped by their students and staff, intangible results in attitudes and intentions can be expected from a rich and lively collaboration like this. However, we are considering and would very much enjoy investigating the effects of the project on students and staff at RUB. Since the Bhutanese department is quite small (approx. 15 staff and 150 students) and is rather isolated for economic and geographic

reasons from the Western world, it could be easier to trace influences and changes in attitudes at RUB than at UU.

As a summary, we argue that partnerships with quite different partners can turn out to be very fruitful. Due to the differences a partner offers various inputs to the collaboration and to the other partner that go outside what is common practice. Further, we believe that a joint disciplinary platform, in our case in CS/IT, helps to create a foundation for the collaboration.

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