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The challenge of implementation

Anchoring innovation and entrepreneurship in the practice of higher education teachers

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The challenge of implementation:**Anchoring Innovation and Entrepreneurship in the practice of higher education teachers**

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Abstract

Reaching the students in innovation and entrepreneurship courses is hard, when the courses are a requirement but not included in the main project of the curriculum. It is a major paradox for lecturers, who have never participated in and cannot see the relevance of such course, to implement these concepts in daily teaching, as it is strongly encouraged by policy makers and educations.

This paper aims to discuss how lecturers experience the challenge of teaching their own discipline while being imposed to embrace and promote innovation and entrepreneurship teaching. Through a single study case of the BATCoM education at VIA University College, Denmark, the paper shows that the knowledge, use and implementation of the concepts is far from anchored in the lecturers' daily practices.

Through qualitative interviews the paper highlights different aspects considered, to determine the research question of the paper: which factors influence the degree of implementation of innovation and entrepreneurship in the individual lecturers' daily teaching?

The paper questions the common approach taken by higher educational institutions whereby lecturers are urged to teach innovation and entrepreneurship with minor or no background experience in the field.

Introduction

Today changing contexts is an inevitable aspect of life, and flexibility is not a choice we can merely consider – it is the reality. In this modern world we strive for innovative and entrepreneurial young people, because we believe this is one way to deal with change.

Because of this our government, society and institutions plan curricula that place great emphasis on these concepts, including innovation and entrepreneurship as one of the basic skills our students must be able to handle. The Danish foundation for Entrepreneurship – Young Enterprise was established in order to ensure the ability to be innovative becomes a fundamental element in the progression throughout the educational system described in the Progression Model (A. Rasmussen, N. Nybye, 2013). The intention of this foundation is to introduce a higher degree of innovation and entrepreneurship in all educational programmes, to be anchored in all educations as core elements.

The Institution of VIA UC, which hosts the case study of this article, has followed the strategies suggested by the Foundation, working on implementation strategies since 2005, and in 2013 all lines of education offered by VIA UC were obliged to participate in a 3-weeks course of entrepreneurship and innovation.

In the enrollment of innovation and entrepreneurship programmes at higher institutions, the lecturers play a central role when promoting the concepts to the students, and in the words of P. D. Hannon (2006) “educator approaches and understanding vary; teaching preferences and experiences affect learner exposure; educator beliefs affect curricula design and processes.” Previous discussions have dealt with the lecturers' role when teaching concepts or teaching through concepts (A. Gibb 2002).

In this paper focus has changed from the perspective of realized innovation and entrepreneurship courses, to everyday practice and discourse of the concepts carried out by lecturers in general.

Determining the duration of the course to be three weeks of a 3½ years Bachelor's degree programme, challenges the high expectations expressed by the Government to make the concepts an integral part of the knowledge, skills and competences of every single student. Hence incorporating these concepts deep into the mindset of the students must include lecturer awareness throughout the entire education.

According to J. Seikkula-Leino et al (2010) "the best way to implement entrepreneurship education is to integrate the subject into your everyday teaching". This paper introduces an investigation of the lecturers' sense of implementing the concepts in their own practice, in congruence with their own professionalism (*congruence* "which describes how well the new practices are aligned with the teacher's present teaching philosophy and practices" (Doyle and Ponder, 1977)).

Through interviews, the paper wish to systematically arrange factors which influence integration of the concepts, seen from the lecturer's personal perspective.

Promoting entrepreneurship and innovation training in higher education teachers has been an unexplored area of research in entrepreneurship education, and only little literature describes the paradox many lecturers experience. Therefore, this paper prioritizes data collected from the described single case study, and will later introduce literature concerning teacher change.

Introduction to the BATCoM educators, and the Innovation Course

The Bachelor of Architectural Technology and Construction Management (BATCoM) degree programme at VIA UC is a Danish trans-disciplinary education divided into the Danish and International programme. The lecturers teaching the programme are selected from their experience with various building sectors – experience acquired from building processes and professional backgrounds either as a BATCoM, an engineer or an architect.

In order to integrate innovation and entrepreneurship in the BATCoM education a 3-week course focusing on innovative processes and entrepreneurial approaches to innovative ideas has been planned for the third semester of the programme. This course is separated from the rest of the semester practice.

Only a few of the lecturers from the third semester at BATCoM are directly involved in the Innovation course. These lecturers handle the role of facilitator in the Innovation course together with lecturers from all other programs at VIA. To be able to do this, the facilitators participate in a 3-day preparation and planning course.

