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# Model for Effective Integration between Research, Work Life and Higher Education in International Security Studies

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**Abstract:** This is an introduction about building an innovative learning environment for the integration of research, work life and higher education. The current international security education facilitates higher education studies through innovative, research integration and collaborative learning activities. Similarly, the education and training faces challenges and new technology trends in learning delivery. It has been recognised that an integration between research, work life and education studies may benefit each other in knowledge creation. The research group completed a desk research and studied four different cases where the integration between research, work life and higher education was implemented during years 2016 and 2017. According to the findings of the desk research and case studies, the researchers build a model of innovative learning environment in order to ensure successful integration processes in the international security management studies.

## 1 INTRODUCTION

This paper introduces the understanding of building systematic and competence-based integration between research, work life and education to meet with current global challenges in learning and education delivery. We must ensure that future experts will gain high level of education in the real life setting in order to successfully be employed.

This paper is based on four different cases during three years where systematic tools for integration of research and projects were facilitated in course implementation with the view of lifelong learning and Learning by Developing (LbD) -concepts (Raij, 2014) in higher education security management studies. The overall goals of the courses were to ensure the learning according to set objectives for the courses.

Earlier research has mainly focused on how to integrate the higher education to research and development activities (Ojasalo et al; Pirinen 2008, 2013). Our approach is to focus on studying how to successfully integrate research and projects to higher education programs or independent courses. Beyond

the systematic tools for integration, our focus was mainly on how the integration of research and projects can benefit the course implementation and learning in higher education. Before doing so, we aim to review the current state of art on integration between higher education and research. Moreover we provide analysis of different learning approaches to support the integration process.

## 2 THE HIGHER EDUCATION SETTING

### 2.1 Integration of Research and Work Life with Higher Education

Higher education aims to meet with the work life needs and is tasked to have a societal role nationally and internationally. Universities are expected to interact with the surrounding society so that their research findings better impact society (Raij, 2014). A systemic and competence-based approach to integrate the work life and EU –projects is highly

needed to ensure successful transfer of knowledge and research findings in large collaboration research projects.

Earlier research identifies the term “integrative” as a perspective within research and development and education strategies that are recognized collectively. The focus of integrative education has been in the participation of students in projects and in achieving advanced results and impact for the research and development projects. (Pirinen, 2013, 8-26). Pirinen (2008) announced the importance of learning activities producing a sustainable drive for the integration of research and development with higher education. Beyond the research and development, the meaning of well-structured work life connections are seen crucial in order for students be successfully employed after higher education studies in the universities of applied sciences (Kirjalainen, 2010, 2). Work life-oriented education includes a set of definitions that clarify the competences needed in today’s work life. The definitions are comprehensiveness, internationality, research touch, communication competences, change management and entrepreneurship. (Salonen, 2010, 3). Also Tynjälä & Virtanen (2013) address how higher education students hope more work life competences during their master level studies in universities.

Universities of Applied Sciences and current higher education institutes aim to provide learning possibilities for humans throughout their life-cycle. Lifelong learning is considered an important part of the Lisbon strategy of the European Union, whereas the European Union aims to be the most competitive and dynamic knowledge-based area as well as a more cohesive and inclusive society (Eurostat, 2009). The concept of lifelong learning is developed into a broader concept from the everyday life learning of people with its aim of improving knowledge, skills and competences (Tissot, 2004, 102) in knowledge societies (Boutsiouki, 2010). Learning is related to politics, ideologies, knowledge employment, and different creative and interactive ways of living (Aspin & Chapman, 2007; Jarvis, 1998). Today the lifelong learning is described as high-individualized way of learning which is guided by the changes and new ways of life (Field, 2006, 77).

