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# TABLE OF CONTENTS

**FULL PAPERS**

PIEC International Educating Classes for Enterprising Educators ................................................. 7
By Mieke van Ingelghem & Dima Bou Mosleh ................................................................. 7

Wonder-driven Entrepreneurship Teaching - When working with the ethical and existential dimension in professional bachelor education ......................................................... 12
By Finn Thorbjørn Hansen & Sine Maria Herholdt-Lomholdt .............................................. 12

Amazing Business Train - Searching Answers "How to..." questions .................................................. 18
By Vesa Tuomela .......................................................................................................................... 18

From Meta-Cognition to ‘Meta-Practition’
From Intrapreneurship to Entrepreneurship ......................................................................... 22
By Gordon L. Alcock .................................................................................................................. 22

Are incubators the new wonder tool for entrepreneurship education? .......................................... 29
By Toon Buddingh ..................................................................................................................... 29

Are you creative if you say so? How to assess creativity in education? ........................................ 37
By Henrik Wøhlk Larsen ........................................................................................................... 37

Should we rock higher educational institutions rather than entrepreneurship education? .................. 43
By Mette Lindahl Thomassen .................................................................................................. 43

How can the gap between educations and student incubators be bridged at higher educational institutes? .... 54
By Mette Lindahl Thomassen et al. ................................................................. 54

Entrepreneurial Contexts and Engaged Students ........................................................................... 61
By Rikke Johannesen ................................................................................................................ 61

Emancipatory pedagogy: The pedagogy of innovation and entrepreneurial education ...................... 69
By Svanborg J. Jonsdottir .......................................................................................................... 69

Student opposition to entrepreneurial ideas in teacher education ..................................................... 75
By Ida Gyde ............................................................................................................................... 75

How do students from Student Incubators (SI) use networks and how can SI support the activity? ........... 83
By Henrik Mariendal Andersen ............................................................................................... 83

How to encourage enterprising behaviour in students? ................................................................... 95
By Leila Kæmsgaard Pagh Schmidt ..................................................................................... 95

Professional identity in entrepreneurship – the perspective from nutrition and health education ........... 104
By Michael Breum Ramsgaard ............................................................................................. 104

The Challenge of Implementation: Anchoring Innovation and Entrepreneurship in the Practice of Higher Education Teachers .............................................................................. 111
By Karen HH Andersen ........................................................................................................ 111

Value creation in training and coaching service co-created by educational institutes and small-scale entrepreneurial enterprises ........................................................................ 118
By Leena Alakoski & Sari Jääskeläinen .............................................................................. 118

Artevelde University College Centre for Creativity, Innovation and Entrepreneurship ...................... 126
By An Boone ........................................................................................................................... 126
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEACHING EXPERIMENTS AND INCUBATOR</td>
<td>135</td>
</tr>
<tr>
<td>Startup with Storytelling</td>
<td>136</td>
</tr>
<tr>
<td>By Karijn Bonne &amp; Karolien Huylebroek</td>
<td></td>
</tr>
<tr>
<td>Call for partnership for the summer school of creativity</td>
<td>137</td>
</tr>
<tr>
<td>By Lieven Desomviele</td>
<td></td>
</tr>
<tr>
<td>Crowdsourcing – Disrupting Entrepreneurship &amp; Education</td>
<td>138</td>
</tr>
<tr>
<td>By Flemming Binderup Gammelgaard</td>
<td></td>
</tr>
<tr>
<td>Blogging as a method to stimulate intrapreneurial reflective practice learning</td>
<td>139</td>
</tr>
<tr>
<td>By Vibeke Brinkmann Løite &amp; Betina Ringby</td>
<td></td>
</tr>
<tr>
<td>A New Mindset Focusing on Teaching in Professional Locations</td>
<td>140</td>
</tr>
<tr>
<td>By Birgitte Woge Nielsen &amp; Anne Sofie landbo</td>
<td></td>
</tr>
<tr>
<td>How to “open up” a profession - when wonder is a part of teaching entrepreneurship</td>
<td>141</td>
</tr>
<tr>
<td>By Sisse Charlotte Norre</td>
<td></td>
</tr>
<tr>
<td>The value of coaching in developing students’ enterprising behavior</td>
<td>142</td>
</tr>
<tr>
<td>By Annette Qvistgaard</td>
<td></td>
</tr>
<tr>
<td>The Beginning of a Journey for Physiotherapists to Become Global Intrapreneurs</td>
<td>143</td>
</tr>
<tr>
<td>By Betina Ringby &amp; Vibeke Brinkmann Løite</td>
<td></td>
</tr>
<tr>
<td>The feelings of confusion in entrepreneurial learning</td>
<td>144</td>
</tr>
<tr>
<td>By Maija Suonpää et al</td>
<td></td>
</tr>
<tr>
<td>Does student incubator make an impact – does it leave an imprint?</td>
<td>145</td>
</tr>
<tr>
<td>By Jeanette Svendsen</td>
<td></td>
</tr>
<tr>
<td>The Impact of Production Oriented Workshops on Entrepreneurial Intent among Students and Entrepreneurs</td>
<td>148</td>
</tr>
<tr>
<td>By Emil Kjæhr &amp; Jane Lyngbye Hvid</td>
<td></td>
</tr>
<tr>
<td>Development of an entrepreneurial nursing Module 6 – Chronic patients and citizens in their own homes</td>
<td>150</td>
</tr>
<tr>
<td>By Randi Kontni &amp; Hanne Majbæk Duedahl Nørgaard</td>
<td></td>
</tr>
<tr>
<td>Development of an Entrepreneurial Elective Nursing Module 13</td>
<td>151</td>
</tr>
<tr>
<td>By Ellen Bye Jensen</td>
<td></td>
</tr>
<tr>
<td>Student Ghentrepreneur</td>
<td>152</td>
</tr>
<tr>
<td>By Evelyne Verhovert</td>
<td></td>
</tr>
<tr>
<td>How can creativity be trained?</td>
<td>153</td>
</tr>
<tr>
<td>By Marianne Lyngmose</td>
<td></td>
</tr>
<tr>
<td>The intensive programme, Future for Authentic and Creative Entrepreneurs</td>
<td>154</td>
</tr>
<tr>
<td>By Dick de Vries</td>
<td></td>
</tr>
<tr>
<td>Developing Entrepreneurial Competences in Students</td>
<td>155</td>
</tr>
<tr>
<td>Studying the Professional Identity and Health</td>
<td></td>
</tr>
<tr>
<td>Perspective</td>
<td></td>
</tr>
<tr>
<td>By Lone Krause-Jensen &amp; Anne Sofie Landbo</td>
<td>155</td>
</tr>
<tr>
<td>Social Design and Entrepreneurship. What is it? I Like It?</td>
<td>156</td>
</tr>
<tr>
<td>By Thomas Østergaard</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial competences through charity</td>
<td>157</td>
</tr>
<tr>
<td>By Nicolai Nybye &amp; Erik Christensen Knud</td>
<td></td>
</tr>
</tbody>
</table>
TEACHING TOOLS ................................................................. 158
“You are a born entrepreneur” ................................................ 159
By Christel De Maeyer & Karijn Bonne ........................................ 159

Toolbox for facilitating entrepreneurial processes ..................... 160
By Mette Ullersted .................................................................... 160

Graphic templates as your co-facilitator ................................. 161
By Mette Ullersted .................................................................... 161

Toolbox Used in International Fieldwork to make
Students Catch New Insights ........................................ 162
By Betina Ringby .................................................................... 162

Strategic Design Thinking in Practice .................................. 163
By Helle Winding .................................................................... 163

METAPERSPECTIVE ON ENTREPRENEURSHIP
TEACHING .............................................................................. 164
Create the Future – New Ways to Think about Cross-disciplinarity .................................................. 165
By Marie Ernst Christensen & et al. ......................................... 165

Developing an entrepreneurial culture in the Swedish
school system – key success factors ................................ 166
By Mats Westerberg & Kaarin Kivimäki .................................. 166
FULL PAPERS
PIEC International Educating Classes for Enterprising Educators

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KEY WORDS
Entrepreneurship education, global education, international teacher education, scenario planning, action research

ABSTRACT
UC Leuven Teacher Education (formerly known as GROUP T) has set as its objective to educate ‘teachers with an attitude’ who have an entrepreneurial spirit, a sense of creativity, and a capacity for change. During their study students develop a personal vision and mission and are equipped with the skills, attitudes and competences necessary to deal with challenges throughout their lives and careers. Within the same approach, UC Leuven Teacher Education also holds an International Postgraduate programme in Development Studies, viz. the Postgraduate International Educating Classes (PIEC). This programme brings together educators from all over the world who want to contribute to the building of peace, sustainable development and intercultural dialogue by means of education. The PIEC programme blends the theory and practice of capacity building, development work and education into one exploratory and enterprising trajectory. The components of the programme are inspired by and organized around UNESCO’s 4 pillars of Education: learning to know, learning to do, learning to live together, and learning to be (Delors et al., 1996). The specific approach of PIEC, outlined below, is based on the entrepreneurship model of Laevers and PIEC - International Educating Classes for Enterprising Educators

INTRODUCTION
“The education paradigm shift” is a fact (Mitra, 2013; Robinson, 2010), or at least the mind is set: we no longer need bureaucrats, but entrepreneurs and innovators. We no longer need job ‘seekers’, but job ‘creators’ (Zhao, 2014).

According to the World Economic Forum 2009, entrepreneurship is the engine driving innovation, employment opportunities and economic growth. Education needs to provide the next wave of entrepreneurs and innovators who will not only create jobs and value for society, but also empower others to address the current world’s issues and create a better future (Volkmann et al., 2009).

Yet the question is: How are we going to train our younger generations to enterprise and innovate in this complex globalized 21st century, when most teachers have been trained - and we keep on training teachers - according to the traditional bureaucratic model?

Teachers can and want to make a difference. Though how can they prepare young people for a life in a world not yet known and for jobs that have not been created yet? Moreover, how can we prepare teacher trainers for a forward-looking teacher training programme, when we are unable to envision what such a programme will look like in twenty years’ time?

At the UC Leuven Teacher Education (formerly known as GROUP T) and in the PIEC programme in particular, we assume at least one thing: we need to prepare teachers and teacher trainers (and all educators in the broadest sense of the word) to deal with change, particularly by learning how to shape that change themselves. We need to enable them to actively contribute to the future. That is what ‘entrepreneurs’ do: they take fate into their own hands.

PIEC APPROACH AND CURRICULUM
The curriculum framework for PIEC is essentially based on UNESCO’s 4 pillars of Education: learning to know, learning to do, learning to live together, and learning to be (Delors et al., 1996). These pillars influence the syllabus of each separate module and the ways in which learning unfolds (see more in George, 2009). The specific approach of PIEC, outlined below, is based on the entrepreneurship model of Laevers and...

In PIEC we experiment with methods that create learning environments that are able to ‘boost’ innovation and entrepreneurship, i.e. environments in which the so-called “boosters” of entrepreneurship and the characteristics needed to become an entrepreneur, can flourish. These are environments in which there is space to move in passionately and with motivation, in which one is open to new experiences and imagination. One is able to see possibilities and launch proposals. One learns how to recognize problems and is able to come up with solutions; to take action in order to learn, but also to take responsibility and develop or fine-tune one’s vision.

These are environments in which one is confronted with ambiguity or perhaps even failure, in which one is able to challenge conventional wisdom, one learns to understand oneself and to recognize growing interdependence and shared purposes, in which one is able to negotiate differences in search of achievements. These are environments in which individuals are able to discover their talents and in which the ‘entrepreneur within’ can be set free, challenged and empowered to creatively respond to the current needs of his or her working environments: the one who knows what he wants, who determines the direction, writes a scenario, takes distance to change the plan if needed… and so becomes an agent of positive change.

The following methods are introduced in PIEC. These methods are presented in the programme as content firstly. Then students are expected to use them didactically. They are implemented individually or in small groups, in Belgium or/and in their home countries.

**PROJECT MANAGEMENT/PROJECT WORK:** Students learn to organize and manage a project in a practical way, which includes the initiation and planning phases, risk management and follow up, implementation and evaluation of the results. Students receive additional training from the International Institute for Educational Planning (IIEP) in Paris on e.g. financing educational projects by means of public-private partnerships.

**ACTION RESEARCH/ACTION LEARNING:** Students conduct research either initiated to solve an immediate problem or a reflective process of progressive problem solving that is undertaken together with participants to improve the given (educational) context of the participants.

**COOPERATIVE LEARNING:** A teaching method that involves students working in teams to accomplish a common goal. They do this under structured conditions which include positive interdependence, individual accountability, face-to-face promotive interaction, appropriate use of collaborative skills and group processing.

**REFLECTION AND PORTFOLIO:** Throughout the duration of the entire programme, and under supervision of a coach, students are involved in a meta-cognitive trajectory of reflecting on and gathering evidence of their own experiences and competences that enables self-awareness, personal and professional growth. Their portfolio, used as integrative assessment, tells the story about their own personal growth.

**APPRECIATIVE INQUIRY:** Students are taught a research approach for organizational change, in which a team looks at what works rather than at what goes wrong. The ultimate purpose is to change the student’s focus from problems to perspectives, from neglect and criticism to taking responsibility, ownership but also cooperation. This should result in greater involvement, creativity and successful realisation of change.

**SCENARIO PLANNING/SCENARIO LEARNING:** A powerful method that can be used either for strategic decision making for the development of new ideas, the evaluation of existing plans, for vision and team-building or to describe processes of change. PIEC reveals how this is a workable method for planning future educational projects (Dhert et al. 2013). Based on the study of trends and driving forces that could shape future education, students develop possible scenarios for the future and present them in Paris for members of the OECD.

The project and assignment themes are taken from UNESCO’s 5 major programmes (education, natural sciences, social and human sciences, culture, and communication and information).
These include global topics which are aimed at preparing teachers for the 21st century, e.g. sustainability, capacity building, learning strategies, human rights and social justice, communication and information technologies, access to knowledge, cultural diversity, learning to live together, world citizenship, global networks and agencies, protecting heritage, etc.

Outlined are the key areas in terms of what, where, who, and how the PIEC programme encourages entrepreneurship in order to maximize the learning of students, future teachers, and entrepreneurs. The factual programme syllabus is added in appendix. Details on all the courses can also be consulted on http://onderwijsaanbod.groept.be/2014/opleidingen/e/index.htm

PIEC ALUMNI EXAMPLES
The PIEC programme welcomed over the last 5 years students from all continents. Some of their projects and initiatives are illustrated below.

Agriculture lifestyle exchange, Belgium-Zambia, 2012-2013. Students from Belgium, Spain, Turkey, Cameroon and Zambia designed an event for school children, in which they combined several aims in one: They wanted to raise money for a school in Zambia, they wanted to introduce different lifestyles in different cultures (European/African) and they wanted to tackle the increasing unhealthy lifestyle of children in Belgium. To implement all this, the students used the concept of a regular school day in Zambia (lessons, games, dance, and food).

This regular school day was copied and implemented with school children in Belgium. The Belgian children did not only learn about having a healthy lifestyle, but also about the daily routines of their peers in Zambia. The workshops included a fundraising part too.

Give and Take, Belgium, 2012-2013. Students from the Netherlands, Cameroon and Belgium set up a project to support a local community centre Sint-Maartensdal, Leuven in a practical way. They created an opportunity where people can give each other stuff that they do not need anymore. Two big boxes were provided and painted by the students (they designed a logo for the whole project/initiative). The students organized an event to introduce the “Give and Take” boxes and explain the aim behind them to the community. This initiative was later extended to other neighbourhoods and larger initiatives (e.g. give away markets) in Leuven.

Creative Therapy for Mobile Schools, South-America, 2012-2013. A student from the Netherlands developed an educational package in Creative Therapy to prepare street workers in several South-American countries to reach street children with a Mobile School filled with fun educational materials. The educational package consists of a combination of theory, methods and activities partly to be used by the outreach staff of the Mobile School in training the local street workers and partly activities to be used by the local street workers when working with street children.

3R – Entrepreneurship training, Indonesia, 2011-2012. Students from Indonesia and Belgium developed a “Green entrepreneurship training using 3R (Reduce - Reuse - Recycle) awareness approach”. 3R entrepreneurship training was given to 86 members of the Sint Vincentius orphanage in Jakarta, age 14-18 years old. Trainings were focused on giving them production skills using waste materials such as candy wrappers, used papers, used plastic bags and turn it into handicraft items which have economical values.

To summarize, the PIEC programme aims to create an environment in which future educators can thrive. This environment requires a distinctive underlying framework: the
content and teaching methods used are the essential fabric we believe is needed to prepare the mindset of future educators. Entrepreneurship education is a lifelong learning process. The PIEC programme trains educators within a framework that will allow them to progressively engage in more challenging educational activities, while providing them with the experiences needed to develop the insight needed to discover and create entrepreneurial opportunities. It offers them the expertise to successfully take advantage of opportunities. The examples show that the PIEC alumni are able do that.

REFERENCES


### APPENDIX

#### PIEC curriculum

<table>
<thead>
<tr>
<th>Fall semester (September - January)</th>
<th>Spring semester (January - April)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering Education (38 ECTS)</td>
<td>Exploring Education (19 ECTS)</td>
</tr>
<tr>
<td>UNICEF’s themes</td>
<td>UNICEF’s 4 pillars of education</td>
</tr>
</tbody>
</table>

**Educating for Education**
- Care 3 ECTS

**Educating for Communication and Information**
- Empowerment 3 ECTS

**Educating for Natural Sciences**
- Sustainability 3 ECTS

**Educating for Social and Human Sciences**
- Human rights and social justice 3 ECTS

**Educating for Culture**
- Making cultural diversity work 3 ECTS

**Practicum Components**
- Educational planning and project management 3 ECTS
- Internship 16 ECTS

**Language support**
- English for academic purposes

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The programme is structured in two semesters. Students can follow either one of the semesters or both, or only 3-week modules (see%). In some courses students receive additional training from UNICEF HQ (UNICEF New York), International Court of Justice (The Hague) and Int. (O)Ob.

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Wonder-driven Entrepreneurship Teaching - When working with the ethical and existential dimension in professional bachelor education

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KEY WORDS
Wonder, meaningfulness, innovation, entrepreneurship-education

ABSTRACT
Contemporary research on creativity, innovation and entrepreneurship have now for a decade or more been focusing on social constructive, pragmatic, socio-cultural and socio-material dimensions of creative and innovative processes and entrepreneurship (Bager et al. 2010, Brinkmann & Tangaard 2010, 2012; Eng, Ledwith&Bessant, 2010;Sarasvathy, 2008; Bason 2012). Focus has been on product-, user- and design-driven innovation and processes of ideation. Lately, however, a new more existential and philosophical-hermeneutic approach to creativity and innovation has been suggested. Verganti & Öberg (2013) talks about a change from user- to meaning-driven innovation, Madsbjerg & Rasmussen (2014) about ‘moments of clarity’, which transcends what can be captured by the socio-cultural and constructive approach and Hansen (2014) suggest an existential and wonder-driven approach to design-, innovation- and entrepreneurship processes.

In this paper we want to continue in line with this new framework of meaning- and wonder-driven innovation by focusing on the possible educational consequences of such an approach.

Our empirical departure is our three-year phenomenological action research project called ‘Wonder-based Entrepreneurship Teaching in Professional bachelor Education’. Ten senior lecturers in nursing and pedagogy participated. The purpose was to investigate whether and how Socratic and philosophical dialogues and different forms of phenomenological and existential reflections upon one’s own professional assumptions in so-called ‘Wonder Labs’ could contribute to existing innovation- and entrepreneurship education in at least two ways:

1. To deeply and existential root students and educators in their profession and values
2. To bring students and educators on the edge of their knowledge into the field of ‘not knowing but being’

This paper will describe why the phenomenology of wonder and wonder-based approaches can become doorways for understanding the existential and ontological dimension of entrepreneurship teaching, and why this kind of entrepreneurship teaching also can strengthen a key concept in professional bachelor education: the ‘phronetic judgement’.

WHERE ARE WE NOW – AND WHERE DO WE SUGGEST TO GO
Contemporary research on creativity, innovation and entrepreneurship have now for a decade or more focused on social constructive, pragmatic, socio-cultural and socio-material dimensions of creative and innovative processes (Bager et al. 2010, Brinkmann & Tangaard 2010, 2012; Ledwith & Bessant, 2009; Sarasvathy, 2008; Bason 2012). New and innovative ideas are, following these approaches, understood as something individuals or professional communities of practices create in relation with specific others through product-, user- and design-driven innovation and different processes of ideation.

Lately a more existential and philosophical-hermeneutic approach to innovation has been suggested. Verganti & Öberg (2013) talks about a change from user- to meaning-driven innovation, Madsbjerg & Rasmussen (2014) about ‘moments of clarity’ transcending what can be captured by the socio-cultural and constructive approach, Scharmer and Kaufer (2014) talks about pre-sensing as a place for “hearing the call” from an emerging future and Hansen (2014) suggest
an existential and wonder-driven approach to design-, innovation- and entrepreneurship processes.

We want to continue in line with this new framework of meaning- and wonder-driven innovation by focusing on the possible educational consequences of such an approach.

Our empirical departure is our three-year phenomenological action research project: ‘Wonder-driven Entrepreneurship Teaching in Professional bachelor Education’. Ten senior lecturers in nursing and pedagogy from VIA University College in Denmark participated. The purpose was to investigate whether and how Socratic and philosophical dialogues and different forms of phenomenological and existential reflections in so-called 'Wonder Labs’ could contribute to existing innovation- and entrepreneurship education in at least two ways: To deeply and existential root students in their profession and values and to bring students on the edge of their knowledge into the field of “not knowing but being”.

This paper will in an overall and outlining way describe why the phenomenology of wonder and wonderbased approaches can become doorways for understanding the existential and ontological dimensions of entrepreneurship teaching.

THE PHENOMENOLOGY OF WONDER

Philosophical wonder differs from curiosity, systematic analyzing inquiry and critical reflection. The philosophical wonder is, as Hansen (2008, 2010b, 2012, 2014) describes it, not as much an act or an effort of the subject as an ontological event and reaction that calls on us, while living our lives (Gadamer, 1989).

We experience the philosophical wonder, when life meets us with severe beauty, goodness or truth and we - on behalf of this experience - may stop and rethink understandings we normally take for granted. The philosophical wonderment can be described as a special kind of thoughtfulness, restored to life from 2 touching life-situations (see also Van Manen, 2014).

