



## Using Innovation Hubs as Global Educational Collaboration Centers: Changing the International Education Model

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	<b>ABSTRACT</b>
<p>2016 Research Leap/Inovatus Services Ltd. All rights reserved.</p> <p><b>DOI:</b> <a href="https://doi.org/10.18775/jibrm.1849-8558.2015.45.3003">10.18775/jibrm.1849-8558.2015.45.3003</a> <b>URL:</b> <a href="http://dx.doi.org/10.18775/jibrm.1849-8558.2015.45.3003">http://dx.doi.org/10.18775/jibrm.1849-8558.2015.45.3003</a></p>	<p>This paper adapts existing international educational models to address collaborative education using innovation hubs as the coordinating mechanism. Our goal is to improve global engagement and mobility of students during their educational path. In this paper, we address challenges in international education through an approach based on collaboration among universities with innovation hubs. We base our discussion on theories of organizational change and knowledge management. Qualitative data collected from three partner universities, two in Germany and one in the United States, are presented. Each had specific innovation hubs but none used these resources in a structured international context. We explore ways in which an innovation hub developed and operated by multiple international education partners might be an appropriate platform for new ways of collaboration. An innovation hub might provide a mechanism by which global partners learn in rich ways across diverse platforms, norms, and motivations. Theory grounded in organizational adaptation, open innovation and global education suggests that integrating an innovation hub with international education programs may yield effective results at the individual (students, staff, faculty) and the organizational (intellectual property, reputation, etc.) levels. Desired outcomes include creating mutual benefits through collective knowledge generation and implementation of new ideas. We conclude that implementation of this model would involve a change process, thus specific characteristics and indications for change management should be applied. We offer recommendations for implementing this model and discuss implementation options and the involvement of global partner faculty, students, and staff.</p>
<p><b>Keywords:</b> Innovation Hubs, Global education, International educational model, Collaborative education</p>	

### 1. Introduction

Challenges facing traditional international exchange programs continue to evolve. These include reluctance in students (and their parents) to travel abroad, evolving educational models, and emerging types of career-relevant learning experiences. This paper explores a new type of exchange partnership model that addresses these challenges: an innovation hub, which combines tools, people, and space to create spaces for collaboration on university campuses. These innovation hubs are becoming common on campuses around the world. In fact, innovation hubs can enhance partnerships by giving a central focus to student exchange beyond the important and evident cultural competence development to include long-lasting network development by faculty, students, and staff. By offering innovation projects that encourage insight-building around global similarities and differences in consumer needs, market state, competition, regulation, intellectual property protection, distribution, and

environmental expectations, partner schools can develop new resilient mechanisms for enhanced partnerships. Students can work together remotely with partner schools before, during, and after (and even instead of) traditional semester abroad residencies.

### 2. Brief Literature Review

How can international exchange partnerships be better positioned to improve, specifically based on new forms of partnerships (for example, growing quasi- or non-residential partnership programs) and new focal areas of partnership (specifically, innovation hubs)? The following is a basic overview of innovation hubs, global education, and the connection between the two. Next, we will look to the research literature on change and knowledge management to inform us on how to create an organizing framework and research protocol to explore the nature and effectiveness of change in

educational institutions as they attempt to redesign international and innovation education in different ways.

### 2.1 The Innovation Hub Concept

The innovation hub concept is similar to concepts such as incubators, R&D labs and impact hubs, in which a physical space with various resources is dedicated to enhancing innovation within a defined organization or community. However, finding an adequate definition of an innovation hub is quite challenging. Often associated with this term is an open co-working space with a hip interior design and tools for creative brains. Indeed, it is more than just a physical space for idea generation. According to Gryszkiewicz & Friederici (2014) a crucial feature of an innovation hub is the ability to promote innovation by providing a learning environment that supports the exchange and development of ideas. Toivonen & Friederici (2015) identified four key dimensions of an innovation hub; (a) existence of a collaborative community that is largely voluntary and self-directed, (b) diverse, heterogeneous membership, (c) physical and digital spaces designed to promote creative, collaborative work, and (d) bringing the global entrepreneurial culture to a particular location.

