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Student Research in a Cooperation Project of Innovation Management between Two Universities

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Abstract: This study examines active learning in international cooperation between two universities. It defines the common forms of active learning as most relevant for faculty involved and critically examines the core element of each element. The main focus is on student research investigated employees involvement in innovation investigating firms in two regional industries in Norway and Russia.

Keywords: Student research, Innovation management, HII, EDI, Active learning

1. Introduction

The globalized business and innovational environment create a growing need for managers that can operate in a variety of socio – economical and cultural conditions and capable of handling the complexities that arise while working in an international context.

Training of academic teachers has been shown to improve teaching skills, i.e. by increasing focus on the student and student activity, make the teaching more effective, improve student evaluation of the teacher and improve student learning (Gibbs and Coffey, 2004). Training courses for academic teachers in early stages of the carrier might not be enough to prepare them for changing demand and new methods of teaching and Brownell and Tanner (2012) find lack of ongoing training, time and incentives to be the main barriers for changes in teaching.

The program, joint courses and research project provide Norwegian and Russian students with a systematic understanding of innovative management and a critical awareness of current problems together with new insights. "Cooperation management education" program is run as an international initiative between Østfold University College (HiØ) in Norway and Southern Federal University in Russia (SFedU) with the support of Norwegian Centre for International Cooperation in Education (SIU).

2. Research Project

2.1 Program Description of Project Goals

The overall project goal is to evolve and strengthen the academic cooperation by means of the development of courses, improvement of the quality of education through a mutual exchange of knowledge of the involved universities. To reach these objectives an outline of topics and activities is discussed below.

The student benefits from international cooperation are numerous and the future carriers in enterprises and organizations could depend on how well they are managed in this context, because project managers need to be prepared for the challenges involved with working in international settings with people from other cultures. Good effective project management requires appropriately balanced combinations of explicit and implicit knowledge, practical professional experience and professional behavior. This perspective stimulates program that is designed to engender a partnership between student, university and industry.

The program focuses on providing our students with integrating research in domestic and international environment, including communication, team building and motivation in international projects, as well as an innovative management approach. Working together with students from other university provides an opportunity to exchange knowledge during the study period. The global view is strengthened by studies at two different universities in two different countries.

2.2 Stages in the Project

In order to reach the goals of the project, there are several milestones in the project divided into topics and activities as discussed below.

2.2.1 Topics and Introductory Activities to Develop Courses with Integrated Research

To integrate empirical research of firms as part of education will be novel for these particular courses. However, to conduct empirical research requires access to the firms. In Østfold, useful sponsors are considered to be the local trade associate, trade union, and local government. These contacts are established. The industry to study will be discussed with these sponsors. Two industries, the IT industry and construction/ building industry, are options considered to be selected for researching employees' driven involvement in innovation (EDI) within firms both in Norway and Russia. Russian lectures have established contact with firms in similar industries in their region through local government.

Students will conduct the research of firms in two industries and will be supervised by lecturers. The education research by students is planned to be four in number; two industries have been analyzed in each country. These planned researches provide the opportunity to do a comparative analysis of the involvement of employees' in innovation in a Russian and Norwegian region. To achieve these contributions through student research is reliant on the quality of education and student interaction, as well as dependent on academic cooperation.

2.2.2 Topics and Activities to Strengthen the Academic Cooperation

To promote student research depends on the academic staff's ability to provide students with the necessary skills within the field. Therefore, both effort and resources will be spent to secure the motivation and engagement of the staff. It implies activities to plan improvement of education and integrate joint lecturing as part of curricula.

To research the field of EDI requires updated knowledge about the subject, as well as planned activities for student research. Professors and students from the universities involved have jointly planned these activities, that requires coordinated actions for project activities like joint education, research methodology, selected businesses and industries, exchange of data collected and joint lecturing within the scheduled project period. As illustrated in the project plan below, two activities are planned for this purpose.

A first preparatory visit is an activity to begin the planning of the joint development of courses in the field of the subject of EDI and research methodology and activities to enhance the quality of education, and the next activity is a workshop to build competence of faculty and staff in these two fields. After accomplishing these preparations, the next activity is the start-up of teaching and supervision, where the students are introduced to the subject and the research tasks to be dealt with. To accomplish student research, the quality of education is a crucial issue.

2.2.3 Topics and Activities to Improve the Quality of Education

As part of the first preparatory visit, two issues will be addressed to improve the quality of education:
The first issue is related to the methods and techniques applied for improvement of students' learning. To promote the learning environment of students in the project, active student learning forms like working in project, teamwork, workshops and seminars, prepare reports for feedback, in addition to lecturing will be discussed for improving the input to the learning processes.

The second issue is related to how to apply these methods is to provide a higher learning outcome for students where research is an integrated part in the education.

Based upon the discussions between the university parties regarding these two issues, one will form the basic learning principles applied to the education of students. During this period of lecturing, there will be an exchange of guest lecturers from both universities that follow the complied education principles.