Wonder then, can also grow from any kind of aesthetic experience, if we understand the aesthetic experience in a philosophical way, as a kind of existential and ontological experience (Jørgensen2006, 2008). If we follow Jørgensen, the aesthetic experience can be characterized by the meeting of something greater - and a sensing of some kind of meaning or truth given to us by life.

In that sense, the phenomenology of wonder could be understood as a kind of dance between poetic dwelling and Socratic dialectics. In being in a fundamental wonderment we are under impression of both ‘something’ evocative that speaks to us and a philosophical questioning, which ask for what the mere analytical concepts cannot in logical and argumentative ways capture. Through this aesthetical, philosophical, dialectical and playful dialogue, which Socrates was so good at, we open ourselves for an ontological and silent dimension in our lives and professional practices. Thus the phenomenology of wonder is a phenomenology of both sensuous openness and philosophical presence.

In professional bachelor educations in Denmark we mostly learn the student problem-identification and problem-solving skills. This is indeed a needed qualification but at the same time limits the extent of our view. Great deals of the ongoing innovation- and entrepreneurship-teaching, also take such departure from “irritations” and dis-harmonies (e.g. Bager et al 2010, Digman et al. 2012).

With the phenomenology of wonder as an underlying tone and a wonder-based approach to innovation and entrepreneurship, we try to take on another view. We do not think innovation and entrepreneurship from a ‘meaning-making-paradigm’ but from a ‘meaning-receiving-paradigm’ (Hansen, 2014) and instead of dis-harmonies we talk about harmonies.

A WONDER-BASED APPROACH TO INNOVATION AND ENTREPRENEURSHIP

In a former research-project, Hansen (2010a) introduced a model of “four voices” in the pedagogic of higher education. This model has recently been developed by Hansen (2014), to include four different views of innovation and entrepreneurship.
At its basis, the model points out how different voices make different educational rooms.

First we see the voice of the System. This is a voice of both law and practice telling us about right, wrong and what a good professional is. The reality is taken for granted and the society and market sets the agenda for what the professionals are supposed to do.

Next we see the voice of the Profession, expressing theory and empirical foundations of the profession.

The third voice is the Personal voice engaged in questions of “who and where I am in the voices of the Systems and Profession?” and in developing some kind of personal touches and style.

At last we have the voice of the Subject Matter. This voice is connected to a call and a sense of meaningfulness or dialogue with a phenomenon. This is the place of the artist or philosopher who listens and step aside in order for the matter, phenomena or materials self to speak. But, so easily the Professional voice and the voice of the System can stand in the way of the ontological voice of being or the phenomena matter.

As the model shows, the four voices can open up different rooms for innovation and entrepreneurship.

In room number 3, we see a commercial and problem-solving understanding of innovation and entrepreneurship. In this understanding the driver for innovation and the innovation-management comes from outside the profession, e.g. the user, the politicians or managers. In this room innovation seeks to solve specific problems in new ways but within the known paradigm.

In room number 1, the driver for innovation is science. Innovation is in this sense the application and translation of new research into practice. This view is a quite common understanding of innovation e.g. in nursing (Herholdt-Lomholdt 2013).

Where rooms 1 and 3 relies on a world of the known and a kind of no-risk situation, rooms 2 and 4 are looking into the unknown and risk-taking thinking and actions. In these rooms we see a kind of innersteering and breaking through the common paradigms in research and practice. This could be rooms for radical innovation, as they seem to make transcendence possible.

In room 2, we see a search for wicked problems and questions, that contemporary research and professional knowledge is not yet capable of dealing with. In this room the driver of innovation is an inspiration from the Subject matter but seen through the epistemological and knowledge lenses of contemporary research by looking upon the matters we know that we do not know yet.

In room 4, a wonder-based approach to innovation expresses itself. In this room we meet phenomenon’s arising from practice through our being-in-the world and in an original sense without analyzing or theorizing. We try, as mentioned above, to hear the call from practice and listen to the wonders of life. This room is a room seeking for the matters which we don’t know that we don’t know – but already - in some peculiar way, are called by as beings. This might be a place for sensing the unknown but emerging future.
When entering this fourth room of wonderment and fundamental not-knowing, new ideas and meanings are not solely created by human beings. Meanings are merely understood as a call and as something given to us. This implies a shift from an understanding of innovative ideas and meanings as co-created to a new paradigm of meaning-receiving. This is a field of new beginnings which we theoretically approach through the lenses of existential phenomenology (Merleau-Ponty, Legstrup, Marcel), philosophical hermeneutics (Gadamer, Ricoeur, Risser) and what Max van Manen describes as ‘the phenomenology of practice’ (Van Manen 2014).

Through our action-research project, we have tried to bring students from professional bachelor educations and ourselves into this fourth room. On behalf of eight teaching experiments in spring 2014 we are now working on a model for wonder-based entrepreneurship education. As we are not yet ready to present this model, we will stop by explaining some of the key-aspects of the pedagogic movements in our “wonderlabs”.

**WONDER-DRIVEN ENTREPRENEURSHIP TEACHING**

First we separate the process of innovation and entrepreneurship into two connected parts – a pre-ject and a pro-ject (see also Darse 2011).

The pre-ject is a place for sensing and listening to a call and wonder through dialogues, reflections and longing. To let people reflect on what they are really longing for in their life and professional work on a more existential level is, we have now experienced, a very effectual and inspiring springboard for new and deeper questions.

The pro-ject is then a place of making things happen by following a now qualified wonder and longing, drawing on available resources, making plans and realization. In this paper we concentrate on the pedagogic of the pre-ject.

The objectives of the pre-ject is to get in contact with a call from practice, listen to the meaningfulness of life - what we really find precious - and on behalf of this formulate a longing.

In the pre-ject, we have been working in "wonder-labs" by inspiration of "Kundskabsvaerkstedsmodellen" (Erstad & Hansen 2013, Hansen, 2014)\(^1\). Basically we have done 4 different pedagogical movements through dialogues – and in some of the experiments through music and drawings. These are:

1. The phenomenological turn and wonder
2. The Hermeneutic turn
3. The Socratic and dialectic turn
4. The existential and phronetic return to the ‘cave of our ordinary living’

The fourth phase (the phronetic and existential return) is present as a kind of bridge to the pro-ject, where the three first turns are settled in the pre-ject.

The phenomenological turn is a turning towards a touching situation in practice. All students are asked to tell (or e.g. draw) a real-life situation connected to their profession that made some kind of impression on them. The story has to be open-ended in the sense that it is forbidden to identify problems, do problemsolving or to have any point telling the story beforehand. The students are asked to listen with an open heart and mind to the stories of each other. By telling these stories, we often see the vulnerability of the students and at the same time their proudness - and values. From these often remarkable phenomenological stories we try to open the students and ourselves for genuine wonderment and a stepping into a community of wonder. As mentioned above, wonder is characterized by deeply questioning our pre-understandings and the “taken for granted” - by the silent listening for the meaningfulness of life. When wonder happens to us, we take a step into the open and thereby experience the possibility of enlarging our horizon or even sense a radical break through. Philosophical and

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\(^1\) See the research unit, Wonder Lab, at Centre for Dialogue and Organization, University of Aalborg, Denmark
http://www.kommunikation.au.dk/forskning/vidensgrupper/cdo/dialogue_labs/wonder_lab/
aesthetical wonderment then, can be a doorway into the fourth room of innovation and is grounded both existential and ontological.

But, to enlarge our horizon we need a dialogue with something or someone outside our subjective and cultural views. Therefore the hermeneutic turn is of importance by letting our wonder meet humanity’s Grand Stories about themes and questions that came up within the personal story. Great stories refer to philosophy, arts, music and other kinds of artistic comprehensions of life that are known by the majority. In a dialogue around these great stories, we do have the opportunity to discover and even break through some of our historic and cultural pre-understandings.

The Socratic and dialectic turn refers to the way we speak to each other in the community of wonder. As Hansen (2008) with a reference to the German philosopher Hannah Arendt points out, we can learn from the Socratic way of thinking and questioning. What Socrates did, was to ask human beings to think by themselves instead of downloading the thoughts of others. As educators in the pre-ject, we ask for the student’s independent and original thoughts and beliefs in a friendly and playful atmosphere. And at the same time, we tease, provoke and search together for the limitations of these thoughts.

In truth – but also surprisingly – it seems to be a great challenge for students of today, to think by themselves. Students in professional bachelor education have for several years been learning to replicate the knowledge and research of their profession. To think for themselves seems to be both difficult and way out of comfort zone.

The pre-ject ends up defining a new qualified longing and often also a new but deeper wonderment. This longing, a longing for some kind of fulfillment of life, will be an important leading star of the pro-ject, and is now ready to meet reality for further qualification, ideation and realization.

In the pre-ject the students develop and connect their own values and thinking to processes of innovation and entrepreneurship, which makes us talk of it as an existential turn in entrepreneurship education. At the same time, the students also listen to something experienced as a wondrous “call” from practice. This can be described as an ontological turn in entrepreneurship education.

A VISION

The existential and ontological turns in entrepreneurship education have implications of importance. In professional bachelor education, the phronetic judgement and ethical dimensions are at stake all the time.

We do not connect the Aristotelian concept of phronesis to a practical cleverness in getting things done as quick and effective as possible in an intuitive way. Instead we follow Gadamer when he connects the Aristotelian concept of phronesis to our existential and ethical awareness of being-in-the-world having an ontological musicality for the voice of being, or voice of what the situation, relation or phenomena is calling us to do. This demands a readiness to ‘stand in the openness’.

Every time a nurse meets a patient, every time a pedagogue meets a child, she has to make some kind of decisions and create unique solutions, and these decisions draws on her values and ability to judge.

With a meaning-receiving paradigm instead of a meaning-making paradigm – and with a wonder-driven entrepreneurship education in professional bachelor education - these solutions might tend to draw on ontological-based meaningfulness given to us by life itself, rather just on an epistemology of practice and the ‘functionality’, that the system, profession or pragmatic and problem-solving practice calls us to do. To get this musicality for the voice of being or Subject matter requires a training to meet other people and situations with the special kind of ontological attentiveness and wonderment.

If we understand the phronetic judgement as a key competence in professional bachelor educations, this would mean, that entrepreneurship education would not only be for the few enterprising students starting up a business - but for all of them. But then we have to think differently about how to bring in the existential and ontological dimensions into entrepreneurship teaching.
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Amazing Business Train  
– Searching Answers “How to...” questions

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KEY WORDS  
Entrepreneurship, entrepreneurial individual, effectual cycle, business model, train.

ABSTRACT  
Amazing Business Train is aiming to provide a very concrete and intensive learning experience on entrepreneurship for students. Creating learning experience that makes it possible to feel, touch, hear, smell and live entrepreneurial venture is a challenge to be done in ordinary class room. Amazing Business Train is searching answers to questions like how to learn facing and bearing uncertainty? How to cope with complexity? How to actually search business opportunities? How to take risks? How to make decisions? How to listen others and ask constructive questions? How to feel inspired? How to feel touched and curious? How to feel being entrepreneurial? How to actually create professional relationships? How to mingle in social events? How to fail and learn from failure?

The Amazing Business Train is also an entrepreneurial teaching experiment for entrepreneurship teachers. Learnerer guidance, adaptive action and support in whole spectrum of entrepreneurial individual requires entrepreneurial approach from staff.

In three Amazing Business Trains students have experienced concrete risk taking, feeling of uncertainty, feeling of throwing oneself into something new, feeling of working in teams, feeling of persuasion, feeling of failure and most of all learning. Learning results have been encouraging, students have learned customer and user oriented business modelling, and most importantly they have learned effectual cycle to start experimenting new things by the means they have.

THEORETICAL BACKGROUND  
Amazing Business Train is based on theories of effectuation, entrepreneurial learning, and business modelling. The concept of entrepreneurship is understood as an individual's ability to transform her/his ideas into operations (Shane 2003) and also one’s ability to exploit opportunities. The entrepreneurial transformation process is based on taking action and interaction with other people.

Entrepreneurial learning has been defined as experiential process (Harrison and Leitch, 2011) during which experience is transformed to knowledge of business opportunity recognition and exploitation. It can also been said that learning is part of entrepreneurial individual’s skill sets, entrepreneurial behavior and process of entrepreneurship (Heinonen and Pokkijoki, 2006). Experiment is important in the entrepreneurial learning process. The learnerers understand to give meaning of their experiences, knowledge, skills and attitudes they are using and learning in the process.

Both the learning and teaching approaches in the Amazing Business Train are following the principles of effectuation (Sarasvathy, 2008). According to the effectuation theory effectual cycle starts from learners own means which are exposed to influence of others in the interactive cycle. In the effectual cycle learnerer is seeking oneself’s opportunities, welcoming surprises and strangers being part of the cycle, developing new contacts and contents, seeking new ideas and especially seeking and taking affordable risks and taking action for developing one’s own business idea.

In Amazing Business Train the effectuation has been made practical in a number of ways; the learner is in the middle of the effectual cycle and he/she can influence in the cycle by his/her own actions. Also the teacher can be a learner in the cycle. The effectual cycle start’s from what we have, what we
VIA University College

would like to do, with whom we would like to do and how would we develop business.

Figure 1: Effectual Cycle (Sarasvathy 2008. Effectuation. Elements of entrepreneurial expertise. New horizons in entrepreneurship. Cheltenham, Edward Elgar)

The cycle is supporting learning in every phase and learner will gain new means in the cycle.

In the Amazing Business Train the Business Model Canvas is used as business development platform. A business model describes the rationale how an organization creates, delivers and captures value (Osterwalder 2010, 14). Business model canvas describes customers, offers, infrastructure and finance of a business model. The business model consists of nine building blocks. The nine building blocks describing customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships and cost structure (Osterwalder 2010, 16-17). Customer segments define what customers business is serving. Value proposition states how business is solving customer problems and satisfies their needs. Value propositions are delivered to customers through communication, distribution and sales channels. They define how customer relationships need to be established and taken care of. Revenue streams result from value propositions successfully offered to customers. Key resources are assets required to offer and deliver, key activities are needed to be performed, key partners provide some activities and resources and cost structure describes business model costs (Osterwalder, 2010, 16-17).


One of the advantages of business modeling and business model canvas is that it makes testing and validating business model hypothesis easier and more understandable. Business model canvas illustrates individual building blocks of the canvas and the whole business model understandably. Traditional business planning was developed in an environment with more anticipated factors rather than in constant and unanticipated changes. Therefore a more dynamic business modeling is needed to manage businesses profitably. Each component of a business model needs to be tested,
experimented and validated. That itself is a valuable learning process and is leading to thriving businesses.

**LEARNING OBJECTIVES**

The objective of the Amazing Business Train program was to experiment the new learning and teaching approach, effectuation, to entrepreneurship teaching.

For the participating students the learning objectives on the Amazing Business Train were:
- students can generate, evaluate and select new ideas
- students can transform their ideas into concepts
- students can design and test hypothesis of business model
- students can create and form contacts to new people
- students can expose their thinking and action to others
- students and learn from feedback
- students can take affordable risks

**PRACTICE**

During the Amazing Business Train studies the students search and develop new business ideas, model them into business actions and create new networks for implementing these ideas. The students learn about the newest information about business opportunities, business planning and entrepreneurial process, practical skills in business modeling and development, network building, idea selling and entrepreneurial financial planning, and strengthen their entrepreneurial attitudes including self-awareness, self-belief, self-efficacy, affordable risk taking, bearing and enjoying uncertainty. The main part of the studies takes place on a train journey.

**WHAT DO THE STUDENTS LEARN?**

The students get a memorable, social and effectual learning experience, they have an opportunity to build their own network for developing their business ideas, they gain new knowledge on business opportunities, business planning, business modeling, commercialization, financial planning and selling, and they are encouraged to try out practical business development in both virtual and real environments. In addition, the students obtain knowhow, which help them in their studies and work tasks. At the same time the students earn 5 credits of business development studies.

**HOW DO THE STUDENTS STUDY?**

Business development studies – Amazing Business Train - offer a practical, experimental, social and supervised learning experience for business development. The students may already have an idea to develop or the students can help others to develop their ideas or they can work in a development project for a client together. On the train journey the students can build a network for themselves and apply several tools of business development in practice.

**WHAT DID THE STUDENTS EXPERIENCE?**

The students learned business modeling by using a business model canvas and financial planning, they learned idea pitching by using NABC (need, approach, benefits, competition) concepting, they learned working together in international and multidisciplinary teams creating social business connections and working as individuals and as team members and/or in a flock.

**WHAT KIND OF OTHER NETWORKING WAS POSSIBLE?**

In addition to building a network in train, participating students and teachers had opportunity to meet other persons interested in entrepreneurship and business development. The train stopped in four cities: Jyväskylä, Kuopio, Oulu and Tampere.

**IMPACTS**

The quantitative short term results of the Amazing Business Train are:
- about 60 multidisciplinary students (20 per a train journey), each student earned five credit points -> 300 credits for the university
- the overall satisfaction of the students 4.17 (scale 1-5)
all together some 30 business ideas and so far two new companies have been registered
- four teams have established startup ventures after their participation in the train
- 10 different teachers and staff members from different faculties co-planned and co-implemented the train journey
- a dozen internal and external experts and business angels commented business ideas in Facebook

On the qualitative side the comments below from the students highlight well the impacts on the participated students:

“ABT provided me with an opportunity to feel confident about my business idea, everyone should also be given the same opportunity. I feel that ABT gave me more confidence in 48 hours than I could have gained in 10 years working alone. I think the real backbone behind this particularly successful endeavor is the outstanding support from the teachers. Without such incredible teachers, the ABT model would not be so efficient. Thank you so much for all of your support! I hope you all know what a difference you made”

“This journey gave wings to my dream and nothing will stop it now. I wish that others could experience the same AMAZING feeling as well!”

“We started almost from nothing and after the two days journey we had a clear plan for the next two years. Great journey and without it we hardly could make sense into our operation.”

“We could totally concentrate in our own business for two days and the help needed was all the time close.”

“Enthusiasm to become an entrepreneur increased a hundred times!”

All the teachers and staff members involved experienced a new way to teach and supervise business development which was inspiring and especially teaching concurrently with colleagues was appreciated. Both the students and the staff networked with other persons interested in business idea development and in business training, and shared best practices in cities where the train stopped. This will lead to mutual benefits and future co-operation. The university got a new and innovative way to teach and learn entrepreneurship. The feedback is so encouraging that in May 2015 the fourth Amazing Business Train will depart.

REFERENCES


From Meta-Cognition to ‘Meta-Practition’
From Intrapreneurship to Entrepreneurship

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KEY WORDS
Metacognition; MetaPractition; Learning portfolios; ‘Self authorship’ Intrapreneurship; Entrepreneurship

ABSTRACT
This working paper documents student self-assessment and portfolio reflection on the progression of their learning, personal and professional development within VIA University College’s BATCoM degree (Bachelor of Architectural Technology and Construction Management). Initially inspired by Bloom’s taxonomies, Vygotsky’s ‘Zone of Proximal Development’ (ZPD) and Lave and Wenger’s concept of Legitimate Peripheral Participation (LPP), the author has developed frameworks for both Metacognitive and Meta-practitive portfolios that reflect students’ own and peer interpretations of their professional and personal development, documented in their student portfolios. Portfolios that relate to two clearly defined learning environments within their 3½-year education. From the initial ‘Learning to Learn’ environment (L2L) through the ‘Professional student’ or Learning for Life’ (L4L) environment.

The study specifically explores and develops the concept of student ‘self-authorship’ in regard to career and life choices both within their education, practical placement (internship) and after graduation. It is based on over 25 years of PBL practice as students develop competencies, attitudes and values that improve learning and life strategies relevant to established practice within their career choice… their ‘community of building professionals’ in the form of the portfolios of students from widely diverse educational backgrounds and attitudes to learning. In other words, a multi socio-cultural community with very diverse metacognitive processing. This paper explores and documents, materials and methods that enable such students to adopt and adapt personal and team learning strategies in a collaborative PBL culture using Metacognitive portfolios in their initial semesters (L2L environment) in the 1st and 2nd semesters; with a self-authoring, Meta-practicitive approach over the rest of 3½ year Profession Bachelor degree. Such portfolios are both quantitative and qualitative.

The author reasons that students must progress through an initial metacognition phase as they try to understand the ‘supercomplexity’ of their education and develop from school-like ‘Lower Order Learning Strategies’ to more sophisticated ‘adult’ or Higher Order Learning Strategies which relate to their understanding of the practice of their coming profession … ‘Meta-Practition’. From a definition of Metacognition as being ‘Learning about Learning’ or ‘Knowing about Knowing’ the author defines the term “Meta-Practition” as “Learning about praxis / practice”.

As part of this ‘self-authorship’ process students are encouraged to reflect upon and plan future life and career choices with the concept of ‘Metapractition’ also encompassing the concepts of ‘intrapreneurship’ and ‘entrepreneurship’.

The portfolio models are easily adapted for other educations to initiate, maintain and develop students’ reflective competencies. The study also incorporates defined forms of PBL and Ronald Barnett’s views on education in the ‘age of super-complexity’. The quantitative aspects of the portfolio were inspired by Vygotsky’s concept of ‘Zone of Proximal development’ (ZPD) while the qualitative reflection follows Lave and Wenger’s work on ‘LPP’… ‘Legitimate Peripheral Participation’ in acquiring knowledge, developing attitudes and values and undertaking professional action within ‘communities of professional practice’… both before and after graduation.

The portfolios are paper-based in the initial ‘L2L’ phase of student educations and digital after the 2nd semester and are linked to the encouragement of entrepreneurship with the concepts of ‘Metapractition’ and students’ ‘self-authorship’ encouraging them to ‘behave’ like intra/ entrepreneurs and which, for some, may develop into genuine entrepreneurship.
The results include students reporting greater understanding of both what and how they learn with many making rapid progress from Lower to Higher Order learning Strategies, not least in collaborative learning, understanding diversity within their teams and appreciation of learning aims and strategies that differ from their own.

The methodologies defined aid teacher and self-facilitation as they document student learning bases and learning gains in graphic quantitative form enabling students to develop individually while maintaining differing professional and personal ambitions as students’ progress through their BATCoM education and define life and career choices ... including potential entrepreneurship... both before and after graduation.

Student reflections also claim extended mentor / mentee and other networks, both within and outside college; increased awareness of coming management and potential leadership roles and, not least, the knowledge, attitudes and values needed for the world they enter after graduation, where they meet the third of their 3 learning environments ... 'LLL' ... Life Long Learning.