## **2.2 Technology in a Higher Education Setting**

Technology has re-organized human life, communication and learning. (Siemens, 2004), and 21<sup>st</sup> century theoretical insights have raised the collaborative practices in online learning. Thus

education is in a changing position and technology brings new opportunities and challenges for teaching and learning. Based on earlier theories, learning can happen through one’s own experiences (see Kolb, 1984), through critical reflection (see Mezirow, 1981) and as problem based solving (see Poikela & Poikela 1991). The theoretical background for online learning has concentrated on behaviourism, cognitive and constructivism learning theories. Furthermore, most of the current online education tools and environments are developed based on these theories. Behaviourism answers to the question “what”, cognitive to the question “how” and constructivism to the question “why”. Researchers have raised criticism regarding the theoretical background of online learning technology.

E-learning can be implemented as distance learning, where learners and teachers do not see each other, and learners may be geographically distant from one another. Moreover, e-learning is highly appreciated worldwide because of its cost-effective possibilities. An online training environment provides a variety of opportunities: teaching can be organized and the online learning environment can be utilized in many different ways. Online teaching can be divided into guided e-learning, self-study online learning and multiform learning, in which classroom training and e-learning are combined.

The new terminology of multiform teaching has begun to use the term “blended learning”. When the classroom based learning is more structured and formal, informal learning is not typically classroom based or structured and the learning is in the hands of the learner (Marsick & Watkins, 2001). Furthermore, the learning experiences provided by education technology and applied in appropriate ways have been shown to enable positive learning experiences and improve learning outcomes. (Carlson, 2013). The challenges in learning in online setting and technology supported may be raised when the constructivist pedagogy is aimed to be implemented.

## **2.3 Learning by Developing and Co-creative Approaches in Higher Education**

From philosophical stance, it has found out that students learn by working collaboratively with social impacts and influence and as a definition we discuss about constructivist pedagogy (Vygotsky, 1978). Moreover, the social constructivism is not seen as method but as a view of learning which leads to decision making about pedagogy and curriculum (Oldfather & West 1999, p.91). Ruoslahti (2017)

finds that there are cyclical connections between value co-creation networks: cooperation platforms and active facilitation are needed for co-creative innovation and knowledge sharing. Active stakeholder participation stems from common aims that promise benefits for all collaborators, resulting in an active drive for co-creation of knowledge and change.

Innovation environments and collaboration technology are widely discussed in literature as ways to facilitate active and open collaboration, which in turn is the key to successful co-creation. First there should be a need for collaboration, all collaborators must feel that they benefit from the co-creation process and its outcomes, and that the collaboration becomes jointly constructed and lead. Any one organization cannot be in charge alone. A common problem and goals guide the co-creation process, and just identifying these common problems may be a co-creation process. These processes take time and are not without challenges.

These principles also apply to the co-creative processes of higher education. Ruoslahti, et. al. (2011) note that, when learning becomes integrated to projects, it becomes important to also actively manage networks. First, on a teaching level the teacher follows student learning and personal curricula, as well as student specific project advancement and competences. Second, on a project management level a teacher may manage projects and project resources. Third, on a network management level a teacher manages partners and possible partner registers. “To be able to genuinely and individually follow and manage the learning of each student is no easy task” (p. 12). A forth level for teachers to manage, may be considered being the level of co-creation. Ruoslahti (2017) notes that a value network that aims at the co-creation of knowledge and its cooperation platforms, which may be electronic or traditional, require facilitation by the teacher, in order to achieve the active stakeholder participation, which is needed to co-create knowledge and innovation. “Active and open collaboration is the key to successful co-creation.” (p. 14).

Cost-effective highly interactive higher education level learning can be achieved, when partners collaborate to first define a problem worth their combined efforts, and then they develop dialogues with their strategic partners to improve knowledge sharing and develop collaborative processes. The search for opportunities for the mutual benefit of the partners serves to unlock the talents of the diverse groups working together in co-creation (Powell, 2012).