Moreover, diversity not only of the people's background but also their knowledge in different fields is expected to be beneficial for an innovative environment since diverse knowledge and contrasting viewpoints help to create novel and unique ideas (Van der Vegt & Janssen 2003). An appealing physical space enables people to meet together in person and to offer opportunities for shared idea creation. An additional digital space would support interaction between the participants regardless of geographic location and can therefore provide a platform for global collaboration. Innovation hubs also entail a specific entrepreneurial culture, which is characterized by global thinking, values, and norms often emphasizing social behavior. In countries with more conservative politics and culture, these hubs can also serve as a safe space for culturally unfamiliar behaviors and mindsets (Gryszkiewicz & Friederici 2014; Toivonen & Friederici 2015). Based on these definitions, we adopt the following definition of a university-based innovation hub for this study: A collection of physical and digital workspaces and tools in which diverse community members interact for the purposes of learning about and producing innovation.

### 2.2 Innovation Hubs and Global Education

How does the innovation hub relate to traditional models of global education? Global education at the bachelors or master's level is usually associated with residential exchange programs, dual degree programs, and research or internships abroad. The importance of diversity for the innovation hub concept suggests that including students from multiple cultures in a single innovation hub could help meet educational and innovation goals. Further, new trends are arising in cross-border education

- one of them is the development of education hubs. According to Knight (2011, 2014), different factors lead to their emergence: The competition not only between economies but also within the education sector is growing, companies have higher expectations of the skills and abilities of future employees, and more and more regions strive for an establishment of a knowledge-based profile.

Knight (2011) proposed three types of international education hubs: student, talent and knowledge/innovation hubs. Generally, an international education hub can be defined as "(...) a planned effort to build a critical mass of local and international actors strategically engaged in education, training, knowledge production, and innovation initiatives" (p.227). The characteristic of strategically engaged stresses the importance of interaction, network and cooperation of the actors and refers to an aspired added value for all parties. A knowledge/innovation hub, according to Knight, refers mainly to the aim of knowledge creation and production of innovative ideas and approaches. Another objective is the contribution to an establishment of a knowledge and service-based economy. Additionally, future high-qualified employees should be trained and educated for knowledge generation in general and innovation in particular. Apart from that, the increase in global economic competitiveness is intended as well as the attraction of (foreign) direct investment (Knight 2014).

Taken together, Knight's two papers suggest that innovation hubs integrated within global education hubs would be a potentially valuable combination for students, the institutions, stakeholder groups related to both universities (business partners, alumni, etc.), government, and investors. An additional point might be that an innovation hub and a global education hub might best be considered jointly as part of the university infrastructure, rather than completely separate functions. This type of innovation hub can thus, for example, be implemented in form of a center for collaboration between international and local universities but also between universities and private industry. Critical is the aspect of improved global mobility, which should facilitate the cooperation even across national borders.

### 2.3 Change Processes in Adopting University Innovation Hubs

The prospect of developing a cooperative international education innovation hub would require significant change at most universities, where innovation and international education are currently located in separate parts of the university with distinct goals. In order to evaluate prospects for developing true international education innovation hubs at the three institutions we studied, we considered findings from the organizational change literature.

Research shows that organizations can change in different ways. For example, Meyersen (2001) specified two types: a drastic action approach, and a change process similar to

evolutionary adaption. The first describes a process that is mandated by Top Management and can often be traced back to external drives or changes, e.g. new regulations and laws, lack of resources, or new technological developments on the market. The latter approach, however, is more incremental, following a slower and broader change process commonly organized in a decentralized way. Academic institutions tend to be oriented toward evolutionary adaptation (Dill, 1999).

Kotter (2007) stated that change and transformation do not occur in one event but through specific sequences. The process of these sequences can be divided into several stages. These stages require sufficient time and have to be completed one after another. This further implies a dependency of decisions and actions between the different stages. This model is also appropriate for academic institutions. Creating a new system through change and consequently the need of dealing with complex, new problems and opportunities in organizations requires several variables: Guidance in terms of adequate leadership, shared information through open communication and consistency in values and decision-making processes (Kotter 2007; Hemp & Steward 2004).

Other factors relevant to the educational context include the importance of creating acceptance as a first step to change (Garvin & Roberto 2005) and the role of leaders as tempered radicals, meaning a type of informal leader who unobtrusively strives for a cultural transformation by questioning existing knowledge and practices. Dialogue with different stakeholders, employees in particular, is again meant to be a particular success factor for that, as well as seeking profitable and powerful relationships. In a partnership between two or more global institutions, this model likely becomes critical.