INTRODUCTION: PROBLEM AND RESEARCH BACKGROUND
Much of the rationalization around the introduction of ‘Profession Bachelor’ degrees to Denmark in 2001 reflected the desire to help graduates become successful professionals as rapidly as possible, able to cope with the uncertainties of the 21st century and with a growing emphasis on innovation, internationalization and entrepreneurship.

The three main professional bodies represented in the Danish building sector are engineers, architects and “Bygningskonstruktor” - literally ‘Building Constructors’... a title that can be traced to 1882. The education gained recognition as a "Profession Bachelor" education in 2001 with the English title "Bachelor of Architectural Technology and Construction Management (BATCoM).

Today (Dec 2014) 50% of the 4000 students on VIA’s Horsens campus are international students from over 50 different countries, the language of their Profession bachelor degrees and much of the daily life of the college being English.

VIA University College’s research base stresses that research, “develops educations of high quality that help form close links between research, education and the world of employment; and that it brings "new knowledge proactively into the field of practice".

The research, methodologies and documentation described in this paper are a result of the author’s attempts to follow such guidelines, specifically nationally defined qualitative research criteria based on Frascati’s Modus 2 model which emphasizes Originality, Relevance and Innovation

PROBLEM STATEMENT
What systems and methodologies can help accelerate students from widely different backgrounds adapt to and adopt new learning strategies to accelerate their understanding and performance within a collaborative PBL culture?

RESEARCH QUESTIONS
• What methodologies can help students document and communicate their initial learning base, learning gains and learning strategies?
• What ‘self-authorship’ methodologies can help students develop personally and professionally as they progress through their BATCoM education?
• What methodologies can encourage students to consider life and career choices ... including potential entrepreneurship... both before and after graduation?

First of all, we have to define the learning environment that students actually enter. There are many forms or interpretations of the concept of PBL, but VIA BATCoM has defined 3 distinct, but overlapping learning environments, starting with the ‘L2L environment’ where students ‘Learn how to Learn’ in a collaborative PBL system.

The three environments reflect their increasing ‘professionalism’ both as individuals and their learning
communities as they move towards the ultimate aim of all Profession Bachelor educations ... the rapid and apparently 'effortless' entry into the real-world community of their chosen professional practice

L2L ‘Learning to Learn’ 1 and 2 sem  

L4L ‘Learning for Life’  
(profession / career)  

LLL ‘Life-Long Learning’

Fig 1 BATCoM PBL MODEL ... 3 LEARNING ENVIRONMENTS VIA University College, Horsens, Denmark, Eriksen G. (2007)

Many, if not most, new students viewed themselves as already being successful learners - if only on the rationalization that they were sitting in a university and would not have reached such a level if they had not been successful learners!

This initial ‘L2L’ environment helps raise students’ awareness of highly effective, collaborative learning... not least in valuing the diversity of others within a collaborative PBL environment.

That ‘collaborative’ element was also stressed by three fundamental principles specific to the BATCoM, PBL model for the international classes:

- IMMERSION where students were ‘thrown into’ or immersed in a complex project where “the scope and complexity of the project was greater than the capacity of the individual student”

- EXAMPLARITY “where the work and processes within the project reflect the practice within their coming profession” and a

- SOCIAL / LEARNING CONTRACT, where “students are held accountable for their own learning, while also sharing responsibility for shared learning”

In defining their initial learning base students had to contrast what they knew with what they were expected to learn. This led to adopting Bloom’s thinking on his three, cognitive, affective and psycho-motor taxonomies as the 3 learning principles stated above drew on all three. Figure 2 shows a completed version of the latest portfolio model inspired by Bloom.

The student has reflected on his knowledge skills and competencies on three occasions... 3 days after starting college, approximately halfway through the semester and just before examination. The reflection ranges from ‘No knowledge’ to ‘Excellent’ defined as being where ‘the student does this automatically, is very good at doing it and can teach or help other people to learn how to do it’.

Students from more traditional teaching systems are often frustrated by “the scope and complexity of the project being
greater than the capacity of the individual student” as their learning strategies were developed in systems where the scope of what they had to learn was within the capacity of each student. That often led to Lower Order Learning Strategies where the question “What do we have to do?” could really have been phrased “What is the minimum we have to hand-in to pass? … basic ‘Survival’ cognition.

It is a quantitative model. Students can compare and contrast their own assessment of their learning status and learning gains to develop and adapt learning strategies both as individuals and as a team.

Barnett (1994) emphasized the importance of such self-assessment, when he argued that,

“What is needed is for professionals not only to be competent but to be able to carry on a conversation about competency; to be able to evaluate and reject those competencies which are no longer applicable,” later adding that “without self-assessment a competency based education is barren” p 73

It is Metacognitive and as Darling-Hammond (2003) wrote, there are:

“two aspects of meta-cognition; “reflection… “thinking about what we know, and self-regulation … managing HOW we go about learning. Developing metacognitive abilities is not simply about students becoming reflective learners, but about acquiring specific learning strategies as well. As educators, it is important for us to help foster the development of metacognitive skills in students, as these are skills that will help students “learn how to learn” p158 (authors italics)

At the final self assessment … just before the students’ presentation-based examination … students are also asked to reflect qualitatively on what they have learnt. (fig 3.) They simply document in writing their thinking in relation to the categories defined in the quantitative model.

**What were you thinking when you did your final qualitative portfolio?**

Write your thoughts on the subjects / competencies in your L2L portfolio.

<table>
<thead>
<tr>
<th>Keeping a Portfolio</th>
<th>I had a different idea about portfolio. It took me some time to work out that it was all about thinking about what you have learnt over time. I really found it helpful because it makes me realise what I have learned and if I have to improve more and in which subjects.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBL Problem Based Learning</td>
<td>I had never worked in a team and didn’t really see why I had to when I came here, but after a while I really saw how fantastic it was. We really have done a lot of good work and I have learned who can help me if I’m not sure about something. PBL is a great idea I wish they did it in schools because it really helps people learn.</td>
</tr>
<tr>
<td>Structural Design</td>
<td>I must be honest and say that I was really scared about this subject because I thought that this is too difficult for me to understand. It was indeed very difficult to understand loads, for example, but I was very happy to discover that I can understand if I try to work hard and I am not ashamed to ask for more explanations.</td>
</tr>
</tbody>
</table>

Fig 3 Student qualitative reflection (Internal portfolio document A2012 CAHS 11 (14))

Developing a random group of widely diverse students into a highly motivated and effective PBL community will always be a challenge. No two classes are the same and already learning
strategies and a crowded curriculum puts pressure on developing ‘good communities of practice’.

Most international students arriving at VIA University College express little or no experience of working with PBL which requires competencies and attitudes rarely found in more traditional learning environments. The basic metacognitive model helps both students and teachers to ‘carry on a conversation’ (guidance meeting) about competencies, learning aims and learning strategies. Students can ‘document’ their progress in the highly complex problem they have been asked to solve. It also eases them into their student community of practice as their potential mentors … student in the semesters above them … have undergone the same reflections on their developing competencies.

In doing so the students use methodologies that help them document and communicate their initial learning base, learning gains and learning strategies. The quantitative portfolio model reflects Vygotsky’s ZDP concept with the quantitative definition of developing competencies.

Selwyn (2011) saw this process as reflecting Vygotsky’s “zone of proximal development” where tasks that were too difficult for an individual learner to master alone could be learned with the guidance and assistance of more proficient or more knowledgeable others”. (p 77)

But it also raised the question as to how accurate and reliable students could be in assessing themselves, which led to the introduction of ‘Peer Assessment’.

Peer assessment provided a form of peer validity to their assessment of their own competencies. Halfway through the semester students went through a ‘Big washing Day’ process where students collectively assessed one another. If there were four students in a group then 3 would discuss and complete a profile of the fourth member. This process would continue until all students were assessed.

Each student’s assessment of themselves was then contrasted with their team members assessment and the results discussed. If there were two or more levels difference then they were asked to reflect on why the others viewed his or her performance so differently.

Some students rapidly adopt Higher order Learning Strategies. In simplistic terms they begin to see the ‘big picture’ of what they have to learn, not only as ‘survival cognition’ … what they have to do to pass the exam, but as genuine appreciation off the supercomplexity of their education. Teamworking, Sharing knowledge; Being a Mentee and Being a Mentor, for example are seen to be just as essential as learning Revit or calculating structural loads. This progression becomes real ‘Meta’cognition. For many students fresh from school this is a major developmental process and one that is self-replicative … as soon as some in the class understand it the collaborative nature of their PBL education soon spreads that understanding. Students that do not successfully go through that process often encounter huge problems in the second of the three learning environments … the ‘Professional student environment’ where students are able to reflect on and consider what in reality becomes ‘self-authorship’ as they begin to define and develop their own progress and ambitions for the rest of their education and future career.

This leads to the two final research questions
“What ‘self-authorship’ methodologies can help students develop personally and professionally as they progress through their BATCoM education?

And “What methodologies can encourage students to consider life and career choices … including potential entrepreneurship… both before and after graduation?”

Magolda Baxter (2009) writes
“The complexities young adults face in transdisciplinary contexts after college, as well as the complexities inherent in disciplinary learning during college, require something beyond skill acquisition and application. They require a transformation from authority dependence to self-authorship, or the capacity to internally define one’s beliefs, identity and social relations.” Quoted by Ayas K, Zenuik N, (2004) p 23
Students entering the 3rd semester meet a new, more complex quantitative portfolio model based on the design of the metacognitive model, inquiring into competencies, attitudes, values, life and career choices extending through the remaining years of their education; through practical placement or internship, and into their professional career.

The metapractition model calls upon the same self and peer reflections. Based on the L2L model it brings into play 4 main concepts: Networking; Professional student development; Innovation, ‘Intra’ and ‘Entre’preneurship and Management and leadership. Jones C (2013, 75) saw three main factors or ‘capitals’ in developing entrepreneurship: social, human and financial capitals. The 4 main concepts documented in metapractitive reflection are based on social (networking) and human (professional student development). The final piece of the entrepreneurial ‘jigsaw’ ... financial capital’ lies outside the realities of the vast majority of students in the semesters that use the metapractition model.

Networking encourages students to think their network both inside and outside university; the development of a professional ‘Linked-in’ and professional ‘digital’ portfolio.

Professional student development encourages students to develop contacts (network) with other students in the higher semesters, develop a better understanding of the legal aspects of their education and the potential of research related to their coming elective reports and final 7th sem. dissertation.

Innovation, ‘Intra’ and ‘Entre’preneurship also asks students to reflect on both Incremental and radical innovation; understanding of technological and environmental aspects of their education.

Management and leadership asks students to reflect on and document their preferred roles in a student project team, preferred roles in their potential professional management career; consideration of their practical placement / internship, main career choice either as implementers or in a design team and finally their understanding of the concept of ‘LLL’ Life Long Learning.

Stephen Kemmis writing in Boud D. et al (1985) saw people as being

"inclined to think of reflection as something quiet and personal in that reflection is action-orientated, social and political. Its 'product' is praxis (informed, committed action) the most eloquent and socially significant form of human action.” p139

Which is exactly what the metapractition model is trying to do, and in doing so, answers the need for ‘self-authorship’ methodologies to help students develop personally and professionally as they progress through their BATCoM education; and to encourages students to consider life and career choices ... including potential entrepreneurship... both before and after graduation.

Or, as one 3rd sem student wrote in their qualitative reflexive of the metapractition model:

“It's very different from the one we did in the first semester, but I was already near the top in all things in that one. This new one made me think that even though I still had a lot to learn I could easily find out about it while I still studying. Just
finding a really good contact in the fifth semester learned me a lot about what I’ll be doing in the next two semesters instead of just waiting until I get there. I’ve really worked on networking also outside the college as it’s made me think about what I’m going to do when I finish. The professional portfolio idea is great as it’s nice knowing that I’ve already got a portfolio that I can send to anyone. It also made me think about starting a business. I’m still not too sure about it, but if the right contacts comes along I think I’ll try it.”

CONCLUSION
Both the Metacognition and Metapractition portfolio models are methodologies that help students from widely different backgrounds adapt to and adopt new learning strategies to within a collaborative PBL culture. The metacognition model helps students document and communicate their initial learning base, their learning gains and learning strategies and the metapractition model develops ‘self-authorship’ methodologies that help students develop personally and professionally both within their BATCoM education and when considering life and career choices before and after graduation... including ‘Intra’ and ‘Entre’preneurship. Both methodologies can also be used to compare and contrast self and peer-assessment with teacher exam evaluation and help students develop a more realistic sense of the development of their competencies and professional / performance.

Students are enthusiastic about both paper based and digital models, especially when seeking practical placement or final employment, reporting a high and positive response rate from potential employers. Both models have been adopted by other educations at VIA University College and also other educational institutions; both models are easily replicable, are original, relevant and innovative.

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Are incubators the new wonder tool for entrepreneurship education?

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KEY WORDS
Incubator, active Learning, succesful business vs succesful learning.

ABSTRACT
Nowadays business incubators are more popular than ever, also in entrepreneurship education. Why is that? We know that popular active learning methods such as the lean Launchpad\(^1\), Effectuation or active mentoring by experienced entrepreneurs proofed to create successful entrepreneurs faster than in a traditional teaching environment. We also know that incubators help prospective entrepreneurs to start up their businesses and eventually grow into profitable start-ups. Successful incubators such as the Dutch Venturelab, elected as Best Science Based incubator 2013, Silicon Valley’s flagship incubator YCombinator, Australians ATP Innovations or UNITEC Incubadora from Brazil, are all linked to institutes with the primary purpose of creating well educated people. Apparently, we assume that incubators as such, are powerful active leaning tools for higher education and universities. Does that assumption makes sense?

Yet until now, the incubator is identified as a means of meeting a variety of socioeconomic policy and economic needs. It’s an organization designed to accelerate start and the growth of new enterprises. Recent research on incubators is focused on the return (jobs & technology transfer) of social investment and company success (investment value). But less is known about what, precisely, a student has learned during his or her incubation period. In order to teach entrepreneurship we need to ask ourselves how a student entrepreneur learns during their stay at an incubator and what is the best way to set up an incubator in order create an measurable high learning environment.

As a successful serial incubator entrepreneur and researcher at The Hague University of Applied Sciences, I have initiated a research program in this field. Given that incubators are used widely in enterprise education and business management courses all over Europe it might be of interest to other European research institutions to join.

BACKGROUND
In the nineties of the last century, a lot of (ICT) incubators started in the Netherlands, many private (GorillaPark, Ant Factory, Lost Boys and Newconomy), some public, such as Twinning. Most of them stopped early this century or gone bankrupt. From 2005 university incubators like YesDelft!, Erasmus MC Incubator, UtrechtInc, Biopartner and ACE opened their doors to students which operate alongside the curriculum. Afterwards also incubators of colleges aroused, often integrated with education. Enterprize of the The Hague University of Applied Science was one of the first ones. In recent years, all kinds of private initiatives arises, called Accelerators (Rock Start and Start-Up Boot Camp).

The primary purpose of an incubator is to create successful entrepreneurs, for different reasons. Much research has been done to the success rate of companies through incubators. It is assumed that the entrepreneur of a successful business should have learned a lot in this initial period. In the emerged entrepreneurial education it is therefore assumed that incubators also should be a good tool for students to quickly and efficiently learn. But is that so?

As a successful serial entrepreneur, I started more than ten incubators. Most of them were a tool for regional development, cluster development or for further investments (private equity). Now he wanders if an incubator can also be a tool for teaching. He has been given the opportunity to research this at the The

\(^1\) (Steve Blank, Bob Dorf)
Hague university for applied sciences; “What is the (added) value for entrepreneurship education of an incubator?”

This paper is a preamble to that research and a call for participation.

CHAPTER 1. RAPIDLY EMERGING NUMBERS OF INCUBATORS FOR ECONOMIC WEALTH.

Nowadays business incubators are more popular than ever. In the Netherlands the population of incubators grew 500% in the last six years to 115 in the Netherlands (fig 1).

Fig 1

Worldwide there are now more than 9000 incubators. The growth of the number of incubators is public driven by regional development.

The overall aim of an incubator often is to contribute to regional or local development. This means job creation a term that prevails, since most incubators are supported publically, whether from local or national government. Other goals of the incubator are often described profitability of tenants, which is an argument again for regional development, but also for private investments.

In 2014 a growing number of incubators at universities for applied science in the Netherlands can be detected as well (fig 1). Following the success of university incubators such as the Dutch Venturelab (elected as Best Science Based incubator 2013), Australians ATP Innovations or UNITEC Incubadora from Brazil (elected as Best Science Based incubator 2014). They have been developed for the reason of technology transfer, but a side effect was a high popularity of these institutes amongst students. Silicon Valley’s flagship incubator YCombinator has the most commercial basis. Universities for applied science, however, have the primary purpose of creating well educated people.

Note that result on public investment is not public result of education. The responsibilities for teaching are others then for creating knowledge. Using incubators as a tool to teach students in entrepreneurship is different to using an incubator as a tool for regional development or for knowledge transfer. Still more and more universities of applied science adopt an incubator.

Yet less is known about what, precisely, a student has learned during his or her incubation period. In order to teach entrepreneurship we need to ask ourselves how student entrepreneurs learn during their stay at an incubator and what is the best way to set up an incubator in order create a measurable high learning environment.

1 http://worldbusinessincubation.wordpress.com (date 04/12/14)
2 (Mian, 1997; Aernoudt, 2004; Peña, 2004; Aerts, Matthyssens and Vandenbempt, 2007)
3 (Hackett and Dilts, 2004b; Aerts et al., 2007).
4 Mian, 1997; Hackett and Dilts, 2004b; Aerts et al., 2007; Aaboan, 2009; Ratinho and Henriques, 2010.
5 A study on the factors of Business Incubation, by Lars Kolkman, F. Ratinho Antunes de Oliveira MSc PD Dr. R. Harms, August 5th, 2011 Enschede, The Netherlands
6 (Aernoudt, 2004; Hackett and Dilts, 2004b; Rice, 2002)
CHAPTER 2. SUCCESSFUL ENTREPRENEURSHIP IS NOT SUCCESSFUL LEARNING

It is easy to assume that a successful entrepreneur must know a lot about entrepreneurship, yet that is not always true. Yes, an experienced entrepreneur uses a lot of skills, knowledge and attitude. But a successful entrepreneur can be very good in just one thing and knowing how to delegate all other. Doing only that one thing, won’t develop him further as a person. Another entrepreneur can have several failing startups before he is successful. He has learned a lot of his mistakes, though. Successful learning and having a successful company during a study period is ideal, but is seldom seen. In that case a student that has not had entrepreneurial experience before, starts his first company, and it becomes a success for the first time. On top of that the student develops himself equally as his peer students and gets a degree. When this occurs universities can only be satisfied.

Fig 2

Far more often it is seen that the first company is not successful, or even failed in the first two years. If the student has developed himself equally as the other students, universities for applied science can be satisfied with the learning result. But often the students learns extra from the failure process. The student has also developed entrepreneurial behaviour. Since ‘success’ differences only one step from ‘failure’, namely one more time getting up then falling down, starting all over has to be encouraged.

Cheering students to start their own company, while they don’t show any progress in personal development can be disappointing. Especially when the students company also fails or even creates great debts. In this scenario the university failed to deliver something it supposed to do; teaching. Since the chances are not zero, universities should have a fall-back plan.

For all of those who create a successful company, but have a far flatter learning curve as their peers, one can argue about the educational system in its social function. A successful company is created, jobs are created, taxes are being paid and the entrepreneur is probably very happy. But the primarily goal of an applied university, teaching has not been met.

CHAPTER 3. THE MINIMUM 3 x 5 COMPETENCES IN AN HIGH LEARNING ENVIRONMENT

Universities of applied science that want to use incubators as a tool for teaching do need to know what competences the students need to develop. When starting up a business in any kind, one develops entrepreneurial competences, besides developing professional competences. That last ones would be for instance programing in a IT company, genetic analysis in a bioscience company and mechanics in a company which builds drones. In this paper the professional competences are left out of consideration, although they are of course far from being neglected.

The five most recognizable entrepreneurial knowledge competencies in entrepreneurship education are:

1. Product development: the complete process of bringing a new product to market meaning the transformation of a market opportunity into a product available for sale and it can be tangible or intangible.
2. Marketing: the methodology of communicating the value of a product or service to customers, for the purpose of selling that product or service. Marketing techniques include choosing target markets through market analysis...
and market segmentation, as well as understanding consumer behavior and advertising a product's value to the customer.

3. Project Management: the process and activity of planning, organizing, motivating, and controlling resources, procedures and protocols to achieve specific goals in scientific or daily problems. A project is a temporary endeavor designed to produce a unique product, service or result with a defined beginning and end, undertaken to meet unique goals and objectives, typically to bring about beneficial change or added value.

4. Finance: a field that deals with the allocation of assets and liabilities over time under conditions of certainty and uncertainty. Finance can also be defined as the science of money management.

5. Commercial law, also known as business law: the body of law that applies to the rights, relations, and conduct of persons and businesses engaged in commerce, merchandising, trade, and sales.

Soft skills is a sociological term relating to a person's Emotional Intelligence Quotient (EQ), that characterize relationships with other people. Soft skills complement knowledge on how they are used. The top five of skills that entrepreneurs should develop in order to be successful are:

1. Business model construction: describes the rationale of how an organization creates, delivers, and captures value in economic, social, cultural or other contexts.
2. Networking: a socioeconomic business activity by which groups of like-minded businesspeople recognize, create, or act upon business opportunities.

3. Negotiation: is a dialogue between two or more people or parties intended to reach an understanding, resolve points of difference, to gain advantage for an individual or collective, or to craft outcomes to satisfy various interests.

4. Sales: the exchange of a commodity for money or service in return for money or the action of selling something.

5. Leadership: a process of social influence in which a person can enlist the aid and support of others in the accomplishment of a common task.

The five competences of attitude to be developed are best described by the Big Five. A summary of the factors of the Big Five and their constituent traits, such that they form the acronym OCEAN:

1. Openness to experience: (inventive/curious vs. consistent/cautious). Appreciation for art, emotion, adventure, unusual ideas, curiosity, and variety of experience. Openness reflects the degree of intellectual curiosity, creativity and a preference for novelty and variety a person has. It is also described as the extent to which a person is imaginative or independent, and depicts a personal preference for a variety of activities over a strict routine. Some disagreement remains about how to interpret the openness factor, which is sometimes called "intellect" rather than openness to experience.

2. Conscientiousness: (efficient/organized vs. easy-going/careless). A tendency to be organized and dependable, show self-discipline, act dutifully, aim for achievement, and prefer planned rather than spontaneous behaviour.