Doyle (2010) identifies that awareness is needed to clarify meanings between partners, when universities’ engage with the regions that they are in. Complex and pervasive cooperation can promote economic and social inclusion, and community development. But there is a need to facilitate this development of mutual understanding, which calls for both mutual expectations and a common language, so that universities may become drivers of creative change.

Ruoslahti & Hyttinen (2017) promote the creation of education programs that provide learning possibilities, which are not tied to time or place. Flexible approaches enable students across these collaborative networks to choose a learning curriculum matching its content to one’s individual interest. They suggest that a co-created network community could award higher levels of post post-graduate and post-doctoral education, with a specifically defined scope and focus on security, and safety. “This should provide an opportunity to experience a multi-disciplinary approach toward security and safety of activities” (p. 10).

Raij (2014) finds that research and development projects, which are directly based on real working life, form a learning environment that motivate students to develop new ways of action as competences. The ability and preparedness for both students and teachers to engage and interact with the ever changing surrounding society becomes crucial in building new knowledge and competences. The impact of changes on the character of learning in projects was first recognized. This in turn “led to the recognition of the characteristics and stages of the Learning by Developing action model” (Raij, 2014, p. 13)

### **3 CASES OF INTEGRATION IN INTERNATIONAL SECURITY MANAGEMENT EDUCATION**

#### **3.1 Case 1: An International Approach to Leadership in Crisis, Conflicts and Disasters**

The master level higher education “International Approach to leadership in crisis, conflicts and disasters” – course (5 credits) at Laurea University of Applied Sciences was implemented with a strong integration to European Commission Horizon 2020 funded project IECEU (Improving the Effectiveness of Capabilities in EU conflict prevention) in the

Autumn 2016. In total, 32 students, a principal lecturer, a group of lecturers, and three external experts attended to the implementation process of this course. The process included planning, execution and evaluation phases. Most of the learners were adults with bachelor level knowledge, competences and own work life experiences. The approaches of adult education, especially lifelong learning, and Learning by Developing were used as basis of course implementation.

Hybrid learning methods were applied in the course implementation. Different influences such as reading (the background material of project deliverables), watching (video material from the conflict, crisis and fragile areas), peer discussions (working groups), self-reflection (learning diaries), writing (theory together with experiences) in and exit tests (evaluation) and online learning tools (LMS and social media) were used as teaching and learning methods. Finally the grades were given as a combination of different learning outputs.

The feedback of the students addressed that the possibility to attend H2020 IECEU –project network community, and be involved in latest research, raised their motivation towards the external security and international approach of conflict prevention and peacebuilding. The external experts working with crisis management and peacebuilding were seen as very important figures in receiving the latest information from the field and future work employment possibilities.

### **3.2 Case 2: Humanitarian Aid and Crisis Management**

The master level higher education "Humanitarian Aid and Crisis Management" course (5 credits) by Laurea University of Applied Sciences was implemented in a strong integration with different humanitarian programs and experiences. Experts have shared their experiences and discussed with students how to lead humanitarian work in crisis areas, such as in the International Committee for Red Cross (ICRC), the European Union Monitoring Mission (EUMM) in Georgia, the Organisation for Security, Co-operation in Europe (OSCE) Special Monitoring Mission (SMM) to Ukraine and in Kosovo, and The Finnish Defence Forces International Centre (FINCENT) peace keeping missions.

Training and deployment of Finnish experts to humanitarian leadership and management missions and humanitarian aid was the basis of the study unit. The process included planning, execution and evaluation phases. The majority of the learners were

adults with bachelor level knowledge or competences and strong work life experiences of their own. Approaches of adult education, such as lifelong learning, and Learning by Developing (LbD) the basis of the course implementation. The hybrid learning methods were applied in the course implementation.

Assignments of the master level course were to (1) raise the awareness in terms of international agencies and organisations (students picked a national, regional or international humanitarian aid agency that they studied further); (2) practical methods giving a guidance on "packing your "go-pack"; (3) plan an international humanitarian architecture based on response need.