In the light of this, only few lecturers have little training to fulfill the aims of the Progression model. This course cannot implement the concepts alone, and the implementation relies on the lecturer's ability to integrate the concepts in his/her daily teaching, which is discussed in the subsequent sections.

Method

The qualitative data for this investigation was gathered in twelve separate interviews of senior lecturers from the BATCoM education in VIA UC. The open questions asked were intended to provide an understanding of the individual and immediate perception and interpretation of the concepts innovation and entrepreneurship, as well as insight into the alignment of the concepts of individual teaching processes.

The lecturers were selected on their professional backgrounds as engineers, BATCoM, and architects. The lecturers are all highly experienced, with between five and twenty-five years of experience teaching at the BATCoM programme, some of them teaching Danish-speaking classes, some teaching international classes

and some teaching both. Three of the lecturers have been directly involved in the interdisciplinary Innovation course over the past five years, represented by one engineer, one BATCoM and one architect.

Acknowledging the fact that innovation and entrepreneurship are new concepts for experienced lecturers with different backgrounds, the interviews were conducted with a clear distinction between the two concepts. Not only are the concepts new – many lecturers do not really understand the concepts although they are merged into the curriculum and semester syllabus [1 – Curriculum description]. The main aim of the interviews was to make the lecturers express their understanding of the concepts.

As an example a lecturer was asked: “how do you see the concept ‘innovation’ as part of your personal profession”, allowing him/her the possibility of explaining the relationship between his/her background (as an engineer, BATCoM or architect) and innovation. Another question concerning entrepreneurship asked in the interviews was: “where do you encounter entrepreneurship in your daily life as a lecturer in the BATCoM programme?”

To stay open-minded towards several factors influencing the lecturer’s own involvement of innovation and entrepreneurship in daily practice, the interviews were intended to determine the lecturer’s position: teaching international/Danish classes, teaching in early/late semesters, participation in the Innovation courses, the age of the educator and in general understanding the concepts and their use.

Results/Findings

A total of 20 questions were asked – nine about innovation, nine about entrepreneurship and two about their relationship – which yielded legible data to categorize the feedback, as seen in Tables 1-5.

The tables categorize the current position of each lecturer out of a number of influencing factors. The lecturers are marked according to professions:

Four engineers marked with: **E E E E**

Five BATCoMs marked with: **B B B B B**

Three architects marked with: **A A A**

Table 1 - Distinction between national or international educational environment:

Daily practice	International Classes	Danish Classes
Educators	E E E B B B A A	E B B A

Obviously the lecturers working with international students (regardless of their own professions) had a natural approach to working in an innovative manner with their students, explaining how the international students were open-minded and forced to open their eyes towards a new country, a new system and new solutions. This was implicitly explained through the responses. Nevertheless, this did not influence the level of understanding, finding of relevance and use of the concepts in daily teaching.

Table 2 – Distribution of lecturers onto early and late semesters

Daily practice	1 st -3 rd semester	4 th – 7 th semester
Educators	E E B B A	E E B B B A A

Lecturers teaching early semesters found it difficult to apply the concepts with students who did not yet have a professional identity. The lecturers found little meaning in presenting new opportunities to students who did not know traditional solutions and procedures.

Table 3 – Differences in age, older or younger than 50 years:

Age	30 - 49	50 - 70
Educators	E E B A A	E E B B B B A

The terms “innovation and entrepreneurship” are relatively new concepts in the mindsets of most people. In the light of this, differentiating between junior and senior lecturers could have an influence on the usage and understanding of the two concepts. The table shows something else though; age did not have any significance on the individual teacher’s level of understanding, finding relevance and use of the concepts in his/her daily teaching.

Table 4 – Former experience from participating in the Innovation courses:

Experience from the Innovation courses	Educators
Involved in Innovation courses	E B A
Little knowledge upon the courses	E B B
No knowledge about the courses	E E B B A A

Quite surprisingly, being involved as a facilitator in the Innovation courses was of less significance to integration of the concepts in daily teaching practice. This confirms the poor reputation of the course as a ‘bracket’ in the BATCoM programme, as expressed by a BATCoM lecturer, indicating that it has no connection to the main semester project. The lecturers focus on innovation and entrepreneurship through the innovation course, but when the course is not held these concepts are not used by the lecturers anymore.