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3 Business Model Generation, A. Osterwalder, Yves Pigneur, Alan Smith, and 470 practitioners from 45 countries, self published, 2010
4 Hubert Österle, Elgar Fleisch, Rainer Alt (2001). Business networking: shaping collaboration between enterprises (2. Illustrated ed.), Springer,
5 http://www.merriam-webster.com/dictionary/sale (date dec. 2014)
3. Extraversion: (outgoing/energetic vs. solitary/reserved). Energy, positive emotions, assertiveness, sociability and the tendency to seek stimulation in the company of others, and talkativeness.

4. Agreeableness: (friendly/compassionate vs. analytical/detached). A tendency to be compassionate and cooperative rather than suspicious and antagonistic towards others. It is also a measure of one's trusting and helpful nature, and whether a person is generally well tempered or not.

5. Neuroticism: (sensitive/nervous vs. secure/confident). The tendency to experience unpleasant emotions easily, such as anger, anxiety, depression, and vulnerability. Neuroticism also refers to the degree of emotional stability and impulse control and is sometimes referred to by its low pole, “emotional stability”.

To use incubators as an educational tool, universities must focus on the development of the student rather than focus on the success of the business. The minimum the above 3 x 5 competences should be tested in an high learning environment.

CHAPTER 4. STUDENT ENVIRONMENT BECOMES ACTIVE IN ENTREPRENEURSHIP EDUCATION

In traditional learning environment students are getting knowledge in classes, groups or sometimes as individuals. Theory is given by teachers, books and more and more via internet. The traditional KOLB cycle [fig 3] is used. In practice this results in homework, workshops and case studies. A student is prepared to become the entrepreneur he is learning for. In the end there is an exam that measures what the student has learned.

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2 Bonwell and Eison, 1991
the combination of business model design, customer development and agile development in a Customer Development methodology. It incorporates learning aids such as videos, quizzes, and homework assignments to teach Blank’s principles of entrepreneurship.\(^2\)

2. Effectuation is a way of thinking that serves entrepreneurs in the processes of opportunity identification and new venture creation. Effectuation includes a set of decision-making principles expert entrepreneurs are observed to employ in situations of uncertainty.\(^3\) Situations of uncertainty are situations in which the future is unpredictable, goals are not clearly known and there is no independent environment that serves as the ultimate selection mechanism.\(^4\)

3. Seasoned entrepreneurs are Mentor of the student entrepreneur. The university is flexible towards students running their own business when it comes to deadlines.\(^5\) Universities still teach all the necessary things in traditional learning environment, while the mentor guides them through the development of the start-up.

**CHAPTER 5. INCUBATOR IS A TYPICAL FLIPPED CLASSROOM**

In a way starting a company in an incubator is a typical way of active learning. The student is working primarily at his own start-up company, he experienced a lot of real life situations and his peer and the incubator manager has the role of mentor. They challenge the entrepreneur to formulate his experiences into learning experiences. Although that is not always a structured process.

1. *Concrete experience* are made when real customers enters the building. They seek for a solution to their problem.

2. *Reflective observation* is giving by the incubator manager who sees everything happening in the incubator.

3. *Abstract conceptualization* of the experience (customer demand) occurs at lunch or coffee corner when the peer group they challenge the student-entrepreneur to summarize the meeting with the customer.

4. *Active experimentation* means to deploy customer demands.

In the traditional learning environment and in active learning the university supplies students with nothing more than a classroom, access to knowledge and some facilities as a copy machine. For every twenty-five students there is one teacher and two to four mentors.

An incubator is a separate environment, preferable with a commercial front door and an educational back door. Customers have the feeling that they enter a place where companies add value to their own. Those expectations make the student entrepreneurs more focused of even doing so. The educational back door is needed, for professors and teachers to come in at the end of the day to define the learnings of the day and transform that to new, more specified learning goals in the next period.


\(^5\) E.A. Rasmussen, R. Sørheim / Technovation 26 (2006) 185–194
In order to manage the incubator, universities should supply more facilities than in a traditional environment. Things that are common in most incubators are housing and facilities, network and access to knowledge, capital access, services and support. An average student incubator is 500 till 1000 m² and host twenty till fifty companies, consisting of one to five persons per company. There is, average, one incubator manager and an office manager.

CHAPTER 6. THE MINIMUM WHAT EDUCATION SHOULD FACILITATE MEANS THE EFFICIENCY OF THE INCUBATOR

Entrepreneurship is accepted as a potential catalyst and incubator for technological progress, product and market innovation. McAdam and McAdam explore in 2008 the longitudinal use of the unique resources offered by university incubators to high-technology firms at different stages of growth. It is now understood that incubation is not a static process or simply a menu of services. The nature of incubation changes according to:

- the varying resource needs of the tenant firm over the duration of the incubation period
- the tenant firm’s industrial relationship

The facilities that an incubator offers difference equally. But in general all incubators facilitate Network and access to knowledge; Service and support; (access to) Capital; Housing and other facilities. The manner and amount of these facilities determine the efficiency of the incubator.

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<tr>
<th></th>
<th>Traditional education</th>
<th>Active learning</th>
<th>Incubator</th>
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<tbody>
<tr>
<td>Teaching</td>
<td>X</td>
<td>X</td>
<td>?</td>
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<tr>
<td>Network and access to knowledge</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Housing and facilities</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>Services and support</td>
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<td>X</td>
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<tr>
<td>Capital</td>
<td>?</td>
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</table>

Compared to traditional learning and active learning, incubation requisite more support and services. Not all of that requires teaching capacity. The minimum what education should facilitate is the ground of a research program at The Hague University of Applied Sciences.

If we can compare the learning abilities of students in traditional education, Active learning and in an incubator on one hand and the amount of effort and money of those three on the other, the following question can be answered:

“What is the (added) value for entrepreneurship education of an incubator?”

CALL FOR CO-RESEARCH A CASE STUDIES IN DIFFERENT ENTREPRENEURSHIP EDUCATION

At the beginning of the third quarter, 1 February 2015, 6 groups of students will be followed. They are divided in three types of educational forms; traditional learning, coached education and in a incubator. Their competences will be measured in the beginning of this quarter and at the end of the fourth quarter.

- Knowledge with tests

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Entrepreneurial skills via Linkedin progress in their own profile

Attitude with BIG5 test

In the Netherlands we focus on six case studies.

<table>
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<th>Traditional education</th>
<th>Active learning</th>
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<tr>
<td></td>
<td>Coached education</td>
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<tr>
<td>IHS - minor GBL, minor 1</td>
<td>X</td>
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<tr>
<td>IHS - minor GBL, minor 2</td>
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<tr>
<td>IHS - Casus eigen bedrijf</td>
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<td>Lean Startup</td>
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<td>Hiva – Startech</td>
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<tr>
<td>Citylab</td>
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<tr>
<td>Marzilli (2006)</td>
<td>Mentoring</td>
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</table>

From each types of educational forms the capacity of the staff and manner and amount of the facilities will be measured.

The case study will end in July 2015 and will be ready to evaluate for further research. Given that incubators are used widely in enterprise education and business management courses all over Europe it might be of interest to other European research institutions to join either with a case study or further research.
Are you creative if you say so? How to assess creativity in education?

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KEYWORDS
Assessment, self-assessment, creativity, entrepreneurship.

ABSTRACT
We conducted a study that explored the use of self-assessment as a tool in creativity-testing versus test of divergent thinking and actual creative behaviour. The study shows that there can be a correlation between the three but that it is not always the case. A high self-assessment can give you the persistence to develop ideas and create. But if you have no skills in ideation/divergent thinking you seldom do well in this area and if the surroundings do not value creative actions you hesitate to pursue those.

We studied how 59 students graded their own habits of being inquisitive, persistent, imaginative, collaborative as well as disciplined in crafting and reflecting. This test was developed by Lucas, Claxton & Spencer for the OECD. We then asked the students how many uses for a paper clip (and later a spoon) they could think of, ("Guilford's alternative uses task") in order to investigate their level of fluency. They did this twice, before and after a three week course in entrepreneurship, to see if the students would develop, lose or maintain their level of creativity. We also looked at how creatively, in terms of originality and identifying novel approaches, they were able to exercise their professions when faced with a novel task. Did they copy an activity and/or a form of teaching they had heard of or seen exercised before? Or did they actually conduct a new form of teaching? And how can we explain changes in perception and abilities?

Our thesis is that you can enhance the creative self-efficacy in students by having:

1. Persuaded the students into high expectations of themselves and other students.
2. Visible signs of success and once in while easy access to success.
3. A low stress environment.
4. Access to very creative people to imitate.

WHAT IS CREATIVITY? AND HOW CAN WE ASSESS CREATIVITY?
Creativity is seen as an important part of being entrepreneurial, i.e. an essential component in creating wealth and knowledge (Krauss & Sternberg 2014). The Oxford Dictionaries define creativity as “The use of imagination or original ideas to create something: inventiveness.” This perception is shared by Sternberg (2012) who claims creativity is a habit, a way of operating. Lucas, Claxton & Spencer (2012) agree and list four creative dispositions according to Treffinger et al. (2002) based on 120 definitions of creativity in papers exploring highly creative individuals. Viz. the ability and/or habit to:

- Generate ideas
- Dig deeper into ideas
- Be open and have the courage to explore ideas
- Listen to one’s inner voice

And then Lucas, Claxton & Spencer ads a fifth disposition:

- The ability to cooperate, inspired by John-Steiner (2006) and Koestler (1964).

There are many ways of assessing creativity. One of the most widely used tests for creativity was developed by Guilford (1967). It is a test of the ability to generate ideas, a test in
divergent thinking: “How many alternative uses for an everyday object can you think of?”


**Methodology**

Where and what do we have to measure when we want to assess creativity? Is it the person, the process or the product we have to measure? In this study we investigate the level of creativity in persons and products.

We studied how 59 students graded their own habits of being inquisitive, persistent, imaginative, collaborative as well as disciplined in crafting and reflecting. This test was developed by Lucas, Claxton & Spencer for the OECD. We then asked the students how many uses for a paper clip (and later a spoon) they could think of, (“Guilford’s alternative uses task”) in order to investigate their level of fluency. A person with many ideas tends to develop more original concepts. According to a recent study the ability of divergent thinking is a reliable indicator of creative potential (Runco 2012). We test here an essential component in being creative, your ability to think in a divergent manner. What we aim to investigate is the ability to imagine that there are many different solutions to the same problem and many ways to perceive and describe the same problem.

We were interested in mere fluency, i.e. the number of ideas. Earlier works indicate a positive correlation between the number of ideas and the originality of the ideas (Diehl et al. 1987, Paulus et al. 2011). The educational point of this test is to let the students see that their first ideas are seldom their most original ideas (Osborn 1963). They have to learn the value of many ideas. When confronted with this, many students argue that the ideas they get at a late stage are rarely feasible. Studies support this notion, quantity is not enough (Rietzche 2006). The best ideas are the ones that combine earlier ideas (van der Lugt et al. 2001, Goldschmidt, 2005). You might investigate the test result in terms of originality, flexibility (how many categories of ideas) and attention to detail (the number of details described). However, the main focus of this study was simply whether they could produce ideas on their own.

The students were asked to be entrepreneurs in their fields of expertise, teaching how to incorporate play, physical exercise and learning in school activities at primary or secondary schools. They used the “Bootcamp Bootleg” from Stanford (http://dschool.stanford.edu/wp-content/uploads/2013/10/METHODCARDS-v3-slim.pdf) as a toolbox to develop this learning activity. They were trained in divergent thinking in a workshop using methods developed by Byrge (2012). Finally, the students had to actually test their prototype learning material on children. This would allow the students to be trained in being creative, in a way that combines the factors in a programme we know is essential for being creative: the possibility for divergent thinking as well as convergent, being critical and exercise problem finding and solving. (Adams 2005, Sternberg 2012) We investigated if they used an original/novel approach in their chosen way of teaching to judge the level of creativity.

**DID THE STUDENTS SEE THEMSELVES AS INQUISITIVE, PERSISTENT, IMAGINATIVE, COLLABORATIVE AND DISCIPLINED?**

The participants stated on average that they often exhibit a behaviour that improves the chance of creativity as shown in Table 1 below. Although this is not a one way street, some students gain more confident in their creative abilities, others lose confidence.
Figur 1: Self-assessment scores (1-4).

The characteristic is highlighted when the average student self-assess state “It is often like me”.¹

This group seems to have a high self-efficacy, a high belief in their own abilities. High self-assessment is the key to high learning achievements according to John Hattie (2008) and Bandura’s studies (2012) of the importance of a high self-efficacy to achieve good performance.

The average number of “alternative uses for a paper clip” (Guilford’s test) was 6.2 ideas in the first 2-minute test. In the second test “Which alternative uses can you name for a spoon” the average was 11.3 ideas. By comparison the average was 10.2 ideas in a similar 3-minute test conducted by 293 participants at the University of Minnesota. (Dippo 2013). The relative low score in the first Guilford-test can partly explain the drop in self-assessed creativity in the second assessment.

Figure 2: Fluency in Guilford’s alternative use of an everyday object.

**But are they original in terms of teaching in ways they have not experienced before?**

Only one group out of 10 invented a new kind of exercise and/or teaching activity. They developed a novel solution to a novel task (Kaufmann 2003). The rest were only “everyday creative” or “creative with a small c” (Sternberg 2012). They used familiar solutions to a novel task (Kaufmann 2003), that involved teaching in a manner where the children play, learn and exercise their bodies. They used their creativity to figure out if they had any means and/or knowledge at hand which could work successfully.

¹ The students stated if they shared the characteristic in question on a scale from 1-4. 1 indicates “I am not like that”; 2 signifies “It is a bit like me”, 3: “It is often like me, and 4: “That is very much like me”.

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<tbody>
<tr>
<td>Inquisitive</td>
<td>3.07</td>
<td>3.09</td>
<td>0.02</td>
</tr>
<tr>
<td>I am exploring and investigating</td>
<td>3.58</td>
<td>2.87</td>
<td>-0.71</td>
</tr>
<tr>
<td>I am challenging assumptions</td>
<td>2.63</td>
<td>2.39</td>
<td>-0.24</td>
</tr>
<tr>
<td>Persistent</td>
<td>2.81</td>
<td>2.83</td>
<td>0.02</td>
</tr>
<tr>
<td>I dare to be different</td>
<td>2.82</td>
<td>3.09</td>
<td>0.27</td>
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<tr>
<td>I tolerate uncertainty</td>
<td>3.03</td>
<td>2.86</td>
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<td>Imaginative</td>
<td>2.03</td>
<td>2.72</td>
<td>0.69</td>
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<td>I play with possibilities</td>
<td>2.97</td>
<td>2.76</td>
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<td>I make bridge ideas and/or things</td>
<td>3.20</td>
<td>3.08</td>
<td>0.15</td>
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<td>I use my intuition</td>
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<tr>
<td>Collaborative</td>
<td>3.36</td>
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<td>I can share my ideas</td>
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<td>I can cooperate when needed</td>
<td>3.09</td>
<td>3.49</td>
<td>0.40</td>
</tr>
<tr>
<td>Disciplined</td>
<td>2.03</td>
<td>2.83</td>
<td>0.80</td>
</tr>
<tr>
<td>I develop techniques</td>
<td>2.5</td>
<td>2.04</td>
<td>0.47</td>
</tr>
<tr>
<td>I reflect critically</td>
<td>3.09</td>
<td>3.33</td>
<td>0.27</td>
</tr>
<tr>
<td>I craft and enhance things</td>
<td>2.63</td>
<td>2.83</td>
<td>0.20</td>
</tr>
<tr>
<td>Total</td>
<td>44.08</td>
<td>43.95</td>
<td></td>
</tr>
</tbody>
</table>

<table>
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<th>Alternative uses for a paperclip</th>
<th>&lt;5 ideas</th>
<th>4&lt;ideas&lt;10</th>
<th>9 ideas&lt;16</th>
<th>&lt;15 ideas</th>
</tr>
</thead>
</table>

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<tr>
<th>Alternative uses for a spoon...</th>
<th>&lt;5 ideas</th>
<th>4&lt;ideas&lt;10</th>
<th>9 ideas&lt;16</th>
<th>&lt;15 ideas</th>
</tr>
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</table>
WHY THE CHANGE? FOUR WAYS TO BECOME MORE OR LESS CREATIVE...

The model below proposes how to lose or gain creative self-efficacy, the key to high creative self-assessment and actual creative behaviour. The model is inspired by Bandura (2012). We argue that the level of self-efficacy and actual creative performance depend on the access to feeling successful, possibilities to imitate the right creative behaviour, low level of stress and persuasion by teacher and peers to succeed.

The feeling of success affects the level of self-efficacy. It is our observation that one of the main aspects of assessing creativity is the simple fact that assessing means that you make the success or the lack of it visible to people. When getting an idea is easy, then show it with a post-it note. A part of the reason why we saw a drop in the self-assessed creativity could be that many did not feel success after they learned that many were able to produce 10-15 ideas for uses of a paperclip.

THE POSSIBILITY TO IMITATE

Many students imitate other students, often the behaviour of very able students. In a creativity workshop (see below), peers in the form of other students demonstrated how to get “wild” ideas. In the evaluation of the course, and on other occasions when student/peer-teaching has been used in a similar manner, the students attending the course praised the other students demonstrating the idea creation process. “Easy to copy” as one student put it. We showed video clips from www.ideo.com that showed how the company had developed a new form of “shopping cart” and tried to help children eat healthier. We also wrote the rules for ideation according to IDEO on posters: “Have wild ideas”, “Be visual” etc.

No stress

Low arousal is the state of mind where you are allowed to rethink and wonder liminetely about subjects (Tanggaard 2012). We used a trained hypnotist to talk people into a relaxed state of mind before ideation exercises in an effort to remove any sense of stress. But stress caused by anxiety to fail became an issue due to the facts that we positioned students in groups, where they did not know each from previous work. The students reported their concern of how other members of the group perceived them. They were eager to be seen as very competent teachers and pedagogues in the eyes of their peers. They would try to argue in favour of positions they knew where seen to be common wisdom among teachers and pedagogues, and decline to say something original or “wild”. Part of the training took place in schools where the student teachers perhaps later were to be trainees or might later apply for work. In a situation like that you do not want to do anything “out of order” just to experience something new. You would be trying to imitate the work of the best professional you know of. So their actual aim during these weeks became “copy the best” and not “be original and innovative”. When asked why they chose the approach they did, almost all of the students said something to the tune of “Well, my teacher in ... did this and it worked” or “I have seen in schools that ... So it is feasible”. Even though the students seemed capable of being original and
innovative, as shown in the tests, they chose under these circumstances not to use their creative potential. Only one in ten groups conducted their teaching in ways where they did not copy an activity and/or form they had seen before.

PERSUASION TO SUCCESS

“You can do it” is easy to say but not always easy to believe. It is a matter of confidence in your own abilities and the person who is trying to show you the way to success.

According to Byrge et al. (2013) one method is to create a good humorous atmosphere, assume total control and responsibility and only tell people what they have to do next. “Show it – don’t say it” could be the way to persuasion in any case.

Other students, who were trained in the tools of Byrge et al. (2013), ran a workshop in ideation. They used an “ideas by association” approach, in this case images, words and persons. One type of question would be: “How would a carpenter, a dentist, politician, gardener or an astronaut solve this problem?” Or “How would you solve this problem using your associations from a picture of a pencil, an apple, a chair or a ceramic cup?” The person in charge of the workshop would always start by giving one or two examples of wild ideas to make sure that everybody understood how to do it. There were no wrong answers and therefore you were truly professional when you came up with crazy and “wild” ideas. Unleashing your true creative potential was seen as an act of professional behaviour.

CONCLUSION

According to this study people tend to have the capacity for creativity if they say so. They show more creativity, however, if they have had to or if the surroundings encourage them to do so and value it. Assess creativity in the form the students should apply.

Encourage the possibility to think and create in the education system and give students the desire and ability to be inquisitive, persistent, imaginative, collaborative and disciplined. And make it easy to see and acknowledge it by teachers, peers and individuals. Make sure it is widely accepted and deemed highly valuable to think wild thoughts and get unfeasible ideas. Give students access to creative people they can imitate, the possibility to think in a divergent manner and encourage and value creativity.

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Should we rock higher educational institutions rather than entrepreneurship education?

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ABSTRACT
In 2007 Kevin Hindle raised the question “Is entrepreneurship education the right stuff in the wrong building?” (Hindle, 2007), abolishing the Business School’s monopoly on the subject and raising the question of where should entrepreneurship be taught. With a border definition of entrepreneurship Handscombe, Rodrigues-Falcon and Patterson argued that enterprise should be embedded in the STEM educations (Handscombe, Rodrigues-Falcon, & Patterson, 2008) thereby be spread to all the buildings in the Universities. In recent years the what and how of effective entrepreneurship education have been vividly discussed also putting the purpose of entrepreneurship education up for heated debate. It seems much emphasis is put on fitting the purpose and deployment entrepreneurship education to the frames of higher education never questioning the frames given by these. Going back to the building metaphor I hereby raise the question:

Is it time to renovate the buildings of higher educational institutes to better fit the purpose of Entrepreneurship Education rather than vice versa?

The following paper investigate two thesis:
1. There is an embedded disharmony between the process and frames of contemporary entrepreneurship education at higher educational institutes’
2. There is value in the frame challenging entrepreneurship education’, through a brief theoretical review and the preliminary results of data analysis from a longitudinal single case study.

The findings of this paper, accept both thesis, further raising the question whether the existing framework for teaching and evaluation, focusing on measuring the student’s cognitive learning, evaluated up against general formulated learning objectives and fit into a strictly defined time frame, is adequate in terms of fulfilling the requirements of higher education after the “second academic revolution” (Etzkowitz, 2003)? Revealing despite a decade of theorising about what entrepreneurship is and how it can be taught, there is still a disharmony between highly individual and context dependent entrepreneurship process and mentality that educational institutes are now imposed to foster and the paralyzing academic traditions on which these are founded.

The findings of this paper advocate a political involvement of educators to change the frames given by higher educational institutes to better fit entrepreneurship education.

INTRODUCTION
Entrepreneurship education is on the political agenda in an increasing number of countries around the globe. Global changes in the economy have sent the old industrialised countries on a quest to ensure favourable positions for themselves in the global economy, which provides the foundation of the prosperous living conditions for their inhabitants. Close to the limit of optimisation and with a decrease in competitiveness they are at their wits’ end rendering entrepreneurship, i.e. innovation, as the one possible solution to the crisis at hand.