The general course feedback of students included several feedback on motivating learning content and getting familiar on interesting topic through external speakers and professionals. This was also identified as one of the key factor in an individual learning process. Several earlier adult education research supports the approach where the motivation of the learner can be very crucial role in learning process.

### **3.3 Case 3: Student Integration and Co-creation of a Guide of Practices for Greater Social Responsibility toward Immigrants**

Project Antura was a co-creative project, funded by the Finnish ministry of justice, which involved active members of an independent citizens' forum, area neighbourhood associations, and active student integration, based on the learning method Learning by Developing at the Laurea University of Applied Sciences (Raij, 2014). The project promoted active cooperation between area actors, neighbourhood and immigrant associations, researchers, and students of both higher education and secondary level institutions. This was realized in the spirit of open co-creation.

The aim of project Antura was to evaluate the effects of immigration themed citizens' forums, coordinated by the Greater Leppävaara Citizens' Forum, a voluntarily coordinated arena for citizens' participation in Espoo, Finland. Antura's network partners co-created forms to smoothen the integration of immigrants by more open interaction, where all actors are encouraged to 'be on the same side'" (Ruoslahti & Meristö, 2017).

The project was integrated to the Laurea University of Applied Sciences bachelor level study unit "Research and Development Methods (5 credit points) in the fall of 2016. 17 students took the class.

The study unit was in Finnish, so all students were Finns. The students formed three teams and each team was responsible, under a student project manager and senior lecturer supervision, of completing task 2, 3 or 4: student research team observation of the immigration themed citizens' forum discussion event, observation of Finnish language discussion groups at the local Library, or interviews of local neighbourhood association representatives, respectively. The aim of project Antura was to pave the way to finding best practices, and development suggestions for a better future with shared vision towards greater social responsibility and better integration between people, be they immigrants or born in Finland. This was also the focus of the student work completed.

The studies conducted as student integration promote, on a very practical level, understanding of the factors that facilitate immigration challenges, and identify examples of positive co-existence and social responsibility, while at the same time promoting higher education level learning. But also the study unit addressed the main learning objectives of the study unit, where students are able to choose the proper methods for development project and give reasons for these choices, collect empirical data and analyse it, interpret empirical results, make conclusions based on empirical results, recognize the ethical point of view of the research and development work, and evaluate the reliability and validity of research. They did all these on a very practical level.

### **3.4 Case 4: An Integration between IECEU –Project and “Organisational Management and Leadership”-Course**

An integration process between IECEU –project conceptual framework and security management programme's “Organisational management and leadership” –course (5 credits) was implemented in Laurea UAS from September to December 2016. In total, a group of 31 students, 3 IECEU –project researchers and 2 course lecturers participated to integration process.

The IECEU –project (funded by the European Commission H2020 programme) published multidisciplinary methodological framework for analysing the effectiveness of the capabilities of EU crisis management and peacebuilding with use of comparative methods. The process of collaborative creation of the conceptual framework included a workshop of researchers in June 2015. Organisational theories identifies capabilities as resources and

competences and in the context of IECEU –project research, the researchers apply the six different capabilities in total. The capabilities were planning capacity, organisational capacities, interoperability, competences (skills and knowledge), comprehensiveness and technologies. The conceptual framework allows the use in a variety of contexts and situations because of modularity. (IECEU –project, 2016).