Table 5 – Expressing understanding, relevance and involvement of concepts:

	High degree	Some degree	Limited degree
Expressing great understanding of concepts	A A A B B	B B B	E E E E
Expressing relevance to own practice (congruence)	A A A	B B B B B	E E E E
Expressing involvement of concepts in own daily practice	A A A B B	B B	E E E E B B

Categorizing the data from the interviewees into “expressing great understanding of concepts, expressing relevance to own practice (congruence) and expressing involvement of concepts in own daily practice” creates a clear division between the background-professions of the lecturers.

As can be seen, the interviews indicate that the lecturer’s background profession is of great importance when implementing the concepts innovation and entrepreneurship. These concepts are familiar to their

profession, apparently in clear congruence with their regular teaching approach, which naturally includes them in the daily teaching of the architect. This pattern was unexpected and looking back through the interviews, the words used about the concepts varied greatly for the three professions.

The engineers referred to innovation as “development in general, looking at new possibilities, thinking wide, try new things”, one of the interviewees commented that “innovation is a research concept which occurs before I get involved in the process”. Talking about entrepreneurship was far away from their conceptual framework, although they tried to clarify their own understanding with descriptions such as “understanding business and firms” and “cooperation to create new”.

In discussion with lecturers who have a BATCoM background, innovation was referred to as “new ideas, new solutions, new expectations, new disciplines and new people” with the interviewees adding the terms “development, opening the world, innovative solutions and commercial approach”.

Their understanding of entrepreneurship was much wider than that of the engineers, expressing themselves in ways such as “willing to take risks, economic awareness, starting up, adaptable, get things done, make it real, take the ideas further, making a product, starting own business and own professional background”.

Talking to lecturers with an architectural basis was an eye-opener and their understanding of innovation was expressed as “developing new actions, new pedagogical approaches, analysis, test, documentation, engagement, challenges, creative processes, development, new methods, project based learning, reality, working method, creative thinking, holistic thinking, look from different angles at different things to get different solutions, relevance, specific disciplinary approach and experience, reflective, argumenting, process, create value and quality, positive to changes, develop things with value, motivation”.

The architects used a wide range of words about the concept and when asked about entrepreneurship they all continued with phrases like “engage into something with courage, knowledge, background, method and drive”, “self-confidence, wanting to achieve something, to be searching and brave, starting up, social gain, develop and realize something, enterprising behavior, reflection of own new contribution, the way to do business, what drives someone else than economics, alternatives to traditional thinking”.

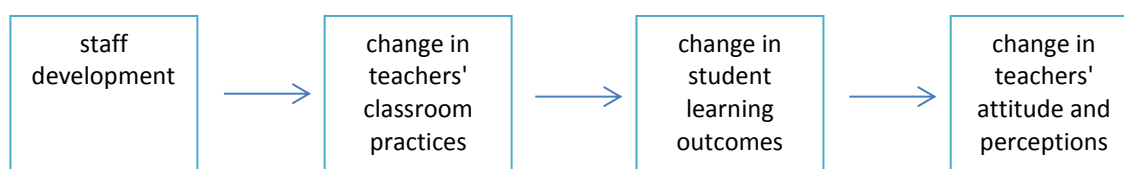
The words used by the architects to talk about the concepts innovation and entrepreneurship expressed a wide and detailed understanding and use of the concepts. Studying the diversity of the descriptions, the architects displayed a closer relationship with their individual professions and the terms, than the other two professions. In the words of one of the architects, “innovation is completely engrained into my professional discipline.”

Discussion

All lecturers at the BATCoM programme are encouraged to incorporate innovation and entrepreneurship in their daily teaching. One assumption could be that the lecturers who attended the Innovation course would seek to naturally implement the concepts in their daily teaching practice, but this is not the case. Instead the research shows that the lecturers who in fact do use the terms and concepts in daily teaching primarily are lecturers who find great congruence between the concepts and their professional discipline. According to Doyle and Ponder(1977) congruence, as well as instrumentality (clear and specific presentation of practice) and cost (extra time and effort spend), influence teachers’ implementation of recommended practice. In order to change the content of teaching to recommended practice one must consider the change needed to do so.

Discussing how and what teachers learn (Shulman and Shulman, 2004) is a field of research which comes as a natural consequence of the staff development necessary to handle change – “staff development is a systematic attempt to bring about change - change in the classroom practice of teachers, change in their beliefs and attitudes, and change in student learning outcomes” (T. R Guskey, 1989).