In order to foster and support entrepreneurship a variety of political measures has been initiated. In Denmark these measures have had considerable impact on the education sector. As part of its 2011 political programme, the
Government decided that the level of education in Denmark needed to be raised to create a highly educated, competitive knowledge society (Government, 2011). As an adjunct to the discussion about the purpose of higher education, the Government declared that the degree programmes should promote entrepreneurship and innovative skills in the students (science, 2013), leaving higher educational institutions with a central role in the fostering of entrepreneurs and derived of this creating a considerable need for knowledge regarding the What, Where, When, How and Who of effective entrepreneurship education.

In 2007, Kevin Hindle raised the question “Is entrepreneurship education the right stuff in the wrong building?” (Hindle, 2007), abolishing the Business School’s monopoly on the subject and raising the question of where should entrepreneurship be taught. With a broader definition of entrepreneurship, Handscombe, Rodrigues-Falcon and Patterson argued that enterprise should be embedded in the STEM (Science, technology, engineering and mathematics) educations (Handscombe, Rodriguez-Falcon, & Patterson, 2008) taught by current faculty and thereby be spread to all the buildings in the universities in order to be most effective.

In recent years the what and how of effective entrepreneurship education have been vividly discussed, also leaving the purpose of entrepreneurship education up for debate, and the answers seems to be very context dependent. It seems as if considerable emphasis is placed on fitting the purpose and deployment of entrepreneurship education into the frames of higher education never questioning the frames given by these. This gives rise to the question: Are the frames set by the higher educational institutions appropriate for effective entrepreneurship education?

This inevitably gives rise to the additional questions of: What frames are set by higher educational institutions? And what is effective entrepreneurship education?

To be more specific, because the frames of higher educational institutions are wide and the activities many, the focus of this paper will be on curricular activities.

This paper aims to exemplify some of the disharmonies that arise when the responsibility for fostering entrepreneurs is put in the hands of the education system. This does not intended to advocate in favour of placing the responsibility elsewhere, it is merely a wish to give lecturers and decision makers food for thought when arguing that it is time to stop trying to make entrepreneurship education fit into the frames of higher educational institutions while instead it should be the other way round.

**Entrepreneurship and Entrepreneurship Education in Theory**

The definition of what entrepreneurship is still being debated. It has been defined as the founding and running of a new business venture, a mind-set, a personality trait and a process. This paper does not strive to offer the final definition, it understand entrepreneurship as behaviour related to opportunities (Dobbe, 2014). More specifically identifying or creating opportunities and acting on thereby creating value for others. With the definition of entrepreneurship as behaviour it becomes interesting to look at the determinants of behaviour, i.e. entrepreneurial behaviour, in order to foster and support entrepreneurship.

Bandura states that a person’s self-efficacy, the extent to which a person believes in his/her own ability to complete a task and reach a goal, is the key determinant for behaviour (Bandura, Self-efficacy: toward a unifying theory of behavioral change, 1977).

Not contradicting Bandura but broadening the perspective, Theo Poiesz argues that there are tree behavioural determinants; motivation (M), capacity (C) and opportunity (O) (Poiesz, 2014). The combination of the three will determine the likelihood of a given behaviour (F(x) for Behaviour X),
Motivation (M) is the extent to which a person is attracted to the outcome of Behaviour X. M is a summary term, in theory there are more motivation related concepts influencing M. Capacity (C) is the extent to which a person has the personal qualities, competences, characteristics and means to engage in Behaviour X. From an educational perspective this is highly influenced by the solidity of the basic training in the educational program. Opportunity (O) is the extent to which external conditions facilitate or hamper the engagement of Behaviour X, advocating the importance of curricular activities providing the students with opportunities to behave entrepreneurially.

The determinants are equally important and conceptually independent. As is illustrated in Figure 1, the determinants are represented on the three axes, each can be viewed as a continuum ranging from completely absent (0) to completely present (1). Multiplication of the three scores indicate the likelihood of the occurrence of Behaviour X ($F(x) = M \times C \times O$). In the diagram below the surface of the triangle represents the likelihood of Behaviour X occurring (the larger the surface, the higher the likelihood).

According to Shane and Venkataraman (Shane & Venkataraman, 2000) opportunities are individual dependent. Indisputably the same applies to capacity and motivation, i.e. self-efficacy, making the determinants of behaviour and therefore the determinants of entrepreneurship highly individual dependent.

Since the responsibility of fostering entrepreneurship is given to higher educational institutions, the next question to be raised is what is effective entrepreneurship education? In his article from 2007 Kevin Hindle raises and discusses a number of key questions in relation to entrepreneurship education (Hindle, 2007).

- Where should entrepreneurship be taught?
- What should be taught?
- When should students be taught entrepreneurship?
- Who should teach entrepreneurship?
- How should entrepreneurship be taught?

In his article, Hindle downplays the importance of where entrepreneurship is taught and concludes that before focusing on what is taught and when it is taught in the degree programme, it is important to focus on who can/should teach entrepreneurship and how it must/should to be done. Heinonen and Hytti (Heinonen & Hytti, 2010) allege that in order to meet the challenge which the second academic revolution (Etzkowitz, 2003) presents, universities have to focus on further development of pedagogy, how, and the curriculum, what. In terms of how entrepreneurship must/should be taught, Poul Hannon divides entrepreneurship teaching into three categories: teaching about, for and through entrepreneurship (Hannon P., 2005). In addition, Hannon argues that in relation to entrepreneurship teaching, ‘the right way’ is largely context-dependent (Hannon P.D., 2006). The conclusion of Moberg’s research (Moberg, 2014) is that the
most effective entrepreneurship education, measured by behavioural intent, is educating students through entrepreneurship.

Robert Handscombe et al. argue that to be most effective, entrepreneurship teaching must be integrated into the established degree programmes and subjects, where, and be taught by teachers at the faculty, who, and not just exist as an individual unit in its own right (Handscombe, Rodríguez-Falcon, & Patterson, 2008). The question of when is partly answered by the recommendation of Handscombe et al. to integrate entrepreneurship teaching in the existing subjects at the faculties, meaning that when is throughout the entire degree programme. However, for the direct entrepreneurship education which falls under Poul Hannon’s through category (Hannon P., 2005), experience from the ‘d-school’ (University, 2014) shows that it should take place once the students have solid knowledge of their core subject (Nedergaard, 2008), i.e. at a time when the knowledge of the core subject can be applied and has become part of the student’s ‘Bird in Hand’ (Sarasvathy S. D., The Bird in hand principle: Who am I, What do I know, Who do I know, 2008). Relating to the Triade model the students capabilities are increased. Furthermore, Sarasvathy argues that entrepreneurship is a mean driven process (Sarasvathy S. D., What makes entrepreneurs entrepreneurial?, 2001), arguably advocating that the higher the level of relevant capabilities present, the more opportunities one person will have and the higher the success rate is likely to be.

Given the range of definitions of entrepreneurship and the context dependency of it, there is probably not a single right answer to the questions Hindle poses and it is not the aim of this paper to find one. However, the intention of this paper is to challenge the prioritisation of the questions. Given the definition of entrepreneurship as behaviour it is very important Where it is taught, not in terms of what building or faculty but in terms how the location influences the given frames for entrepreneurship education, since the frames potentially limits the ability to cultivate the behavioural determinants, motivation, capacity and opportunity, and there by the fostering of entrepreneurship. Frames will always be limiting but they can also provide room for unfolding. In the following the fit between the frames given by higher educational institutions and context specific effective entrepreneurship education is examined.

**Methodology**

To answer the research questions “Are the frames set by the higher educational institutions fit for effective entrepreneurship education?” the research question is broken down into two sub-questions in order to examine the fit between the two:

1. What frames are set by higher educational institutions?
2. What is effective entrepreneurship education?

Both sub-questions are highly context dependent, the latter arguably more than the first. This paper aims to give a generic description of the frames set by higher educational institutions for curricular activities by conducting a study of secondary data in the form of public documents, i.e. academic regulations and curricula.

In the quest to answer the second sub-question, a longitudinal single case study combined with a literature review was conducted. For the case study, data from episodic interviews, lecturer observations and questionnaire is collected and analysed focusing on finding out what education methods (divided into teaching about, for or through entrepreneurship) have a positive effect on the behavioural determinants for entrepreneurial behaviour. Once these elements have been identified it is possible to examine and exemplify a context specific fit between the frames and the process of effective entrepreneurship education at higher educational institutions or lack thereof, enabling lecturers and decision makers to put the conclusion of this paper into perspective and qualify the findings based on the circumstances under which they operate.
The case studied is the 5 ECTS course “Entrepreneurship from innovation to realization” (EIR) that was developed and taught as a summer school elective for full-degree and exchange bachelor degree students with either a business or engineering background. Currently the course has been part of the semester programme under the name Entrepreneurship (ENTx1) and is also offered as an elective to the same target group.

The course is based on the ME2 model (Me2 - Model for Entrepreneurial Education, 2013), in which the entrepreneurial process is broken down into four stages; understanding means, disclosing disharmonies, qualifying opportunities and realizing the value. Educating through entrepreneurship is emphasized, but education about and for entrepreneurship is not excluded. The primary aim of the course is to increase the likelihood of students to exhibit entrepreneurial behaviour in the future.

A strong source of inspiration for the didactic methodologies applied in the course and the activities in the course is the “push method”. This model seeks to apply the seven enterprise-didactic strategies (change of habits, role models, reward for action, courage to fail, mean driven, self-awareness and reflection, experiences of success) to train the students to achieve transformation from thoughts to action (Kirketerp A. L., Foretagsomhedspædagogik og SKUB-metoden, 2012) by developing and strengthening the students’ self-efficacy (Bandura, Self-efficacy: toward a unifying theory of behavioral change, 1977).

RESULTS
Before discussing if the frames set by the higher educational institutions are fit for effective entrepreneurship education, a generic version of the frames is presented.

The ratification of the Bologna declaration in 1999 started the Bologna process (EHEA, 1999). One of the aims of this process was: “The development of easy-to-read and comparable degree programmes and certificates” (Ministry of research, 2013). One of the cornerstones of the Bologna process is the European credit transfer and accumulation system (ECTS). It is the workload the students need to accomplish in order to achieve the expected learning outcome. One academic year equals 60 ECTS and each course in the curriculum must be assigned ECTS points (Commission, 2014).

In practice this means that all curricular activities must be limited in time, based on predefined learning objectives and end with an evaluation of the observed learning outcome, making education goal driven and focused on minimizing errors. Figure 2 sums up the frames for curricular activities at higher educational institutions.

To aid in the formulation of learning objectives and grading, the SOLO taxonomy (Biggs) is used to describe the complexity level of a student's understanding of a subject.

During a semester multiple courses most often run simultaneously, which means that students are expected to focus on a number of subjects at the same time thus prolonging the period of time the subjects are studied.

When looking at the framing of educations from a practical perspective we can identify a number of interesting factors influencing the learning environment; the maximum amount of students accepted for a given course, the physical environment (i.e. size of room, arrangement of chairs and tables, ventilation, heat, light and available equipment), time of day the lessons are scheduled, how the lessons are bundled or unbundled and admission requirements will affect what
activities can be performed. This is one of the themes in Ira Shor’s book from 1996 (Shor, 1996), where he describes how the physical environment is a contributing or prohibiting factor in relation to student involvement, dialogue, classroom activities, relation formation and ultimately impacting on the student’s motivation. All factors that all influence the learning process.

Although intangible, culture is part of the educational framework at on the organizational level. It can be more or less formalised but the expected availability of the lecturers to the students and the expected prioritization of the lecturer’s time will affect the education. Power distance between the lectures and the students will affect the tone and interaction between the two parties, again becoming frame setting for what activities are accepted in an educational setting. Today, many educational institutions are international, and the mix of nationalities and cultures creates a heterogenic student body which gives opportunity to expand horizons and exploit synergies. It can also, however, be a hotbed for misinterpretation of communication and misunderstandings, thereby challenging the educational environment.

With the frames of curricular activities generically described, the next question raised is “What is effective entrepreneurship education?” If the purpose of entrepreneurship education is to increase the likelihood of students displaying entrepreneurial behaviour in the future, then according to theory effective entrepreneurship education needs to ensure the presence of the three behavioural determinants, motivation, capabilities and opportunity, and therefore be individual accommodating. Further advocating that point is the definition of entrepreneurship as being means driven rather than goal driven (Sarasvathy S. D., What makes entrepreneurs entrepreneurial?, 2001). This means that effective entrepreneurship education needs to be flexible enough to accommodate various paths (means driven processes) that might very well deviate from each other, leading to imagined goals.

Self-efficacy (defined by Bandura as one’s belief in one’s ability to succeed in specific situations) is often linked with the likelihood of people behaving entrepreneurially. In his thesis Kåre Moberg identifies a number of factors regarding entrepreneurship education that affects the student’s entrepreneurial self-efficacy (ESE). According to Moberg an entrepreneurship course needs to educate students Through entrepreneurship, be individual centred, give the students a sense of ownership and allow for self-directed learning in order to have a positive effect on the students ESE (Moberg, 2014).

This is further supported by the case study conducted. Table 1 presents the result of the data analysis. Student statements from brief interviews and interviewers are classified according to teaching method (About, For or Through), the statements related to and what effect it has had on the behavioural determinants for entrepreneurial behaviour (Motivation, Capability, Opportunity and Entrepreneurial Self-efficacy). The total number of students interviewed is 33(12 in 2013 and 21 in 2014) and the data is collected from two courses held a year apart.

Table 1: Number of statements that testifies to the connection between learning methods (about, for through) and effect on behavioural determinants (categorised by Motivation, Capabilities, Opportunity and Entrepreneurial Self-efficacy)

<table>
<thead>
<tr>
<th>Method/Effect</th>
<th>Motivation</th>
<th>Capabilities</th>
<th>Opportunity</th>
<th>ESE</th>
</tr>
</thead>
<tbody>
<tr>
<td>About</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For</td>
<td>2013: R(R) 6 (NS: 12)</td>
<td>2014: R2(N6)</td>
<td>Total: R(14)(NS: 14)</td>
<td></td>
</tr>
</tbody>
</table>

*UR/R(NS): R=Number of respondents, UR=(unknown respondents), NS=number of statements falling in the same category
Source: own contribution
There was found no indication supporting that teaching about entrepreneurship had an effect on any of the behavioural determinants. Lecturing about entrepreneurship primarily provided the students with skills that influenced their capabilities and positively influenced the students' ESE, but it did not seem to affect neither motivation nor opportunity. In contrast teaching through entrepreneurship seemed to have a positive influence on all of the behavioural determinants. Although only two students stated that they saw the course as an opportunity to work with their projects (the two students had start-ups before entering the course). One could argue that lecturing students through entrepreneurship gives them the opportunity to behave entrepreneurially, and a survey sent to the student body at VIA University College Horsens showed that 83 out of 180 respondents who wanted to start their own business or NGO saw lack of time or the need for more time to work on their idea as a barrier, and this prevented them from acting entrepreneurially. So assigning time in the form of ECTS credits thereby allowing them to act entrepreneurially would provide the students with the opportunity to do so.

What is really interesting about the study is the difference in answers between the two years. The statements about the student’s motivation and ESE were radically higher the first year than the second year, which gives rise to the intriguing question “why?”. The greatest differences between the two years was the number of students in the class (it was tripled the second year), the physical environment, the first year the students were seated at round tables with a lot of free space, and in the second year they were crammed into a small room and seated in rows. After school social interaction was much higher in the first year and then the time span of the course. The first year the course was a short intensive course where the students only followed that one course, and the second year the course was spread over one semester accounting for 5 out of 30 ECTS points. This indicates that an increase in the number of students in the class, poor physical learning environment, lack of social interaction with fellow students and the need to divide their attention across multiple subjects have a negative effect on the student’s motivation and ESE.

**IMPLICATIONS**

Based on the analysis of the student statements it is concluded that educating students through entrepreneurship is an effective way of influencing the behavioural determinants. There are, however, a number of challenges when education is conducted through entrepreneurship within the framework of higher educational institutions. Both the physical and the social environments of a class influence the outcome of the teaching. Furthermore it was relative simple to formulate the learning objectives and the evaluation methods regarding teaching about and for entrepreneurship. With reference to a theoretical framework the students are evaluated based on written assignments, using the unistructural, multistructural and rational level of the SOLO taxonomy to formulate general learning objectives, e.g. gain the skill to make a budget. However, when it comes to formulating general learning objectives for education through entrepreneurship disharmony becomes evident – how is it possible to set up common goals for a process that by nature is highly individual (Kirketerp A. L., Fortagsomhed som element i undervisningen kræver nye læringsmål og eksamens former, 2010), context dependent (Hannon P. D., 2006) and mean-driven (Sarasvathy S. D., What makes entrepreneurs entrepreneurial?, 2001)? At the extended abstract level of the SOLO taxonomy knowledge is generalized to a new domain, including the process of creation, but how is it possible in an ethically responsible manner to set general learning objectives for a creative process? As further evidence of the disharmony there is currently a debate regarding evaluation forms relating to entrepreneurship education which is the topic of entrepreneurship workshops and conferences, e.g. the “Workshop on exam and evaluation methods of innovative processes at VIA University College” (Kirketerp A.). Not only the identification of general learning objectives and finding a suitable evaluation form appears to be an issue, given the individuality of the entrepreneurship process it is also a
challenge to predict and adapt lessons to meet the needs of
every student in the group. This is very time consuming and
requires that a relationship is formed between the lecturer and
every single student. Depending on the resources assigned to
one course and the culture of the educational institution this
may or may not be a possibility. Another challenge is to fit the
individual processes into a predetermined time frame. None of
the students in the case studied reached the final fourth phase
of the ME2 mode, i.e. realising the value, other than a prototype
stage, and the maturity of the projects varied significantly
depending on the complexity of the solutions. Furthermore,
finding appropriate physical facilities proved difficult, because
most rooms at the educational facility were created with the
purpose of mass communication rather than group processes.

CONCLUSION
In the introduction, this paper raised the question “Are the
frames set by the higher educational institutions appropriate
for effective entrepreneurship education?”. Throughout the
paper it has become evident that there are a number of factors
that seem to work counter productively in the framing of
curricular activities at higher educational institutions when it
comes to supporting effective entrepreneurship education.

Listed in a random order:

- It is difficult to accommodate the individuality of the
  entrepreneurial process because time is scarce and the
classes hold large numbers of students which results in
  standardized teaching.

- It is difficult to limit the time of an entrepreneurial process
  as it is required of all curricular activities.

- It is a challenge to set up generic learning objectives and as
  a result of this it is difficult to evaluate the students’
  learning outcome, which is a requirement.

- It can be difficult to have a physical environment and
  create a social environment that support means driven
  group processes rather than goal driven lectures.

By no means is this a plea to have higher educational
institutions freed of the responsibility of fostering
entrepreneurial candidates. On the contrary, this is a call for all
educators to unite and not view the frames given as
unchangeable. Ask yourself and your colleagues:

“Should we rock higher educational institutions rather than
entrepreneurship education?”

The frames should fit the purpose NOT vice versa!

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How can the gap between educations and student incubators be bridged at higher educational institutes?

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ABSTRACT
Student incubators in various shapes and forms are found at many higher educational institutes, they are becoming an increasingly important part of solving the challenges of educating entrepreneurial graduates that has arisen in the wake of the second academic revolution.

It comes natural for a minority of students to see them self as entrepreneurs and act as such, at some educations and educational institutes entrepreneurship is a part of the DNA and student incubators is considered a privilege for carefully selected students. But at other educations, i.e professional bachelor degrees like nursing, teaching and other non-business educations, students enroll in the education with an image of becoming employees, problems are given and the sensitivity towards spotting opportunities are not naturally cultivated. At these educations and for these students there is a large gap between their education and the opportunity of becoming an entrepreneur or intrapreneur (a person who spots opportunities in existing organisations and act on them resulting in value creation), manifesting itself in a lack of applicants for the student incubators. Does this mean that there is no need for student incubators at these institutions? Arguably not, it is merely a symptom of the fact that for some students the path to developing an entrepreneurial mindset is longer and the gap are wider advocating the need of building bridges between the educations and the student incubators.

With this contribution we wish to exemplify to educators and decision makers involved in student incubators, how students, also from non-business background, can be introduced to entrepreneurship enabling them to spot their own entrepreneurial opportunities and as an extension of this clarify to the students the purpose and relevance of the student incubators increasing the likelihood of students joining them and getting support in acting on their entrepreneurial opportunities.

INTRODUCTION
Student incubators in various shapes and forms are found at many higher educational institutes, they are becoming an increasingly important part of solving the challenges of educating entrepreneurial graduates that has arisen in the wake of the second academic revolution (Etzkowitz, 2003).

It is in the DNA of some educational institutes like Babson and in some educational programs like the business degrees to work with entrepreneurship. But it comes natural for a minority of the total student body to see them self as entrepreneurs and act as such. At some educations and educational institutes entrepreneurship is student incubators is considered a privilege for carefully selected students, though reality is that for most other educations, students enrol in the education with an image of becoming employees. This foster a mind-set where problems are given and the sensitivity towards spotting opportunities are not naturally cultivated. At these educations and for these students there is a large gap between their education and the opportunity of becoming an entrepreneur or intrapreneur (a person who spots opportunities in existing organisations and act on them resulting in value creation), manifesting itself in a lack of applicants for the student incubators. Does this mean that there is no need for student incubators at these institutions? Arguably not, it is merely a symptom of the fact that for some students the path to developing an entrepreneurial mind-set is longer and the gap are wider advocating the need of building bridges between the educations and the student incubators.
With this contribution we wish to exemplify to educators and decision makers involved in student incubators, how students, also from non-business background, can be introduced to entrepreneurship enabling them to spot their own entrepreneurial opportunities and as an extension of this clarify to the students the purpose and relevance of the student incubators increasing the likelihood of students joining them and getting support in acting on their entrepreneurial opportunities.

**LEADING BY EXAMPLE**

In theory one of the factors hinder people from acting, i.e. acting entrepreneurially, is lack of self-efficacy (Bandura, 1977). Broadening the perspective The Progression Model, a model of entrepreneurship education, identifies 4 dimensions of entrepreneurship education.

**ACTION**

Action is understood as a pupil’s or student’s ability and desire to implement value creating initiatives, as well as the ability to realise these initiatives through cooperation, networking and partnerships.

**CREATIVITY**

Creativity is understood as the ability to discover and create ideas and opportunities. It is also the ability to combine knowledge, experience and personal resources from different areas in new ways. Creativity is also the ability to create and revise personal perceptions, to experiment and improvise in order to solve problems and meet challenges.