Resistance to change is a widely observed phenomena, that is an issue in higher education. Research tends to agree that well over half of change initiatives fail (Garvin & Roberto 2005). Reasons might include lack of information about the whole change process, challenges identifying with new goals, values and measures, and fear of losing power, control or influence. Employees also hesitate to change their habits, especially when old patterns worked well in the past (Garvin & Roberto 2005). Besides demotivated or hesitating employees there can exist a dependency on higher and more powerful interest as well as limited resources. So why push forward with changes to a model that works?

## 2.4 Research Proposition

Putting these streams of research (global education, innovation, change, and knowledge management) together, we developed the following proposition for guiding the research: Innovation hubs combined with global partnerships can help schools create new knowledge that can be commercialized, or at the least, used elsewhere for educational purposes.

By partnering, organizational adaptation (Hedlund 1994; Volberda & Lewin 2003) can take place at a potentially faster

rate as new ideas are explored in a learning environment. Additionally, the open innovation approach (Chesbrough 2003; Chiaroni, Chiesa, & Frattini 2009) most innovation hubs take aligns nicely with global education goals (Deardorff 2006; Dinges 1983). This alignment suggests that integrating innovation hubs with international education programs may yield effective results at the individual (students, staff, faculty) and the organizational (intellectual property, reputation, etc.) levels. Desired outcomes include creating mutual benefits through collective knowledge generation and implementation of new ideas. Next we explore this proposition in terms of the potential and progress at three institutions. The change efforts and processes in terms of innovation potential in Global Education at three different partner universities were also analyzed, and recommendations and further implementation ideas are presented.

## 3. Current Practices at Partner Institutions

The institutions studied include one small private university in the northeast U.S. (we will refer to this as US1), one large public university in Germany (referred to as DE1), and one small university of applied science (Hochschule) in Germany (DE2). All three universities hold an appropriate potential for innovative projects. All three are heavily involved in global education, which is important because networks of international partners should provide a solid foundation for positive outcomes. Differences can be found in the status of the physical innovation space.

DE2 is building up an innovation hub, a research and training laboratory for rapid prototyping with technically versatile production equipment (e.g. 3D printers and scanners, laser cutters). Currently, the projects are limited mostly to design and construction tasks. US1's planned innovation hub will start to be constructed in Summer 2018 and will combine faculty members and the international office, library and research area, as well as classrooms. In comparison to the other two partner universities, US1's concept is thereby the most collaborative and multifaceted one. DE1, however, has access to research and competencies in a broad range of disciplines and fields. It has a cooperation in place with a well-known design program that also provides relevant technical expertise in new idea creation and innovation.

## 4. Data Collection

Data were collected from students and relevant faculty members at all three universities in two different ways. Online surveys were conducted with a total of 27 students from the three schools. Faculty members of all three schools responded either to an online questionnaire or participated in qualitative face-to-face and Skype interviews. Tables 1 and 2 summarize the main statements and concerns of a potential global collaboration or joint project in innovation by faculty (Table 1) and students (Table 2). Respondents were, among other things,

asked about potentially important components, student outcomes and challenges in this context.

All respondents agreed on similar components and outcomes. Organizational effort and coordination were identified as major challenges. Diversity in different regards was found to be positive. Furthermore, a good personal match and agreement on project scope and goals were considered essential. It was notable that the lack of required time and resources, as well as the recognition of credits and academic incentives in a global collaboration model seem to be major concerns, especially for the German public university students. Coordination and organizational effort seem to be critical obstacles, which should be encountered with appropriate planning ahead and process management.

Students surveyed vary in experience with different formats reaching from shared online courses with online meetings to presence projects, e.g. visiting at the partner university for two weeks to write a thesis together. Common consensus existed about the benefits of international team projects, especially because of the similarity to potential future job conditions. Moreover, communication and coordination seem to be a critical aspect in team projects with international students. Even though different technologies were successfully used, long response times due to time differences made teamwork more difficult. In person meetings were preferred over online projects by nearly all students, since the chances of balancing assets and drawbacks of cultural differences were perceived to be easier in face-to-face interactions.