While Oleson and Hora (2014) reject the idea of faculty teaching practice being shaped by educators “teaching the way they were taught”, Shulman and Shulman (2004) describe an accomplished teacher as “a member of a professional community who is ready, willing, and able to teach and to learn from his or her teaching experience”. They introduce a comprehensive model to represent the interaction of the individual and the community level of analysis, and in the making of this admit becoming “conscious about the complexity of learning to teach in a theory-intensive reform context” and “while the subject matters in these settings, there is so much more going on simultaneously that at times the ever-important content differences can be swamped by other critical features of the context ... coming to recognize the limitations of both content and community as determinants of teacher performance and impact” (Shulman and Shulman, 2004). Change in attitude and perception of teachers is a complex study, and Guskey introduces a simple model as a framework for understanding the dynamics of teacher change in progression (Guskey, 1989):



Guskey highlights how significant changes in teachers' attitudes and perception happens *after* changes in student learning outcome – this being a consequence of the individual educators positive experience of teaching.

Guskey supports the model with three guiding principles for achieving improvement:

- 1) staff developers must see change as gradual, difficult, risky for the individual teacher and must therefore be approached incrementally – “think big and start small”
- 2) teachers must see the effects of these changes on student learning to get direct evidence of the results of their efforts
- 3) continued support and follow-up after initial training is essential

Trying to promote innovation and entrepreneurship education in higher education is a change of expectations to student outcome, and therefore, going backwards in the model of Guskey, leads to staff development.

Realizing the complexity of learning teachers to execute new practices (Shulman and Shulman, 2004) it is hard to see a strong ambition in the way these changes are handled at VIA UC. The little effort done to implement innovation and entrepreneurship does not work as intended. There are other mechanisms which make the lecturers ready to adopt the recommended practice though – these professions which find congruence between the concepts and own professional discipline.

Therefore this study suggests focus on the relevance of innovation and entrepreneurship within the context of the specific discipline taught. By doing this, motivation for the individual lecturer could be awakened, and the implementation could start.

Starting this change, Guskey suggests mastery learning, where lecturers get immediate feedback and provide direct evidence of the results of their efforts (Guskey 1989).

In addition Tanggaard and Juelsbo (2014) suggest “mastery learning may be the key that opens up to work strategically with learning and training - so the organization is able to adapt to changing conditions and challenges”.

This, teaching staff about innovation and entrepreneurship through mastery learning focusing on their professional discipline, could be an advice to follow in further development of improving teaching in innovation and entrepreneurship in higher education.

Implications and conclusion

The results of this single case study have implications for managers of higher educators engaged in pedagogical improvement and faculty development. Getting few lecturers included in specific innovation and entrepreneurship courses is not enough to make a change in the teachers’ classroom practices and thereby affect the students’ learning outcome. When knowing the curriculum of specific educations (like BATCoM) and the staff development executed to meet this, the lecturers appear as a “missing link” in the applied pedagogy. There is hardly any staff development, and this “missing link” has been ignored or downgraded for many years, in the process of integrating innovation and entrepreneurship in higher education, as the single study of this text illustrates. In addition, looking at the role of the teacher when promoting entrepreneurship education Janaa Seikkula-leino et al (2010) conclude that teachers’ in-depth understanding of entrepreneurship education is insufficient.

The high aims of the ministry and institution management of implementing innovation and entrepreneurship in the mind of the new generation are not met when looking at the everyday practice in higher institutions. There is a desire to do so but little effort is done; so little that it is barely visible for the educators themselves. In fact the higher institutions only touch the surface of the concepts but do not give any “meaningful grasp of what is learned” to the educators since they cannot apply their knowledge in their own teaching (P. D. Hannon, 2006).

Lecturers need information and training in order to navigate in the concepts of innovation and entrepreneurship. These concepts are new to many lecturers and motivating them to work with the concepts require the lecturers to find relevance and potential in congruence to their own discipline. For some disciplines this seems very straightforward whereas others do not directly see the relevance in implementing the concepts. Further research should be made, to identify why the different professional disciplines perceive innovation and entrepreneurship so differently. What in the culture of professions influence the articulation, understanding and perception of innovation and entrepreneurship?

Mastery learning could be a way to start staff development in innovation and entrepreneurship. Working with lecturers who can already identify these concepts in congruence to their own background profession, implementation of innovation and entrepreneurship has a good chance of being promoted. The lecturers themselves find much relevance to the topics, the institution plans to implement them, but the strategy to do so is still missing. Attention and action to this paradox is needed from the managers of higher education.

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