**ENVIRONMENT**

Understanding the environment is perceived as knowledge about and understanding of the world, locally as well as globally. Likewise it is the ability to analyse a context socially, culturally and economically as a setting for value-creating actions and activities. Understanding the environment is also an understanding of global issues and problems, such as for instance sustainability, environmental issues and resources.

**ATTITUDE**

Attitude is the personal and subjective resources with which students meet challenges and tasks. It is the faith in one’s own ability to act in the world and thus to realise dreams and plans. Personal attitude is based on the ability to work consistently and overcome ambiguity, uncertainty and complexity. It is also the ability to accept and learn from others’ and own failures.

According to the report the ambition should be that all students acquire innovative and entrepreneurial competences, not necessarily the same skills since subjects, professions and study programs have different aims (Rasmussen & Nybye, 2013).

In our experience preparing the students for acting entrepreneurially has a positive effect on their motivation and capabilities to do so and derived from this a latent need for incubators surfaces. By creating an extracurricular workshop programme dedicated to idea generation and idea qualification the number of students working on a start-up project has increased and also the number of applicants for the student incubators.

The workshop programme, Idea Agent, we wish to present in the following paper was developed for all VIA University College student incubators, each of the 7 VIA UC campuses has a student incubator, by Erik Løvgren Brejner and Anne Kirketerp in corporation with the coordinators from the incubators. In the implementation process there has been minor modifications done to the workshop programme to fit the specific need or opportunities at the different campuses but the essence is the same. Idea agent comprises of 5 workshops designed to facilitate entrepreneurial idea generation and idea qualification, thus developing the students motivation, skills and competences to work in entrepreneurial processes.
The five workshops are described in the following.

**The Workshops**

1. **Who am I?**

   Inspired by the notion that entrepreneurship is a mean driven process (Sarasvathy S. D., 2001), i.e. the bird in hand principle, the first workshop is designed to give the students personal insight in relation to their preferred behaviour. For successful generation and qualification of an idea it is essential that the students see the strengths and limitations in their personality traits, enabling them to find complimenting team members and understand the foundation of the group dynamics.

   To support the development of personal insight the E-estimate team-profiles is used as a process tool. It is based on the theories of evolutionary psychology and founded on believe that we are driven by 4 genetically determined characteristics:
   - We strive for achievements
   - We build relations
   - We strive to make sense
   - We which to control a situation and defend ourselves and the ones close to us

   "It is these fundamental characteristics that together with our ability to make conscious and unconscious decisions and choices that determine our actions" (e-estimate).

   By colour coding the four characteristics e-estimate provides an intuitive dialog tool, enabling students to gain insight in relation to their own preferred behaviour and the consequences of these in a team context.

   As preparation for the first workshop the students fill out a personality test that is analysed by a certified lecturer who is in charge of the first workshop. During the workshop a number of exercises are done with the purpose of making the participants preferred behaviour explicit.

   **Core focus dimension according to the progression model: Attitude**

2. **What do I want (to do)?**

   For many students visualization is a helpful tool to make an idea or opportunity explicit. The human brain is designed to perceive images (Davidson & Hugdahl, 2004). Images create associations to the design of the product or service, mood, value and emotions (Sibbet, 2010). In the third workshop a visualization methods is introduced and used.

   Dream boards provide an opportunity for the students to sketch and/or use existing images to create a collage. The dream board visualizes an idea from a centre, a background and a foreground, through the use of images a vision of the realization is created. The collage is used to facilitate a cognitive process, with the aim to illustrate how the reality will look like for the designer or user of the product or service (Chapman, 2002). Graphic visualization or recording is used for multiple purposes. It is a challenge in itself for the participants to illustrate their ideas. It is not uncommon that our ability to draw deteriorates in the early teens due to lack of practice. With simple techniques of graphical visualization everyone can learn to create drawings that enable the viewer to interpret the drawings intentions. Furthermore the participants are challenged in the design process because they need to reflect on the idea, what it contains and how this can be presented so the viewer will perceive the essence of the idea (Agerbeck, 2012). For this purpose different scaffolds or templates are used enabling the student to focus on the most important aspect, the idea itself and the thoughts behind it.

   (http://www.toolsforschools.dk/, http://www.processink.dk/)
The second workshop also provides the participants with the opportunity to learn about networking and social Medias. Our approach to social media is to create, maintain and use a network that has value for the idea. It is not about technology nor focused on number of likes, but rather on how to get the right followers on the social networks. How to get the followers, readers, contacts who can support the progression of realizing the idea. Focusing on the conditions of the communication on social media and what difficulties and opportunities are associated with these. In other words the students work on how they best circumvents the difficulties and exploit the opportunities of social media, given their idea. The participants are challenged to figure out if the core message of their idea is best communicated through photo, audio or video? Do they want mainly to test, sell or crowd fund their idea through social media? Where are their personal strengths in relation to communications and what media is the best match for them personally? Social media allows us to communicate with people around the world. It is at once frightening and opens up endless possibilities. It means that if the students work smart with networking and social media they can find both potential investors, sparring partners and customers.

Core focus dimension according to the progression model: Creativity, Action and Environment

3. QUALIFYING MY IDEA
Inspired by the lean start-up approach (Ries, 2011)and Scharmer’s Theory U (Scharmer, 2009), the third workshop is focused on qualifying the students ideas through early prototyping. The purpose is to get the participants to engage in a build-measure-learn process, with multiple learning goals. Firstly the students are challenged to become concrete when they have to materialize their ideas in a physical object or process description. This is a learning process where new opportunities and hidden challenges demanding attention and decision making are unveiled. Furthermore students take pride in and get a sense of satisfaction after actually having created a tangible object or illustrated a process description. In conclusion during the workshop the participants learn how to use the prototype when they engage in a dialog with potential stakeholders with the purpose of getting feedback on their idea. Early prototyping becomes a method of qualifying the ideas by becoming concrete and enabled to collect feedback for further learning and development.

Core focus dimension according to the progression model: Creativity and Action

4. MY BUSINESS MODEL
The purpose of the fourth workshop is to facilitate the development and qualification from an idea to a business model. This is achieved by providing the students with a conceptualization tool, Alexander Osterwalder’s business model canvas (Osterwalder & Pigneur, 2001), that challenges the students not to only focus on the features of their solution but broaden the perspective and think of target segments, value creation, marketing, customer relations, organization, partners and economic aspects of their projects.

Figure 1: The Business model Canvas
Once the initial business model is created the workshop is used to identify areas where there is a need for more knowledge and critical assumptions that needs to be tested before continuing. This way the participants learn to use the canvas model as a process tool where they identify their next best step and there by divide their entrepreneurial process into small steps they can priorities and take with full control, thus minimizing risk by avoiding all-or-nothing opportunities, this is also inspired by Sarasvathy’s effectuation principles (Sarasvathy S. D., 2008).

Core focus dimension according to the progression model: Environment and Action

5. Presentation of My Idea

An idea will never be realized if you are unable to get buy-in from your stakeholders. For this reason the final workshop is about pitching. The participants are introduced the NABC model and encouraged to structure their pitch based on it.

Figure 2: The NABC-model

In order to get buy-in the pitch must be credible, convey drive and passion in. But how can this be achieved? The content represents only 7% of what the receiver of a message perceives. The nonverbal communication covers 55% and the intonative 37% (Mehrabian, 1967), leading to the conclusion that form does matter.

Turning to the world of theatre, the students are encouraged to consider the following factors in their performance:

- How do we enter the stage?
- What is our position in the room/space/environment?
- How can we use the room/space/environment to our advantage?
- How do we create symmetry in the room/space/environment?
- Movement, gestures and facial expressions
- Using the voice
- What supports me if I get nervous?
- Improvising and accept all offers.

Source: (Chubbuck, 2005) (Sørensen, 2002)

When the students are prepared in relation to form and content they are asked to pitch in front of a feedback panel. The panel is typically formed by investors, experienced entrepreneurs, representatives from the local business council, politicians and sometimes the students are asked to invite their stakeholders. The Panel will provide constructive feedback and help identify the "next best step" in cooperation with the workshop facilitators. When the pitching is done the
performance are celebrated and awarded with a participation certificate.

After having completed Idea Agent we experience students who are more qualified to spot opportunities, act upon them and there by create value for others. Furthermore we experience students who become motivated to work on realizing their ideas and apply for membership in our student incubators for further process support and networking opportunities.

Core focus dimension according to the progression model: Attitude, Action and Environment

WHAT IS IN IT FOR US? – STUDENT TESTIMONIALS

The following testimonials were collected by Martabolette Stecher during her research about entrepreneurship in VIA University College published in the magazine, where knowledge inspires action, VIA ENTREPRENEURSHIP, 2014.

The motivation for entering Idea Agent varies from student to student; some like Renate joined the course to get the opportunity and encouragement to work on a dormant idea.

“I have had this idea for a couple of years and have not done anything about it. That’s why I participated in the Idea Agent.”
Quote: Renate Jensen, studying biomedical laboratory science

Other students enter the course because they would like to become entrepreneurs but in their own words they haven’t gotten the right idea yet. Finding the right idea becomes the goal and Idea Agent helps the students reach it, as Sanneraises it:

“I like challenges but I was not aware that the process I was exposed to could end up with a viable idea.”
Quote: Sanne Mathiassen, studying business administration.

But whatever the motivation for joining the workshops is one thing is clear, after completing Idea Agent they have been subject for personal development.

“I have used Idea agent to get to know myself- and to test out idea. In the process I have found my answers. I have sharpened my focus and I have discovered how we make progress with the idea”
Quote: Regitze Gjedde, studying fashion design.

And for some the development has inspired them to continue working on realizing their ideas and applying for membership of the student incubator, a place the prior to idea agent have not given much consideration of joining.

CONCLUSION

By providing students with an opportunity to gain personal insight learn about tools for idea generation, idea qualification and process management, and to develop competences to interact with stakeholders in a learning by doing process, we experience that our participants strengthen their entrepreneurial self-efficacy. One of the effects of the workshops is an increase in applicant numbers for the student incubators, providing evidence to the fact that strengthening the student’s entrepreneurial self-efficacy and providing them with an opportunity to find inner motivation for value creation, using extracurricular workshops as a mean, bridge the gap between educations and student incubators. With this paper we exemplify how practitioners of entrepreneurship education and facilitators of student incubators can bridge the gap and circumvent the hindering of students in exploring their full potential.

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Entrepreneurial Contexts and Engaged Students

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Pedagogical entrepreneurship, virtues, engagement, context, learning ability, talent development.

ABSTRACT
This paper discusses findings about the relationship, if any, between student teachers’ participation in entrepreneurial educational contexts and their development of classic virtues such as engagement. The overall question of essence is: why do entrepreneurial learning contexts influence classic virtues such as engagement?

For this purpose the phenomenon “entrepreneurship” is defined as a transaction among the individual and its contexts (Spinosa et al., 2007; Bager et al., 2011). Engagement is defined as a relational phenomenon shown as a person’s interaction in the world (Dewey 1916/2008), which is essential for people’s learning abilities and ambitions to keep leaving marks for collective visions (Fernandez-Aráoz, 2014). Engagement is therefore essential for student teachers whose purpose it is to become qualified to the lead the learning processes of children and thereby make them responsible citizens. The hypothesis is that participation in entrepreneurial educational contexts in teacher education will have a knock-on effect on the learning processes of the pupils in a school.

The article is divided into two parts: 1) a theoretical analysis of entrepreneurship education as a new pedagogical phenomenon in teacher education. The emphasis in the analysis will be on showing the link between the phenomena engagement and entrepreneurship and to introduce the concepts used for analysis of the empirical data; 2) an empirical analysis of student teachers’ experiences of the impact of engagement which is stimulated by participation in entrepreneurial contexts forming part of and as an add-on to their education. The analysis shows patterns between participation in entrepreneurial contexts and the engagement of student teachers and it will be followed up outlining implications for the teacher education programme.

MOTIVATION
Experience from my life as a lecturer and a researcher at the teacher education at VIA University College Aarhus and VIA entrepreneurship center shows that entrepreneurial contexts seem to encourage engagement in some students beyond the ordinary. The extraordinary engagement of these student teachers is evidenced by their initiative to search for and participate in various, extra-curricular entrepreneurial contexts and to develop and implement new inventions, which brings value to the school or school-related contexts. Their participation also seems to increase their drive to learn. These findings are interesting because the teacher education is challenged by high drop-out rates and lack of engagement and active participation – and because an essential purpose of the teacher education is to educate teachers who can stimulate the learning ability of children.

TOPICALITY
The research conducted contributes to show patterns between participation in entrepreneurial educational contexts and the engagement of student teachers. Engagement is a phenomenon which is underexposed in the research field of entrepreneurship education but it is an essential virtue for entrepreneurship (Spinosa et al., 1997).

Entrepreneurship education is associated with a vision of growth. Since 2013, the Danish educational system from preschool to Ph.D. has aimed to stimulate, evaluate and test the entrepreneurial competences of students (FIVU, 2012). This poses a new challenge for the pedagogical context of the teacher education and the school system. A central element of this challenge is that entrepreneurship education in the context of the teacher education is in its early infancy, and we
do not have any research results demonstrating the impact of entrepreneurship education in this field. However, we do know from general studies of entrepreneurship education in higher education contexts that it has an impact on motivation, participation, creativity and ambitions and it seems to reduce student drop-out rates (Lund et al., 2011; FFE-YE, 2013). Entrepreneurship education is therefore interesting as a method to increase student teachers’ engagement to learn.

The research also reflects the current change of direction within entrepreneurship education from business entrepreneurship, which primarily focuses on creating new business ventures, to a more recent trend within pedagogical entrepreneurship which focuses on an enterprising approach and behaviour and entrepreneurial contexts.

**Pedagogics, Business and Social Entrepreneurship**

Entrepreneurship education is a sort of practice in which the participants are trained to discover, create and realize new value adding opportunities (Sawyer, 2012). It has to produce added value to themselves and to others. The value may include value of a financial, social, cultural and human nature (FFE-YE, 2013). There are two main agendas within entrepreneurship education, both connected to the question of how to create more value/growth in society:

1. Pedagogical entrepreneurship (Lund et al., 2012) is about learning and is based on training an enterprising approach and behaviour in people. Growth is about raising human potential in order to develop personal and social competences to identify, create and act on new opportunities. (Gibb, 2002; Sarasvathy, 2003; Surlénot, 2007; Kirketerp, 2012; QAA, 2012). Inside this agenda two perspectives on opportunity creation can be identified. One which focuses on the capacity of individuals to act on and create new opportunities, where motivation is considered a key factor (Sarasvathy, 2003; Kirketerp, 2012). Another which focuses on opportunity-creation as an intense interaction between individuals and contexts (Hannan, 2006; Spinosa et al., 2007; Korsgaard et al., 2009) – in that light the phenomenon engagement is central.

2. Business entrepreneurship where growth is about creating small and medium enterprises. The students have to learn how to create new ventures (entrepreneurship) or how to create new ventures on the edge of existing ventures (intrapreneurship) (Schumpeter, 1934; Blenker et al., 2011). The methods of this direction will often train the students to have an intellectual, logical and rational approach to their surroundings or the general market.

An entrepreneurial approach and behaviour of humans is a condition for business entrepreneurship and it can be learnt and trained through entrepreneurship education (Blenker et al., 2011). Growth is a conceptual up-metaphor for the impact of entrepreneurship education and signals that something grows, raises and increases (Greve, 2011). The research conducted in this connection focuses on human growth, specifically raising the virtue engagement.

**Engagement**

Engagement is a relational and social phenomenon and is connected with a person’s active interaction with the surrounding world (Dewey 1916/2008; Lave & Wenger, 2004; Fernández-Aróz, 2014). From everyday practice it is my experience that engagement is confused with motivation. Motivation is an individual psychological phenomenon and describes why people act as they do. It is intrinsically and extrinsically driven (Ryan et al., 2002), and the phenomenon self-efficacy is often being highlighted as a key factor for entrepreneurship (Sarasvathy, 2003; Kirketerp, 2012). Motivation is a quality for entrepreneurship; my research demonstrates, however, that it is valuable to explore the phenomenon engagement which is a knack for connecting
with people and the world – and leaving marks inspired by collective goals and visions.

Engagement is a quality for entrepreneurship and it is shown by everyday practice where people use their potential to disclose something to the surroundings: “The life of skilful disclosing, conversely, is a life of intense engagement. The best way to explore disharmonies, in other words, is not by detached deliberation but by involved experimentation” (Spinoza et al., 1997).

The quote shows that engagement arises by an explorative practice of involvement and experimentation. Engagement takes place in specific contexts – and is based on the exploration of real needs and directed against creating innovation in society. In this perspective, the entrepreneurial task is not to create something radically new but transform existing knowledge, practices and concepts into new and better combinations. Therefore, entrepreneurship is a phenomenon which arises in dynamic social interaction between individual competences and potentials and contexts (Korsgaard et al., 2009). The process is connected to sensitivity and creativity. Creativity typically arises from necessity (Tanggaard et al., 2009) and from collaborative processes where accumulation and sampling of human competences take place (Tanggaard et al., 2012). Sensitivity arises in a disclosing process where people explore disharmonies and anomalies in a context (Spinoza et al., 1999).

According to the interim findings of the theoretical analysis, entrepreneurship and engagement constitute a social learning process where human potential and visions are released in collaboration with others. This statement resonates in pragmatic and social learning philosophies appreciating learning by doing situated in collaborative and co-creating communities (Dewey 1916/2006, Barab et al., 2002; Lave & Wenge, 2004). The following empirical analysis is founded on this philosophy and shares selected key elements in entrepreneurship education that student teachers talk about as being particular and significant to their engagement. The concept key element embraces the fact that all students on different ways point this out as being central to their engagement.

**RESEARCH METHOD**

The research involves a qualitative case study of six student teachers (Yin, 2003) and as such is a phenomenological study of everyday life (Brinkmann, 2012). This kind of research will never leave the world as it was – and it affects the world as it happens. I decided to make a note of this and used narrative co-creative group coaching as my method. It is a type of dialogue based on the coach’s approach to sensitivity, wondering and curiosity and a method to ask circular questions (Tomm, 1992) – and where knowledge is co-created in a collaborative process of dialogue among the participants (Stelter, 2011, Stelter 2012). The research method is at the same time a feed forward tool for the learning process of the participating student teachers. This reflects my philosophical resonance which is pragmatism and hermeneutics. I wanted the interactions to be useable to the students and to the contexts of the schools – while researching. I believe that it is a good track for research practice at the University Colleges in Denmark, which is in its early stages.

The strength of this qualitative research method is that it makes it possible to be close to the student teachers’ experiences and construction of meaning. The weakness is that it implies the researchers’ participation in the processes. This calls for the ethical imperative of the research to balance between empathic proximity and critical distance. A dilemma that is emphasized by the fact that implementation of the research implies a tension between two value-based ideals, research and innovation.

**EMPIRICAL RESEARCH CONTEXTS**

The selected student teachers were “traditional” students at the teacher education offered by VIA University College Aarhus. They demonstrated a level of engagement out of the
ordinary by repeatedly participating in extra-curricular entrepreneurial programmes at the VIA entrepreneurship center. The programmes were all based on a combination of clear framework and autonomy and designed from basic principles: entrepreneurship is acquired through entrepreneurship, real-life settings and co-creation while learning. Student teachers and school teachers have been collaborating and co-creating on REAL NEEDS for change in the specific contexts experienced by the participating teachers from school. In the co-creating processes the participants’ competences, ideas and visions were brought into play in their joint efforts to create new and useful inventions. The requirement was that the inventions should be realizable at actual schools.

The student teachers were asked about key factors for their engagement. In the transcription of the coaching dialogue I have been looking for condensations which say something about the recurring patterns that are important for their engagement. In the following sections I will share selected patterns and point out implications for future practices at the teacher education programme.

AMBITIONS
Generally, people learn about ambition as a phenomenon through educational culture and practice, it is linked to the individual’s inner measure of and motivation for satisfactory performance. In different ways the student teachers expressed the desire to free themselves from the majority culture as a key element of their engagement. They wanted something “more” than what is written in the curricula and expected from lecturers in “as is” reports, which simulate real life. They link this separation to the phenomenon ambition which is possible to display in entrepreneurial learning contexts:

“It was great to experience a training area where the Law of Jante does not exist – and it is very much like this in entrepreneurial learning contexts. The other students say that you cannot just ... But I will make room for me to move according to the possibilities that I see. It is as if culture says that if you are searching for more you are weird. You just have to do what the curriculum says. And you should never do more than what the teachers ask you to do. Exam culture is also such that it is about what professionally matters – not that you should be creative and acting.”

The quote shows that the entrepreneurial learning context was conceived as a training area which differs from the formal teacher education programme. This context gives the students an opportunity to raise self-efficacy, improve performance and exhibit ambition. “To do something with the competences I have” – it gives the impression that the student sees himself/herself as an individual with a potential which can come into play in entrepreneurial learning processes. I suppose that these experiences also contribute to how they do their teaching. In that light entrepreneurial learning contexts both differ from and contribute to the “traditional” contexts of teacher education. It led to the conclusion that the possibility to participate in entrepreneurial contexts as an “add on” to the formal teacher education has a positive impact on student teachers’ ambitions and performances because their learning process is not limited by the objectives laid down in the curriculum but instead formed by insights, competences and potentials within the group.

RESPONSIBILITY AND RELATIONSHIPS
The student teachers are driven by ambitions to do something new and really useful for others while learning. “The others” is not an abstract entity but very specific others whose life-world exists as a framework for the student teachers’ inventions. They talk about the opportunity to take individual

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1 Entrepreneurship education can be either about, through and for entrepreneurship (Hannon, 2006).
2 Typically, for the Nordic countries, a sociological term used to describe a condescending attitude towards individuality and success. A common Nordic notion that emphasis should be on the collective, while discouraging those who stand out as achievers.
responsibility in order to influence and act in their life-world as a key element of their engagement:

“It is in this type of courses you have the best chance of meeting the right people who are the kind of people who are needed — in the traditional educational framework, I’m frustrated that I do not get to be responsible for making things happen — I want to work with a major project and an actual project where you use your professionalism to carry it out.”

The comment also shows that their feelings of responsibility are closely connected to relationships and influence through their realization of the inventions. Engagement is stimulated by involvement and experimentation with real needs which pushes the student through the education with a feeling of being valuable. Relationships and responsibility for making things happen also make it possible for student teachers to form their own career paths and make them employable in the labour market in a much broader sense than the “traditional” teacher education does:

“I have been contacted by XX from the Science Museum — you know the ones we created a product for in our pedagogy course. They would like me to create a teaching programme that they can use. And they would also like to offer me a salary. I can see that I can come up with heavier tasks if I do something. And we create relationships.”