## 5. Recommendations

We find a pattern of anecdotal support for the proposition developed earlier that an integration of an innovation hub with a global education hub has the potential for significant value creation for students, faculty, institutions, communities, and a variety of other stakeholders. Based on our interviews with students and faculty, we believe the use of innovation hubs is a potentially unique and efficient solution for strengthening existing partnerships or exploring low-cost ways to develop new partnerships. As the world changes, project-based learning around themes of new products makes sense to create graduates with global skills, cultural competence, and the ability to understand different markets, different work cultures, and to be an effective manager in global contexts. Based on the research literature, especially Kärkkäinen & Vincent-Lancrin (2013), and our data (see Tables 1 and 2), we offer the following six recommendations for improving global collaboration among partner universities through innovation hubs.

First, a global collaboration in form of joint (innovation) projects can represent a change process at the universities that extends in some ways the traditional model of exchange partnerships. The change process at each university should not follow a radical approach and should rather be pursued and developed based on a cultural foundation of organizational learning and participation from the bottom up. The process

ought to be managed through a strong vision from campus leaders at all partners as well as involvement at multiple levels – administration, faculty, staff, and students.

Agreement on goals and interests between faculties are thereby essential prerequisites for a successful implementation. Bringing all partner universities' goals and visions into line, not only internally with their own faculties but also with each other, might represent a challenge. Furthermore, leadership is needed to provide shared information and should ensure open and absolute communication. The importance of global competitiveness as well as gains of innovation projects and collaborations should be emphasized and proved with plausible arguments. Identifying potential informal leaders (tempered radicals who may also serve as charismatic leaders; e.g., Meyerson 2001) might help to facilitate the process realization.

Moreover, organizational and individual effort should be managed with clear process management and an adequate person-workload fit. The concentration of the staff involved concerning the new (additional) project has to be aligned with other regular work tasks. Necessary support has to be detected early on to support student engagement. Additionally, it cannot be denied that existing and project-relevant skills of involved employees (faculty staff, professors and so forth) should match the organizational goals and values. Last but not least, incentive structures should be considered.

Second, create early face-to-face interactions and clear project definition. Whenever new partners think about doing a project together it might be important for them to get to know each other personally beforehand. This may foster relationships, build trust and lay the foundation for future cooperation. Dealing with different languages and cultures could become easier this way. Besides, face-to-face meetings in the beginning of, or before the joint project, should enable all participants to share their ideas, thoughts, and goals for future collaboration. The project's structure should be clearly defined from the very beginning, and the scope, content, methods, and outcomes should be aligned to the partners' expectations. In our example, hub directors from all three schools should visit the other hubs to share best practices, build trust, and better understand potential synergies.

Third, manage the process throughout the project. Integrate regular status reports and provide opportunities for feedback. Needed adjustments can be identified and carried out early. Course instructors should have content expertise, connect people with resources, and coordinate projects.

Fourth, establish an information and communication system. The project partners should decide for an adequate information and communication system and strategy, which will be used during the collaboration. This may entail preferred communication channels and technology, as well as contact

times and frequency, and also potential events and meetings to provide information about the joint project for other interested parties. This includes designing group meeting technology (cameras, screens, microphones, etc.) into the hubs.

Fifth, facilitate participation among interested stakeholder and potential participants. Use working groups to generate ideas for the project design and topics. For stakeholders in different locations, online surveys can be used. Options for evaluation should be considered to allow a broader and prompt feedback. Students on traditional in-residence semester exchange at the partner campuses could help in this role, both sharing cultural and specific resource knowledge about their home campus. Additionally, when these students return to their home campus, they can share information about their host school with classmates at their home school who might be interested in a shared project or on their way to a traditional exchange semester at that partners.

Lastly, provide support for participants throughout the project process. The required technology and tools ought to be provided by the universities (it's often difficult to get exchange students access to learning management systems such as Blackboard and Moodle). Responsible teaching staff should be willing to help - or at least instruct – students use technology in the hubs and develop processes to complete the project tasks. Options for additional funding and sponsorships of the joint project (e.g. through industry partners) should be examined to increase the projects quality and impact. For example, combining short travel between partners for final deliverables can be a great experience (DE3 students visited US1 one semester and US1 students visited DE3 students the second semester).

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