In terms of piloting the methodology in different contexts, the conceptual framework of IECEU was tested by the students in the research studies in analysing the effectiveness of the capabilities in private sector organisations. The implementation of the student research part of integration process included several steps; (1) Firstly, the IECEU researcher and lecturers of the course produced in collaboration a tailored model for bachelor students with specific research methodology to meet with course objectives and timespan. (2) Secondly, the IECEU project researcher participated to teaching seminar in the early phase of course implementation in order to understand the course setting and objectives in practice as well as to build the trust among the students, lecturers and project. (3) Thirdly, the students applied the IECEU conceptual framework (incl. mixed methods such as interviews and surveys in selected organisation) in their specific course study in analysing the effectiveness of capabilities in selected private sector organisation. (4) Fourthly, the guidance was given twice a month in small student group workshops by lecturers and IECEU project researchers. These collaborative workshops implemented the co-creation between students (=peers), lecturers and researchers (=were seen in a role of mentors). (5) Finally, the students introduced their findings of their research studies in seminar in order to ensure knowledge sharing, raising the presenting skills as well as receiving the feedback.

The students gained competences how to apply a research concept and different research methods (interviews, surveys, desk research) practically. Finally, the use of IECEU conceptual framework in student research task ensured the possibility to compare the findings. From the learning perspective, the students gained especially professional research skills and competences. An integration of higher education with work life is seen crucial especially for polytechnic and applied sciences. Therefore, the connections and activities between students and work life representatives can bring added value for learning and reaching the set goals. The implementation of IECEU Conceptual Framework in student task enabled real life contacts with work life

representatives in different private sector organisations. The research competences of the students were seen rather limited in bachelor level studies. Therefore the implementation of research concepts from H2020 projects was required a tailor-made guidance for the course participants.

In order to ensure systematic approaches in the integration, the students, lectures and researchers identified challenges in piloting the IECEU conceptual framework in student research. The guidance by researchers and lecturers was seen crucial to ensure the progress of research process. Students identified challenges in finding joint time among each other, whereas the project management skills were seen crucial in the implementation of the task. Students also felt collaborative practices with researcher raising their motivation and involvement to larger research communication. As a conclusion, the integration process was time consuming and the tailoring of IECEU framework to meet with bachelor student course objectives required several collaborative interaction cycles among researchers and lecturers. The process reached the set goals and student work reports gained valuable findings also for the H2020 research project. The IECEU –project also met one of its dissemination goals to integrate key research findings to higher education.

## 4 RESULTS

The successful integration of research and projects to higher education programs and courses is seen to raise the motivation of students towards the learning topics and themes. A good motivation can help reach the set learning objectives as well as increases the knowledge creation within the topic. Group and community level learning can raise the socio-constructivism in life-long learning. Integration should be embedded with a systematic approach where the research will primarily benefit the learning objectives and later, if needed, can influence towards the process of development of courses and programs in higher education. The integration of international research projects to higher education may benefit the level of knowledge when the external experts are giving lectures and provide current research results for bachelor and master level students. A research project can be a very useful platform for knowledge creation and the students get opportunities to access larger expert communities. Integrating project tasks with studies serves both project and curriculum goals very well. The co-creative approach involves students, teachers, citizens, and outside experts

creating shared excitement and commitment. This in turn facilitates reaching these shared goals.

At the same time, there have been challenges in the integration of research projects and work life to higher education studies in the context of international security. The integration does not often follow systematic processes and it often requires time-consuming collaborative practices among lecturers, researchers, work life representatives and students. Moreover, the integration may need to apply of new methods and strategies for the teaching in collaborative activities. These activities may be time-consuming although they may serve better in problem-based and constructivist learning processes. It was also identified that online tools are only used as one method during course implementation. The online implementation still happens mainly in information sharing between lecturer and students and social media tools were not actively used part of learning practices by the institution.

The implementation of integration of work-life and research requires that the educator has competences to facilitate blended learning activities. The role of networking in projects is much greater than in the traditional teaching paradigm, where the teacher mainly shares one's knowledge with the students. The implementation of integration of work-life and research requires that the educator becomes a guide and facilitator to ways of finding and creating knowledge.