The exchange of lecturers within a course subject will provide another education perspective both from a culture and business point of view. That would be valuable for the students' learning process. To motivate and activate students, interaction created between the two student groups through gatherings is an important matter.

2.2.4 Topics and Activities for Student Interaction

Two gatherings are planned with meetings with students, where the first gathering (one group of students' visit) taking place after research methodology has been planned. The second visit of the student group is scheduled after the student research has been accomplished. The first meeting is planned to take place after the students have been introduced to the subject matter and have organized the research. There will be performed a seminar where both students and lecturers are gathered. In this seminar student groups present their plan for feedback before starting their research process. The second meeting takes place after the students have finished their research and present their findings in a joint seminar.

Between these two periods, student interactions will be performed through the learning management system as well as Skype-contact. Relationships established between students group and lecturers, it will enable a learning environment to acquire mutual knowledge and understanding of each other's culture through exchange of knowledge and competence in a specific field like EDI.

2.2.5 Topics for Mutual Knowledge Exchange

If the students' research deviates regarding involvement of employee-driven innovation in businesses between the two countries, these differences could be discussed both from a business, regional and national point of views. It will provide an insight students otherwise would not have accessed through ordinary curricula. The integration of research in the planned education, establishment of student relationships, provides a basis for mutual understanding of cultural differences, through the planned two students meetings and students contact in the period between.

2.2.6 Topics and Activities to Evaluate Results, Publication and Dissemination

After the project results are analyzed and evaluated in a joint seminar, the next activity to accomplish is to start organizing publication and dissemination both of students and lecturers work. At least there four research projects are planned. In addition, another two studies could be considered to compare employees' involvement in innovation, and to analyze the results between two different industries in two different regions in two different countries.

2.3 Project Activities

The following activities are planned milestones to contribute to the achievement of the project goals:

A1: Project starts when the application is accepted by SIU 11
A2: Preparatory visit for joint development of courses A3: Workshop for competence-building of faculty and staff
A4: Joint teaching and supervision - guest lecturing
A5: Joint gathering for student interaction
A6: Students interviewing business enterprises A7: Project results are discussed in a joint seminar
A8: Publication and dissemination - prepare papers and articles for conferences.

2.4 Evaluating the Project's Risk Factors

The risk factors that may hinder the implementation of the Resources – availability and recruitment of students and staff. Since the project is integrated into the modern education, reduces the risk of lacking availability and recruitment of students and lecturers. Time – that the project is not conducted within the planned schedule is generally a problem for most projects. However, the project is well organized on the main activity level and with a close follow-up of the progress on these activities through regular reporting, and this reduces the risk factors that may impede the implementation.

Researching firms in industries cause a risk for delayed activities but mitigated through close contact with the firms as well as a close student's follow-up for collecting data. Quality – on two levels; improving the quality of the education, and quality of research. On both levels this might be mitigated through close cooperation in the planning between the academic staff from both universities, and that the involved lecturers are trained for the tasks. The established 26 close cooperation between the universities reduces risk factors mentioned above to a limited level.

3. Methodology

3.1 Theoretical Models

In modern economics, a major emphasis in business education has been to make the experience more authentic for students and to instill skills that are transferable to real-world applications (Cinebell & Cinebell, 2008). One target that is often stressed during higher education design and improvement is to show the importance and relevance of interdisciplinary areas working together in business operations. Applying the theories, approaches, concepts, and techniques from university business programto a specific enterprise is a challenge for the student. Research in Education focusses on ways to optimize opportunities for students to actively engage science by direct experience, working on practical cases and field settings, interviewing with questions, collecting evidence, making interpretations, and developing "scientific habits of the mind" (NRC, 2007).

Research and Education develop mechanisms to translate new scientific discoveries into efficient instructional practice, including delivery of real-time (or near real-time) data, tools, and interfaces to effectively use scientific databases, brokering collaborations between research and educational programs, and coordinating priorities between the research and educational missions.

Research on Education: using the recent advances from the cognitive and learning sciences on "How People Learn" (e.g., Leontiev 1975, Bransford et al., 2000) to optimize emerging instructional technologies (e.g. visualizations, modeling programs, virtual learning environments). This area of study also encompasses student learning motivations (Edelson, 2001, Gordeeva 2013), diversity issues and learning barriers (Zimnya 1997, Vigotsky 1983), and a complex of assessment instruments that are available to demonstrate learning outcomes.

Education in Research: instructional practices necessarily impact the research enterprise. The quality of educational experiences is a major contributing factor to the recruitment and retention of students as young scientists (e.g. Seymour and Hewlitt, 1994).

3.2 Implementation of Active Learning

Integrating the theoretical material with real practice and holding students accountable for doing such research is something that has been beyond the reach of business educators until recently. In contrast to passive learning, active learning includes "any instructional method that engages students in the learning process. In short, active learning requires students to do meaningful learning activities and think about what they are doing […]. The core elements of active learning are student activity and engagement in the learning process." (Prince, 2004:223).