The quote shows that the entrepreneurial contexts open the student teachers’ minds enabling them to create new possibilities based on their insights and competences in learning related contexts other than the school. It shows that relationships strengthen their own career paths and employability. In other words, the student teachers express that as a key element of their engagement. It led to the conclusion that the abstract “as so rapports” where student teachers imagines life-world in school has to be supplemented or even replaced by projects/programmes where student teachers collaborate and co-create with professionals about real and current challenges in the school or other learning contexts.

BEING IN MOTION AND SPOTTING ONESELF
Exploring one’s own means and potentials is a key element of the engagement of the student teachers:

“I've been really motivated and engaged. I have come closer to what is important to me. What makes me tick. I think it's because I've been allowed to examine myself … If you can't see yourself and if you do not realize what you can do and how you can contribute, and if you can't see the need, then we will not have lived a full life. We may say that you have not lived a full life if you do not become aware of yourself.”

The quote shows that entrepreneurial contexts stimulate the student teachers’ subjectivity, passion and even quality of life. It is essential to understand that experiencing oneself is not without context. It is about seeing one’s own insight, competences and potential in relation to a concrete possibility, the desire to create and act in the world. Furthermore, it nourishes the feeling of being in motion, which the student teachers consider a key element of their engagement:

“I will definitely not stand still – I want to see the opportunities. With that attitude, you can do anything. It also gives me even more options. And I get a new spark. “… I will not notice whether it is my personal or my professional life, and these courses help me to be in motion. I am afraid to become restricted. This may well be a good thing also but it can also be a limiting thing.”

The quote shows that limits are barriers to student teachers’ engagement. In various ways they express that the “traditional” curriculum-based and goal-oriented contexts constitute a huge barrier to learning ambitions. The question is whether a barrier to an objective can lead to lack of motivation, participation and drop-out? Judging from the student teachers’ statements, it seems like it. In an attempt to increase
participation and reduce drop-out in the teacher education, the programme has just implemented a study activity model which is in effect structural planning of the activities of the students. From what the student teachers said, their engagement does not increase with additional system planning but with the possibility of being in motion and spotting oneself while learning, creating and realizing. It has implication for new approaches, methods and organizational settings in the teacher education.

CONCLUSION

Research has demonstrated that educational contexts raise the engagement of student teachers when they can choose to be involved in changing concrete practices in school or school related contexts. It led to the conclusion that student teachers are practitioners who like to be actively involved in creating history in practice, who like to leave marks on the world. The engagement is stimulated by working with the real needs of others – in collaboration with them. It means that the student teachers are not motivated by selfish goals but by collective goals of creating a better practice in school. This reflects a deep humility on the part of the student teachers which I suppose has a spill-over effect on the pupils they are to teach in school. The motivation for creating “a better world” is a condition for citizenship, but it has to be followed up by the social phenomenon engagement which is connected with a person’ interaction with the surrounding world. In my point of view engagement is crucial for being a good student or citizen – and recent research shows that engagement is a virtue possessed by talents (Fernandez-Aráoz, 2014), which is a set of functional relational relation distributed across person and contexts (Barab et al, 2002). It leads to the reflection that entrepreneurship education seems to stimulate talent.

In a period when the educational system in Denmark is experiencing difficulties with the motivation, participation and drop-out rates of student teachers it is interesting to note that entrepreneurship education helps create greater ambitions and responsibilities – and strengthen the feeling of being valuable while learning. The students even connect it with quality of life.

My research shows that entrepreneurship education is one way of raising student teachers’ engagement in their own learning process and in the surrounding world – and forming a human character who is exhibiting true engagement.

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Emancipatory pedagogy: The pedagogy of innovation and entrepreneurial education

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KEY WORDS
Innovation and entrepreneurial education, creativity, active participation, agency, emancipatory pedagogy, classification and framing.

ABSTRACT
The capacities for innovation and entrepreneurship are important in modern societies. The curricular subject Innovation and Entrepreneurial Education (IEE) has been developing in Iceland in the last 20 years. In compulsory school setting IEE is more commonly called Innovation Education and on upper-secondary level Entrepreneurial Education. On both school levels IEE has been effective in enhancing students’ innovative capacities and entrepreneurial spirit.

IEE is a curricular area that involves using creativity and knowledge to solve problems that learners identify themselves and analyse. It aims at developing critical and creative thinking in design, science, technology, marketing and enterprise. The main emphasis in IEE is enhancing creative skills and actualizing learner ideas with their active participation.

This paper builds on a three-year research project examining examples of IEE in schools in Iceland. The nature of the pedagogy of IEE is analyzed and presented. The research builds on qualitative case studies of IEE in three compulsory schools in Iceland. Observations of lessons, interviews with teachers, principals and learners were conducted and school curricula and other texts consulted. In addition interviews were taken with seven teachers from other schools. Data was gathered from 2006 to 2009. The research focused on the work of teachers within the schools and in this paper the pedagogy they applied in offering IEE is presented. Criteria developed from Bernstein’s (2000) concepts of classification and framing was applied revealing three modes of pedagogy when working with IEE: controlled, progressive and emancipatory. Teachers display different strengths of framing in IEE lessons with an inherent tendency towards strong framing. Emancipatory pedagogy was most in line with the ideology of IEE supporting student agency and creativity.

INTRODUCTION
At the beginning of the 21st century general education is expected to provide a broad range of knowledge and skills in Western societies. Modern education must prepare learners for living and learning in the present and in the unknown future. Education today is not just about preparing for a specific job or for further education, it is also about learning how to develop the capacity to create your own job and to influence one’s society. One response in education is entrepreneurship education or enterprise education which can support young people to be more entrepreneurial by enhancing their ability to turn ideas into action (European Commission 2007).

Entrepreneurial education, enterprise education, entrepreneurship education

In the literature and in policy documents entrepreneurial education is most commonly referred to as enterprise education or entrepreneurship education. In this article I use the concept innovation and entrepreneurial education (IEE) as covering enterprise and entrepreneurship education. Leffler (2012) identified two discourses about entrepreneurship: The entrepreneurial discourse relating mainly to business and the entrepreneurship discourse with a more broad perspective. She concludes that the enterprising discourse is more related to education, especially primary and lower secondary education, and is rather targeted at younger pupils while the entrepreneurial part is mainly intended for older students. In a similar vein in Iceland using the concept of innovation and entrepreneurial education for all school levels, a
distinction is made with different emphases related to school levels.

The European Commission (2013) recognizes entrepreneurship education as a tool to support young people to be entrepreneurial and to develop a set of competences applicable in all walks of life, not just business. These skills are also referred to as “a go-getter attitude” (Björk 2010) and ‘can do – will do’ attitude in young people (Learning and Teaching Scotland, 2009; The Scottish Government, 2007).

Innovation and entrepreneurial education

In Iceland the early foundation of IEE in schools lies in creative work focusing on innovation (Figure 1) (Jónsdóttir & Macdonald 2013). With time and as students get older the emphasis moves towards actualizing ideas, being enterprising and developing entrepreneurial skills and knowledge. The balance between creativity or innovation and enterprise alters with the age of the learner but both are present in varying degrees.

The curricular subject Innovation and Entrepreneurial Education (IEE) has been developing in Iceland in the last 20 years. IEE is an area of teaching and learning where students are supported to use their creativity and knowledge to solve problems that they identify themselves. It aims at developing critical and creative thinking in design, science, technology, marketing and enterprise. In compulsory school setting IEE is more commonly called Innovation Education and on upper-secondary level Entrepreneurial Education. IEE has been effective in enhancing students’ innovative capacities and entrepreneurial spirit (Jónsdóttir 2011).

For the last decades entrepreneurship education (EE) has been developing and gradually taking on a clearer presence although the area is still difficult to define precisely as it crosses boundaries of subjects and can either be a subject itself or an approach in teaching and learning (European Commission 2013). One important aspect of EE is to realize what kind of pedagogy is most supportive to achieve its goals. In this article I describe a research project analyzing pedagogies teachers in Iceland use in their work in innovation and entrepreneurial education (IEE).

METHODS

This paper builds on a three-year research project examining examples of IEE in schools in Iceland. The research builds on qualitative case studies of IEE in three compulsory schools, City School, in the capital area and two small rural schools. Observations of lessons, interviews with six teachers, principals and learners in the case schools were conducted and school curricula and other texts consulted. In addition interviews were taken with seven teachers from other schools. Data was gathered from 2006 to 2009 (more detail in Jónsdóttir 2011). The research focused on teachers’ work within the schools and in this paper the pedagogy they applied in IEE is presented.

Criteria developed from Bernstein’s (2000) concepts of classification and framing were applied to analyze modes of pedagogy of teachers working with IEE. Classification is used
to define the construction of a social space such as school subjects or by roles such as teachers vs. students (Bernstein 2000). Power is embedded within a classified category, which can be strongly or weakly classified. Framing refers to where control is located. The transmitter has explicit control with strong framing but with weak framing the acquirer has more apparent control (Bolton 2008). Strong framing indicates that control is located in a category which has power e.g. a teacher or a school subject and weak framing indicates control shared between categories e.g. by a teacher and a learner or among several subjects (Macdonald & Jóhannsdóttir 2006).

In order to locate the practice of individual teachers two sets of indicators were developed, one for each axis on a scale of C ++ (very strong classification) to C - - (very weak classification) and F ++ (very strong framing) to F - - (very weak framing) (Table 1). These criteria were used to locate each of the 13 teachers at points on each of the two dimensions (Figure 2).

Table 1: Criteria developed for assessing classification and framing values adopted by teachers in working with IEE

<table>
<thead>
<tr>
<th>Classification – strength of boundaries between learners and teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C + +</strong></td>
</tr>
<tr>
<td>Learners have very limited agency and are receivers. The teacher is the specialist and sets criteria of roles. The control in lessons is with the teacher.</td>
</tr>
<tr>
<td>Teacher controls most aspects of lessons and is the specialist. Learners have agency within certain well-defined areas.</td>
</tr>
<tr>
<td>Learners have agency in defined areas and are aspiring innovators. Learner and teacher communication is often on equal footing though the teacher has the power to decrease.</td>
</tr>
<tr>
<td>Learners have ample agency and are innovative i.e. creative and active. Learner and teacher roles are often interchanged, learners are experts and teachers learners.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Framing – nature of interaction between teacher and learners</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F + +</strong></td>
</tr>
<tr>
<td>Teacher takes/makes decisions in developing solutions.</td>
</tr>
<tr>
<td>Teacher suggests choices in development of ideas or influences learner choice.</td>
</tr>
<tr>
<td>Learner with teacher’s support develops his or her idea and learner makes final choices.</td>
</tr>
<tr>
<td>Learner controls the development of his or her ideas and teacher supports.</td>
</tr>
</tbody>
</table>

As the intended nature of IEE means learners are decision-makers and creators, it was important to analyse the dynamics of lessons. By using the criteria presented in Table 1, the practice of each of the 13 teachers was located according to one of the four values of classification and of framing.

**Findings**

To present the different pedagogies that were identified in the teachers’ work, I designed a 2-D model of the two factors: classification of roles in the classroom on one axis and framing of communication on the other (Figure 2). The horizontal axis ranges from strong classification of roles of teachers and learners – well-insulated categories where power lies with the teacher – to weaker boundaries and shared power. The vertical axis moves from strong framing of communication between teachers and learners, where teachers have strong control of the communication, to weak framing where teachers hand control to learners.

By mapping the two sets of indicators in Table 1 against each other within the 2-D model, four different pedagogies emerged: emancipatory, progressive, controlled and transmissive (Figure 2).
Mapping teacher characteristics according to the criteria into the ‘modes of IEE pedagogy’, qualitative differences in how the teachers worked with IEE emerged (Figure 2). A range of framing was found within IEE lessons of the 13 teachers but on the whole there was a trend towards weaker framing although stronger framing came more naturally to four teachers. The nature of roles of teachers and learners was roughly split in half with about half showing somewhat strong classification and half weaker.

With the model different pedagogies were identified and personal and professional inclinations emerged in the approaches of each teacher as a specific pedagogical mode. Although a key idea in the IEE curriculum and the main advice in teaching materials and IEE courses (Jónsdóttir 2011) is to be sensitive to the agency of the learner in developing ideas and the teacher should often “step back”, it could be seen that teachers exerted this in different ways, in different degrees and for different elements. Using Bernstein’s concepts of classification and framing four potential modes of pedagogy in IEE were analyzed from the data, three of them displayed by teachers in this research.

The unlikely – the transmitting mode
The content of IEE is wide-ranging and is influenced by learner choice (Jónsdóttir 2011). In a transmissive pedagogy, a teacher selects themes, tasks, methods and materials and influences the development of student ideas with predetermined directions. Learners learn the ‘right’ way to work from the teacher. The teacher controls activities with strong curriculum framing (selection, sequence, pacing). Weak classification of roles (teachers-learners) seems difficult with strong framing of communication, unless the learners are willing to give authority to the teacher because of his or her specialist knowledge, but this is unlikely within IEE.

The controlled mode – the teacher is the expert
The control in the classroom is distinctly in the hands of the teacher. The teacher has authority over students in controlled lessons and uses strong framing in the selection of content and approach. He/she uses reminders, rewards or consequences to control communication and behavior. The teacher is the ‘expert’ and makes decisions accordingly, controlling most aspects of lessons and provision of learning opportunities. He/she chooses the content, tasks, needs to address, methods and materials to use. Some freedom for creativity and agency may be given to students in the development of ideas and some in pacing. Elements of learning are more and less designed and controlled by the teacher. Examples of controlling pedagogy were found in the practice of four teachers in four different schools.

Progressive mode – supporting learning agency
Learners have considerable freedom and agency in the progressive mode, although the teacher is undoubtedly the designer of the learning opportunities and leader of the lesson. The overall frame of time and content is controlled by the teacher, but learner agency is supported within lessons and learners can decide and control different tasks and elements, especially in the development of ideas. Where learner agency is allowed, teachers are supporters rather than experts. Learners are aspiring innovators; they are creators of knowledge as inventors and can sometimes be explorers and experimenters. Examples of the progressive mode were found with three teachers in three different schools.

Emancipatory mode – creative learners, independent explorers
The emancipatory setting is when the classroom is like a workshop or a place of work with a democratic and creative atmosphere. Learners experience these lessons as a lifting of restrictions and have opportunities to have an influence on their environments. Learners select the location of their work, and learners and teacher freely communicate and take on each
other’s roles; learners talk together, help each other and
teachers learn about student ideas. Learners are explorers and
creators of knowledge as inventors and they work
autonomously and responsibly alone and with others.

The focus and content of themes and projects develops
around learner interests and ideas and learners select needs,
tasks, methods and materials. Learners control the progress
of their idea development and teachers support them. Learners
set goals and criteria for evaluation, set the time frame and
control pacing and sequence that fit their goals. Learners are
leading agents in the lessons and often learn through
experimentation and exploration. This kind of atmosphere was
identified several times in observation data from City School.
In such lessons when everyone was immersed in work, the
teachers identified their condition as being in ‘flow’.
In one of the two rural schools this workshop setting was also
identified in IEE lessons where learners could move freely
about and work on their ideas independently or with their
mates.

Examples of teachers’ work that was identified within the
emancipatory pedagogy showed that they could cross the
boundaries of classroom work easily, indoors/outdoors,
between teachers and boundaries of subjects and time. They
often included other teachers in their schools in the IEE work,
including class teachers, and science and crafts teachers.

CONCLUSION

The literature on innovation education indicates that teachers
must apply weak framing of communication and weak
classification of roles of learners and teachers. In this article 13
teachers’ different mixtures of very strong, strong, weak or very
weak framing and classification were used to present
pedagogical approaches used in IEE. Comparing the findings
with IEE literature shows that emancipatory pedagogy is most
in line with the ideology of IEE, supporting student agency and
creativity with weak to very weak classification and framing.
Identifying the different modes of pedagogy can help teachers
to locate their own mode and decide if it needs adjusting
towards a more emancipatory pedagogy.

Although the work of the 13 teachers generally displayed weak
framing of instruction there was also a visible tendency
towards strong framing and strong classification of roles of
learners and teachers. How teachers work with IEE involves
personal attitudes and disposition towards giving learners
agency and giving them power to be explorers and creators in
control of their projects. This kind of shift of power is known to
produce chaos angst, a fear of losing control, for many
teachers (Jónsdóttir & Macdonald 2011). Therefore it is
important for teachers to be aware of the need for structure
and freedom in IEE and realize the choices they have for
balancing these. Bernstein’s concepts of classification and
framing can help with identifying what needs to be controlled
by teachers and what learners need to control in order to
support their agency and strengthen their creativity and
innovative capacities.

It was clear that teacher interest and approach in IEE was a
crucial factor in offering a favorable pedagogy for IEE, however
it was also clear that the ethos and the organization of the
schools offered settings that differed in their conduciveness
for working with IEE.

My conclusion is that innovation and entrepreneurial education
is possible within the current school system. It requires that
teachers understand the challenges and benefits of this kind
of education and what kind of pedagogy is most supportive, as
well as preferably supportive school administration and
organization. Teachers working with IEE must be willing to
relinquish control to students with weak framing and weak
classification of student-teacher roles or be willing to adjust
their professional identity towards such a role.
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Student opposition to entrepreneurial ideas in teacher education

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KEY WORDS
Student opposition, entrepreneurial didactic, discourse analysis.

ABSTRACT
The question I care about here is how students experience the tensions which they are subjected to by having to work in an entrepreneurial inspired project within a goal managed educational paradigm. This paper looks upon how students verbalize (Fairclough, 1992), their attempts to find meaning in this cross pressure. In this study I focus on the way the different discourses reflect different perspectives according to profession identity, values and unquestioned assumptions.

Background
21st. century skills emphasize a change in focus in teacher’s main role from providers of information and instructions to facilitators of collaborative learning processes. Entrepreneurial education offers a framework for this development in teaching methods. Nevertheless the public control documents are very goal oriented.

Approach
This paper is a qualitative empirical study. In the study students’ verbalization of their experiences with entrepreneurial projects have been analyzed and condensed in patterns. The theoretical appraoc is eclectic combining phenomenological theory (Brinkmann, Tanggaard (red) 2010) with a critical linguistic discourse theory ( Fairclough, 1992 ) . Data material consists of field diaries and semi structured qualitative interviews. The linguistic analyses are based on linguistic concepts taken from Fairclough, Bakhtin ( Therkelsen 2007) and Lakoff and Johnson (1980).

Results
The paper reveals distinctive discourses which could be interpreted as belonging to different perspectives of profession, values in life and unquestioned assumptions. As far as the linguistic analysis can tell the stated cross pressure from different educational logics can be traced in the students’ verbalizations.

In other words, maybe students do not hate entrepreneurial teaching, but being exposed to it triggers conflicting discourses related to entrepreneurship and professional values.

Objective
The objective of this article is to investigate student opposition to entrepreneurial didactic in teacher education, and how this builds upon a mosaic of different learning perceptions among students.

A key position behind this article is that in innovation pedagogy ( Darse (2011), Gibb (2002, 2010,2011, Hannon (2005) and entrepreneurship pedagogy (Kirketerp (2011,2012), Bandura(2012)), there is a goldmine of praiseworthy ideas to integrate use-oriented learning in teaching education. This study reveals how some of the students’ opposition to learning is a logical result of teaching students perception of a teacher identity. This frustration is nourished by a cross pressure between a traditional form of teaching divided by subject matter and an innovative entrepreneurship-driven project work form. The dominant form of teaching in teacher education is subjected to central goals and expressed in an academic convergent thinking. When students have to work in entrepreneurial inspired didactic projects, they must generate content themselves, set goals and work collaboratively and process-oriented. In this way the dominant learning form changes from convergent to divergent thinking. This influences many teaching parameters and creates a series of dilemmas and discrepancies for those involved in the learning process.
One way of clarifying some of the deeper-lying reasons for the observed student opposition to entrepreneurial learning forms is to elucidate the challenges from a player perspective through analysis and interpretation of an empirical study of the teaching students’ verbalization of their experiences and opinion-forming processes during an entrepreneurial inspired project.

The analyzed empirical findings can serve as points of reflection for teacher educators who are interested in deconstructing the metaphor “learning opposition to entrepreneurial learning” in some elements and who wish to implement parts of entrepreneurial methods in teacher education.

Finally, it is stated that in the current structure for teacher education it is possible to integrate parts of an innovative pedagogy.

INTRODUCTION

In the past 10 years the financial pressure on competition has stressed the importance of innovation. Ideas and thoughts from innovation and entrepreneurship have spread from the financial sector to the educational sector through entrepreneurship education.

When integrating entrepreneurship in education, it requires some reflection on the definition of the concept as there are many different definitions and “a conflicting discourse.” Both internationally and in Denmark many people are working to transplant entrepreneurship in an educational context. The Danish teacher education from 2013 operates with several types of objectives in a series of courses completed through both internal and external examinations. In the Executive Order agreement text for the 2013 teacher education, entrepreneurship was added as a new working area forming an integral part of several courses.

Research question

How do student teachers experience the conflict they are subjected to by having to work innovatively and project-oriented within a goal-managed educational paradigm, and how do they try to find meaning in this cross pressure?

This study is empirical. The context, the theoretical framework, the method and the analyses will be presented. Some of the findings will be outlined and finally the possible consequences for teacher education will be discussed.

Context: Goal-managed educational paradigms versus innovative entrepreneurial educational paradigms

The educational culture in which the teacher education is embedded provides both limitations and opportunities with regard to integrating new pedagogical ways of thinking. The culture of teacher education is rather conservative in terms of assimilating new thoughts, in this case entrepreneurial projects as a kind of innovation pedagogy. Innovation can be defined as the ability to see opportunity and to take advantage of such opportunities in a way that generates value. Innovation pedagogy becomes a matter of designing an educational programme that gives participants the possibility to develop innovation skills.