The case studies identified that the integration practices may include both, content and competence related, learning taxonomies. The case studies showed that the awareness of professional knowledge finally led to analysing and producing professional knowledge in constructive frames as required EQF7-8 levels. Overall, the integration between research, work life and education requires new systematic collaboration skills and competences among personnel in higher education. As a final result, based on the literature review (Ruoslahti, 2017) and the findings of the case studies presented in this paper, the model of innovative learning environment in order to facilitate integration between research, work and higher education studies in the international security studies with actors and practices was created. The purpose of the model is also to meet with European Qualification Framework (EQF) standards and lifelong learning practices in the integration processes.

The model identifies the key actors, practices and sets requirements to key competences to facilitate the innovative learning environment in integration between research, work life and higher education.

The key actors identified are 1) Educators, teachers and lecturers, 2) Researchers and project professionals, 3) Work life representatives and professionals, 4) International higher education students which are already enrolled for Higher Education Institute (HEI). The systematic practices in integration were found out as 1) traditional face-to-face lecturing, seminars and workshops, 2) knowledge creation through collaborative expert groups among students as peers, mentors and professionals, 3) guidance and mentoring, 4) documented inputs and outputs (e.g. assignments), 5) professional knowledge and information sharing in online setting, 6) professional knowledge analysing and co-creation by students in online setting. The innovative learning environment requires competences for facilitating the collaboration among actors and practices successfully. This study supports the findings by Ruoslahti, et. al., 2011, who identified teacher competences needed in project and networking based learning. A teacher should be able to understand and manage both learning and the required collaborative process, but also understand project management in order to manage the co-creation process, when integrating teaching into project work.

## 5 CONCLUSIONS

The role of higher education is in changing position and a need for new methods is identified. The research and development projects may benefit also with these future needs in co-creation of knowledge in innovative environments. The integration between research, work life and higher education supports the perspectives of lifelong learning in Europe. The social collaborative practices between higher education students, researchers, lecturers and work life representatives ensure constructivism and effective information sharing among different communities of interests. The innovative learning environment may facilitate the experience possibilities for social constructivism. Jarvis (1998, p.199) addresses the experience as necessity in learning process.

It is important to make sure that primarily the learning objectives of the course or study unit in question are met. But this not enough, also the work done on the course or study unit must benefit the project in some way. This can be reached through selection of actors and practices in an innovative learning environment. At the same time, the effective integration practices have been time-consuming and

require more resources. To support the integration, the implementation can address systematic process in an innovative environment but especially it may bring benefits for different groups and professionals. There is a growing pressure to higher education teachers' competences. This shift in teaching and learning paradigm adds further pressure towards the management of projects, networks, and co-creation activities. Furthermore, the professionals collaborating with higher education and their institutional professionals must further improve their knowledge regarding degree and programme requirements and EQF objectives.

The teaching profession is changing. Teaching professionals need a more varied set of skills and competences to manage network-based co-creative integration. Students need teachers to guide them to discover learning. Projects provide an excellent basis for learning. The teacher is required to have the skills to make this connection between benefitting both the students learning and the accumulation of knowledge for the project. The teacher needs competences to identify what are the best ways to apply this in practice. One way of making sure that the learning objectives and project aims meet can be achieved by setting a specific set of macro learning objectives for the integration tasks. One possible direction to further enhance students' learning could be to encourage them to publish as part of professional knowledge creation. As it is now students produce a variety of different level research papers, such thesis. Institutions could develop paths, where these papers could be further developed into both professional and academic articles. Teachers can provide the needed support and if needed be co-authors. Since the higher education setting requires better practices in online basis, the use of technology in collaborative information creation and knowledge sharing must be addressed. The technology may benefit different groups and brings new tools for social activities. The use of social media and open source tools should be better piloted and studied especially among international security professionals and other communities of interest. Universities should follow and foster closely at the networks that they have. Just as one example, Laurea University of Applied Sciences is implementing a Partner Relationship Management (PRM) System as online tool for network management. With PRM students and teachers will have a better access to the university contacts and the university can better follow and quantify the network contacts made and facilitate their online connections.



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