Our project is aimed to use research-based education model for developing joint shared education within specific subjects like "innovation management "; integrating research as part of the lecturing offered to students in both countries; introducing and developing project-based student learning using local businesses as cases in both countries; preparing for common student research in the mentioned fields between the institutions involved and cooperating for dissemination of joint work. To foster engagement for student activity, there are three examples of educational technologies, which are relevant to our project:

Collaborative learning as teamwork to solve the student research task in regional firms in Norway, Russia through problem-based approach, cases, project work; structured discussions, and development of intellectual products. Student research as integrated learning and education method of different forms such as research led education, research-based education, research-oriented education, and research-informed teaching (Griffith, 2004:722).

Flipped classroom as teaching outside class; use class time for active and social learning activities that require that students prepare before and after to benefit from classwork (Abeysekera and 43 Dawson, 2014:3).)4

3.3 Student Research

Ron Griffith (Griffith, 2004:722) proposed four models of the links between student research and education as:

Research-led education in the sense that the curriculum is structured around subject content, and the content selected is directly based on the special research interests of teaching staff; education is based on a traditional information

transmission model; the emphasis is laid on understanding research findings rather than research processes; little attempt is made to capture the two-way benefits of the research and teaching relationship.

Research-orientated education in the sense that the curriculum places emphasis as much on understanding the processes producing knowledge in the field as on learning the codified knowledge that has been achieved. Careful attention is given to the education of inquiry skills and on acquiring a research ethos; the research experiences of teaching staff are brought to bear in a diffuse way.

Research-based education in the sense that the curriculum is mostly designed around inquiry-based activities, rather than on the acquisition of subject content. The experiences of staff in the processes of inquiry are highly integrated into the student's learning activities; with minimized division of roles between teachers and student. The scope deliberately exploits the two-way interactions between research and teaching. Research-informed teaching in the sense that it draws consciously on a systematic inquiry into the teaching and learning process itself.

3.4 The Courses with Integrated Student Research

The overall objective to increase academic cooperation is through improvement of education in "innovation management". Both institutions involved offer courses in these two courses are offered to students in the bachelor program "Business and Management", while for SFedU these two courses are offered to bachelor students and master students.

The quota students that follow the International Business program will have to write a Bachelor thesis. One available option is to offer these students to write their thesis related to the involvement of employees in innovation, where they can take part as a student group in the gatherings with Norwegian and Russian students. Through their involvement, they will get access to information about the subject for their thesis, e.g., doing a comparative analysis of the Norwegian and Russian student groups, or as an alternative to attend as a mixed group. Thus, the participation of these quota students could contribute to achieving the goals of this project cooperation.

3.5 Research Topic and Target Group

The study investigated the challenges which international research students experience in their academic studies. By understanding the obstacles which these students encounter, anticipates that the findings could lead to the development of a practical knowledge for international students who conduct research.

The research focuses on employees' involvement in innovation processes in firms within two industries in the regions of Østfold and Taganrog. The students' research will provide data collection about the researched businesses' involvement of employees in innovation, and capability to innovate in selected industries.

3.6 Cultural Background, Language Barrier, and Time Management

Cultural background is another academic factor that affected international research students, particularly regarding attitudes and expectations about teaching and learning styles of Norwegian and Russian enterprises.

A major concern for international students who study abroad is the language barrier. Language plays a significant role in the academic life of international students. Both spoken and written English challenges those international students who are from non-English speaking countries, especially those with a limited practice of the English language. To solve this problem, we are planning to use both English and Russian language during lectures and seminars.

Beyond any language barrier, time management is another aspect which is felt to impact upon academic success. All participants in the study emphasized the importance of time management to achieve on-time completion and quality of the research.

4. Educational Methods

The program offers a mixture of conventional lectures and seminars held by guest lecturers from HiØ (Østfold University College) in Norway and SFedU (Southern Federal University) in Russia, supported by online resources and a variety of

external sources of information from local industries. It benefits from the use of a practically oriented approach. Student presentations, teamwork, and research project, are important parts of the program.

5. Expected Results and Recommendations

The expected results of the project are research of employees' involvement in innovation in two industries both in Russia and in Norway. These findings will be disseminated as conference contributions and published as articles. The effort will strengthen the academic cooperation of the involved universities through an increase in staff and student mobility, an expected quality enhancement of the education, and enhance research cooperation between the participating universities.

The universities will have access to knowledge about EDI that can nurture further research within other industries and businesses that impact regional development. Firms investigated can be benchmarked against the industry target for EDI. Getting access to the results from the study may enable managers to improve performance and competitiveness of their firms. The results from the project will or are expected to strengthen the joint research between the partner institutions that impact the development of regional businesses and society. Added value is supposed to occur from graduated when employed in different companies/official services. An improved scientific competence in the regions is expected to strengthen both businesses and social services.

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