A definition of entrepreneurship education is given by Fayolle: “All activities aiming to foster entrepreneurial mind set,”

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2. e.g. Gibb, Hannon, Darse, Kirketerp
3. “With the use of skill goal-steering in proposals for new teacher studies, there are good opportunities for integrating entrepreneurship in the different areas of the degree programme”; website: Ministry of Higher Education and and Science [http://fivu.dk/lovtjof/politiske-aftaler/reform-af-laereruddannelsen/reform-af-laereruddannelsen 18/2/2014].
5. p. 13 op.cit.
attitudes and skills and covering a range of aspects such as idea generation, start-up, growth and innovation\(^4\). Gibb provides a discussion of the challenges entrepreneurial education faces when “moving away from the business school in many countries” and becoming “a mainstream education component”\(^5\). Gibb describes five different challenges when dealing with entrepreneurship as an innovative paradigm in different academic disciplinary contexts. This study is inspired by Gibb’s third ‘distinct issue’ in the design of entrepreneurship education: “Entrepreneurship is an action-based phenomenon demanding education outcomes targeted on the ability to apply learning, enhancing capability to take action and behave, rather than focusing purely on the conventional delivery, testing and critical assessment of knowledge inputs.”\(^3\) This distinction is comparable to the distinction between a goal-managed logic and an innovative entrepreneurial logic.

The following table shows analytical characteristics from these two discourses:

<table>
<thead>
<tr>
<th>Goal-managed logic</th>
<th>Innovative entrepreneurial logic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject-defined</td>
<td>Problem-oriented</td>
</tr>
<tr>
<td>Client-defined and goals</td>
<td>Collaboratively process-oriented</td>
</tr>
<tr>
<td>Choice of content sourced by goals and key knowledge and skill areas</td>
<td>Content chosen based on nature of problem by the project participants</td>
</tr>
<tr>
<td>Goal driven studies and specific competencies</td>
<td>Kirigami’s push factors</td>
</tr>
<tr>
<td></td>
<td>Perceived success</td>
</tr>
<tr>
<td></td>
<td>Basis in resources</td>
</tr>
<tr>
<td></td>
<td>Self-reflection</td>
</tr>
<tr>
<td></td>
<td>Courage to fail</td>
</tr>
<tr>
<td></td>
<td>Change of habits</td>
</tr>
<tr>
<td></td>
<td>Role models</td>
</tr>
<tr>
<td>Builds on convergent thinking</td>
<td>Reward for action (initiative as learning goal)</td>
</tr>
<tr>
<td>Curriculum borne</td>
<td>Individual borne</td>
</tr>
</tbody>
</table>

What epistemic implications can socialization in goal-management logic and socialization in innovative entrepreneurial self-administration have on a student’s learning disposition and expectations?

**Theoretical basis**

The research method is qualitative dealing with verbalization. The approach to working with the language as a research object is inspired by two theoretical approaches connected to the empirical study, in an eclectic approach. The first theoretical approach asks about the students’ verbalization of their experience as they participate in an entrepreneurially inspired project dealing with the students’ affections. The phenomenological theory will be applied as a general theoretical filter for the method and analysis considerations dealing with the students’ cognition.

The second theoretical source is a discourse approach inspired by Fairclough’s critical discourse analysis dealing with students’ verbally expressed meaning creating process.

One of the main hypotheses in Fairclough’s critical discourse analysis is the perception of discourses as constituting forces in the construction of reality.\(^4\) People’s way of speaking is organized in discourses that create representations of reality that are never simply reflections of an already existing reality. Representations contribute to creating reality, including knowledge and identities. Identity is created in the encounter between different subject positions within discourses.\(^5\) Discourses constitute specific ways in which to construe the world which relate to each other in an unstable fashion.\(^6\)

**METHOD AND DATA PRODUCTION**

This study is empirical with data from two entrepreneurially inspired didactic projects with data from three student teachers in each. The first project was a 3-week entrepreneurially inspired project dealing with ideas for furnishing a multifunctional gymnasium at a school. The second project was a 3-week entrepreneurially inspired project dealing with inventions of didactic learning tools for pupils. The projects as such are not of interest here, instead the focus is


\(^2\) p. 147 Gibb (2010)

\(^3\) p. 148 op.cit.

\(^4\) p. 265 Brinkmann/Tanggaard (2010)

\(^5\) op. cit.

\(^6\) p. 266 op. cit.
on the students’ verbalization of their experiences through participation in the projects and how they linguistically create meaning.

The data material consists of three types; viz. 1) the students’ digital 2 min. diary each day during the project, 2) the students’ written response to a questionnaire and 3) a semi structured interview with two of the students.

The first analysis deals with the adjectives the students use in order to investigate the research question concerning the students’ experiences as an affective dimension. The question of descriptive adjectives as traces of polyphonic voices in expressions is inspired by Bakhtin’s polyphonic analysis. The second analysis is a metaphor analysis. The third analysis focuses on revealing super addresses.

1. Descriptive adjectives as traces of polyphonic voices in statements

The key element in a phenomenologically inspired approach to empirical data is the interest in the informants’ awareness of the world in which they live. This approach emphasises describing rather than explaining. Phenomenology’s strength as a scientific method lies in its insistence on including the constituting role of subjectivity in the scientific process rather than neglecting it for the sake of objectivity.¹

2. Metaphors as discourse markers

Within cognitive semantics, language is viewed as an integral part of man’s general mental mechanisms and functions. Metaphors play a special role in cognitive semantics, connected with language, perception, thinking and action. Terms, including metaphors, reflect an everyday experience of the world.² A metaphor analysis inspired by cognitive semantics focuses on how the metaphors used are related to human experiences and ways of acknowledging.

3. Super addresses

In the polyphonic language theory a super addressee is a representation of the polyphony and refers to a kind of ‘third subject’ in discourses³.

Ad 1. Descriptive adjectives as traces of polyphonic voices in expressions

<table>
<thead>
<tr>
<th>Linked to the project</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
</tr>
</thead>
<tbody>
<tr>
<td>exciting</td>
<td>exciting</td>
<td>loosely structured</td>
<td></td>
</tr>
<tr>
<td>diffuse</td>
<td>restrictive</td>
<td>affected</td>
<td></td>
</tr>
<tr>
<td>difficult</td>
<td>confusing</td>
<td>flighty</td>
<td></td>
</tr>
<tr>
<td>poorly organised</td>
<td>cumbersome</td>
<td>diffuse</td>
<td></td>
</tr>
<tr>
<td>learned very little professional</td>
<td>confusing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vague</td>
<td>not authentic enough</td>
<td></td>
<td></td>
</tr>
<tr>
<td>interesting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fantastic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>really cool</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>professional</td>
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</tbody>
</table>

The use of adjectives paints a picture of mixed emotions in the students. Feelings of insecurity, uncertainty and confusion seem to dominate, as expressed with adjectives such as diffuse, difficult, poorly organised, confusing and flighty. Other adjectives point to broken expectations concerning a particular understanding of working with projects: restrictive, loosely structured not authentic enough. Hints of disillusion and confusion can be sensed, as well as hints of expectations, in the adjectives interesting, fantastic, really cool, professional and exciting. There is polyphony in the students’ verbalization of their experiences. The students reacted affectively to the project.

Ad 2. Metaphor analysis

¹ p. 190 op.cit.
² Lakoff and Johnson (2002)
³ p. 26 Therkelsen (2007)
The use of metaphors is linked to the instructors and there is only one single linguistic metaphor regarding the project. The verbalization deals with the relationship with the other students. Several ontological metaphors are used, such as “feel I am in good hands,” as a sense of uncertainty feeding a need to feel taken care of; a kind of existential exposure; interpreted in the orientation metaphor “lack a main subject,” concealing some customary ideas as to clear goals, main subjects and plotted paths as signs of a goal-management logic. In the metaphor “throw ourselves into it,” there is a different experience of letting go of the familiar and of daring to try the unknown as a sign of drawing on entrepreneurial logic where two of the push factors deal with courage to fail and change of habits.

Interpretation

The metaphors reveal a discourse with high requirements (the opposite of “do with eyes closed”), clarity and efficiency (opposite of “fiddle about”) and studies of “theory in detail.” From an entrepreneurial point of view it is not necessarily a bad thing to “fiddle about” and not “study theory in depth” interpreted as daring to experiment. The discourse stresses clear goals and no waste of time and can be categorized as an “efficiency discourse.”

Ad 3. Super addressees

Student B: “The impression I have right now of the project is that some of the teachers we have somehow always try to say to us that there is no framework, so we have to figure it out ourselves. They also tell us that we just have to try and get used to this chaos and see what happens and perhaps let those who are capable of navigating in it take over. So there are some boundaries, but they don’t really want to tell us what they are.”

Interpretation

A super addressee can be extracted by analysis, namely teaching instructors who have not developed an understanding of what “real innovative entrepreneurial projects” are; a normative view where chaos pilots are the ideal. This is a duality between the desire and demand for an explicit framework defined by the instructors and an insistence on autonomy and self-administration in entrepreneurial projects; a potential clash between the two overriding educational logics are renowned for their abilities to take an innovative, out-of-the-box view on projects.

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1 Kirketerp (2012)

2 The “chaos pilot programme” is a 3-year cultural management degree aiming to create cultural entrepreneurs and project managers. Chaos pilots
or a legitimate requirement to know the terms and requirements for participating in a project expressed by the metaphor ‘framework’?

Student C: The super addressee is a criticism of the teacher education’s low requirements, which is seen as the reason for lacking student motivation; teacher instructors who do not require enough of their students. Is the super addressee an authoritative voice that can guarantee the value of the project based on external requirements, cf. the explicit critique of ‘generally low requirements’ in teacher studies?

Commonality between student A and C
The unmarked subject position understands the term ‘professional’ as an indisputable and obvious quality marker in teacher education, despite the undefined character of this term as described by the metaphor “a floating designator.” The term ‘professional’ is viewed by these two students as a guarantee of reasonable content and a suitable framework for a didactic programme in teaching studies. Whereas student B assumes a diverging subject position, where the super addressee presents criticism of the instructors based on a comparison between innovative projects in incomparable social fields of practice such as teacher education and a municipally supported foundation as ‘The chaos pilot programme’. Student A and C use teacher education as a starting point for criticism of the project as lacking connection with the general educational logic, while student B builds the criticism on a specific super addressee, a previous experienced manner of carrying out innovative projects, where explicit quality signs enumerated by the student is the establishment of a clear framework.

### Discourse collisions

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<tr>
<th>Signs of a management-by-objectives discourse</th>
<th>Interpretation</th>
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<tbody>
<tr>
<td>“I feel I am in good hands with the people who are teaching me because they seem to know what is going on and they are also good at giving information which is incredibly important.”</td>
<td>A complaint about the teacher’s lack of instructions about direction of the project can be interpreted as a sign of the management-by-objectives logic pointing out clear and distinct goals and a wish to be told precisely what to do by some authority.</td>
</tr>
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<tr>
<th>Signs of an innovative discourse</th>
<th>Interpretation</th>
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<td>“I was looking forward to these words all the more because I thought that hereby – or – this is the way you should teach children to act. Actually, I think it is really really exciting and it is something I can see I can use in my daily life and also as a person, so I thought it was really cool with this ‘push model’.”</td>
<td>The application aspect is a characteristic of the innovative discourse, since the management discourse is not concerned with a clearly application-oriented approach. The arguments shift to an external national level, where the arguments are implicit in the goals set out in legislation. The value of the forthcoming course links with a personal private sphere far from management logic and more according to an enterprise approach.</td>
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Three different discourses can be identified, they are individual and common. The analyses indicate that each of the students constructs a discourse and links to different discourses as they verbalize their experiences. The three discourses are categorized as the ‘Chaos Pilot discourse’, the ‘Professional discourse’ and the ‘Efficiency boosting discourse’. These discourses cover the attempt made by each student to find meaning in the experience of cross pressure through the project, between a series of contradictory challenges in the form of specifically formulated assignments versus the desire for new thinking and ground-breaking, self-organized students.

The three identified discourses are as much a sign of the students’ attempt to construct a meaning, as they are the students’ way of linking to an already existing discourse, to which the students at least to some extent are attracted in the projects.

### Conclusion and implications
The player perspective and the linguistic analyses have proved fruitful in the investigations of student teachers’ reactions to learning forms inspired by entrepreneurship education. This study has revealed how there are several possible discourses...
the students can produce and assimilate when participating in an entrepreneurial project.

The six students experience and value the measures they encountered through the project very differently. The students have divergent quality criteria in relation to the project and different ways of construing their professional identity in the projects.

The analyses have resulted in the outlines of three different discourses. Interesting differences rich in perspective in the students’ linguistic approach have been found. A cross pressure between educational logics has been traced in the students’ verbalizations with implications for how to implement didactics from entrepreneurship education in teacher education.

The powerful discourses reflect different perspectives according to profession, values and unquestioned assumptions. It is important to be conscious of the link between these discourses and the social practice when incorporating entrepreneurially inspired didactic elements in teacher education.

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How do students from Student Incubators (SI) use networks and how can SI support the activity?

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ABSTRACT
This paper examines Student Entrepreneur’s (SE) use of networks as part of their activities in a Student Incubator (SI). Recommendations are made as to how SI can create activities to support students’ use of internal and external relationships and discusses the paradox between running a learning driven incubator compared to a more traditional result-driven Business Incubator (BI). Previous research emphasizes that interaction with external parties has a fundamental positive impact on entrepreneurial operations and development (Witt, 2004), (Warren, 2009). This importance cannot be underestimated when the attention is on SEs because students are likely to have a smaller (in size), less well-founded and limited professional network. In addition, an SI is assumed to be characterized by “limitations” related to their student status.

So far none has paid any attention to how SEs "compensate for" and/or develop relevant internal and external relationships and how SI supports an appropriate project and business development process with these assumptions and “limitations” in mind. To investigate this, a series of qualitative interviews with SEs are conducted, with an emphasis on the use of relationships in an entrepreneurial context.

Often the increasing attention to entrepreneurship and entrepreneurial processes will probably emphasise growth and development environments (e.g. SIs) at educational institutions. An aspect which is currently not given much attention but which have considerable influence on both learning and “performance” (revenues, survival rate, growth) of the SE.

INTRODUCTION
There is an increasing focus on innovation and entrepreneurship as a means to maintain and develop the growth and welfare systems in the western world. Policymakers want to prioritize and activate this area (Tödtling & Trippl, 2005), preferably as early as possible. As a result, educational institutions are obvious partners and stakeholders when it comes to implementing these priorities. As a possible “new” third business, in addition to teaching and research, educational institutions implement Student Incubators (SI) as concrete contributions to social and economic development through entrepreneurial activities (Honig, 2014).

It is all about educating innovative and entrepreneurially minded students and graduates who can create and develop new value in existing and new contexts and organizations. That there is no “overall remedy” for the set-up – and that it may not, as a matter of course, have a marginal positive added value (Mason et al. 2006) is, in this context, insignificant.

A number of (extracurricular) activities is implemented as part of various educational initiatives where workshops, courses, guidance, mentoring and miscellaneous networking are key components – while an increasing number of institutions establish and develop incubation environments (SIs) for students. Often these SIs, inspired by other more traditional BIs, would provide a framework for enriching students innovation and entrepreneurial potential.

Unlike in the past, when "entrepreneurship" did not include "academic conduct” and therefore was not practiced systematically and “officially” at the educational institutions, educational institutions has now opened up a movement of entrepreneurial practice (Ahmad & Seymour, 2008). The topic has also received additional academic attention with an increased number of publications and periodicals dealing with "entrepreneurship and education” – and how quality
improvement and optimizing efforts could be manifested (Blenker et al., 2013).

This means that there is a strong logic, political, academic and commercial argue, to work with “entrepreneurship” – but the question is; how?

In this context, it is important to distinguish between the “learning-driven incubator” and the “result-driven incubator”. Irrespective of the type of BI (Aernoudt, 2002), the aim will always be result-oriented – i.e. value in terms of revenue, job creation, added social value, innovation and the like. In the traditional BI the “market” determines the concept of BI (Honig, 2014). SIs can also be performance-driven (and often are). However, there is an underlying motive to the establishment of SIs which is learning – i.e. the experience, knowledge, training and practice the students can acquire by setting up a project in an SI (Ollila & Williams-Middleton, 2011). There may be a natural coincidence of objectives – but not necessarily. In these cases, the concept is more likely to be characterized as a “Student Business Incubator” (SBI).

This paper examines the SE’s use of networking, according to “the Learning-driven Incubator” (SI) and as method to establish and develop projects. The challenge of how an SI can support SE needs and the use of relationships will be discussed. Are the close relationships used (strong ties) or are SEs able to go further and exploit the more peripheral and externally based relationships (weak ties) (Granovetter, 1983) – and is their “performance” related to some kind of pattern related in this context?

VIA University College (VIA UC) is used as study because the “VIA Student Incubator” (SI) is an essential part of entrepreneurial activities. This activity is, for many educational institutions as it is for VIA, a relatively new institutional and organizational activity and has learning as its primary aim. To the educational institutions, it is obvious, consistent with the institution’s DNA and culture, to establish the activity as an SI and/or an SBI and with a professional approach matching the institution.

The implications of running an SI compared to the more typical BI (and most subtypes) (Bergek & Norrman, 2008) is that the objective (from a general perspective) is not necessarily to establish “business” – but rather to practice and learn about entrepreneurial methods and create value (www.viauc.dk: VIA Studentervæksthuse). The students have to learn and evolve through entrepreneurial projects and processes but they need not be able to establish a financially viable entity or carve out a possible career through the project.

Other implications of SIs compared with traditional BIs is that the students “carry less capital” to the SI than the traditional entrepreneur in a BI. They are supposed to be at a lower level in terms of human capital (age, education, experience) and financial capital (age (savings option), limited income opportunities). As a consequence the social capital (joint quantity and intersection among SE in SI) is not necessarily larger (Burt, 2000). This assumes that their use of the network as a method for the developing the project is supposed to be weaker.

Finally, the projects are in their infancy (proof of concept), which means that setting realistic targets for potential and possible attraction of stakeholders is irrelevant, compared to traditional BI companies. These companies are typically in the early proof-of-business stage or later (Innovation City, 2011).

These issues nurture scepticism about “transferring” (copying) the purpose and concepts from traditional BIs to SIs, without addressing the main diversity in the set-up. Research of SI concepts and “best practice” is limited. However, practice is that inspiration to set-up activity is taken from traditional BI and then customized towards the institutional educational priority – e.g. the institution’s “DNA” (including professional, cultural, etc.), stakeholders influence, market conditions etc.
As stated above, there are significant differences in the more results-driven incubators (including subtypes) and the “learning-driven incubator”. An SI has another “input” (students vs. entrepreneurs/companies), and it offers a number of limitations as regards unfolding activities and dynamics.

The theory section below summarizes related research, primarily in the fields of “entrepreneurship education”, “networking in incubators” and “business incubation”. Eleven cases from five different SIs at VIA UC were interviewed and other activities undertaken to support the data. Through qualitative interviews and the supporting activities, the students’ use of networks and general behaviour for company and project establishment has been examined. The study identified a number of challenges in terms of creating an incubator set-up for students alongside full-time studies. The study also pointed to a number of considerations about objectives and success criteria for a SI-setup and, not least, how it should be implemented. The paper closes with the conclusion summarising the main findings and emphasising a number of points.

**THEORY**

Initially, it was suggested that there is only limited research to be found on the “networking” and “performance” (effects) aspects of SIs – although much more for the traditional type of BI. When attention is directed towards education, the emphasis is predominantly on didactics, learning, method of application and development of a teaching and educational context and of the context of a SI. In this context, it is important to point out the differences in the conditions of running a SI vs. a BI (presence, priorities, resources, project stage, etc.), as mentioned in the previous sections.

Running a SI includes not only a physical and administrative set-up (rooms, furniture, facilities, miscellaneous hardware and necessities), a social set-up (interaction between students, supervisors and the personnel involved, if any) and a professional set-up (professionals [experts], inputs in the form of workshops, lectures, seminars, counselling and access to different resources, etc.). A SI has a more specific role compared with a BI in supporting and developing student relationships, both internally and externally, as relationships can be crucial both for student learning and “performance” – and is assumed as an area, where students are weaker based than entrepreneurs in a BI.

There is no explicit analysis of how students, in the role of an entrepreneur, launch a business and profit from the use of network relations. Specific analysis of students’ “performance as entrepreneurs” does not exist – and a possible actual value (effect) is often realized after graduation where projects can be dedicated their “full attention” or, more likely, much later in their careers when opportunity occurs. Several analyses and reports emphasize the first period after graduation (Mason et al., 2006); (Sørensen & Gartner, 2006). They will thus not identify a potential SI-leverage and only show effects for a short period. The same applies to the range of more quantitative-based national and international studies.

There are several types and great diversity among the BIs. They are categorized in various way, viz. Mixed, Regional/local, Technological, Social and Research Incubators (Arnoudt, 2002), depending on for which purpose(s) the BI was established and how the concept is executed. However, this context does not refer to “learning-driven” incubators. Several articles discuss “best practice” in different incubator types focusing on history and conceptualization (Bergek & Normman, 2008); (Grimaldi & Grandi, 2005), top-down or bottom-up approaches in the incubators (Bellingtoft & Ulhei, 2005), effects and “outcome” for graduate entrepreneurs (Mason et al., 2006) and others.

In order to support the SI set-up, it is important to focus on student behaviour when they establish and develop their projects. And more specifically – how they use the network. Analysis indicates a clear link between the entrepreneur’s “performance” and his/her use of networks as a resource of...
progression and opportunity for development and exploitation (Burt, 2000). Also the importance of the need for various network and knowledge resources depending on where they are in the process is discussed (Warren et al., 2009). Several studies point to social relationships as the most crucial factor to successful business establishment and development (Hoang & Antončič, 2003); (Witt, 2004).

Attention has also been on using the internal network in the incubator as "resource pooling" for developing business projects – conceptually referred to as "The Networked Incubator" (Bellington & Ulhei, 2005); (Hansen et al. 2000). Moreover, research also focus on "Best Practice Management Incubators", i.e. the development of optimal relationships to the external network and how to create "The Tipping Point" (Warren et al., 2009). That is when the value by moving out of the incubator exceeds the value of staying. Finally, consideration regarding help to entrepreneurs from BIs to benefit from positioning in networks, strong community-building and trust building (Tötterman & Stone, 2005).

In an educational context, much research emphasizes entrepreneurship – especially in contrast to a culture of learning that does not motivate, demand or support:

- The ability to act on opportunities as an alternative to analysis (Sarasvathy, 2001)
- Effectual thinking as an alternative to causal thinking and problem solving (Sarasvathy, 2011)
- Process and step-wise management as an alternative to performance management (Ries, 2011); (Blank, 2012)
- Development of self-efficacy as an alternative to professionalism and competence acquisition (Bandura, 1997); (Studdard et al, 2013)

These people, among others, created an understanding in an educational context, how working with entrepreneurship differs from more traditional management disciplines. It is in an entrepreneurial context natural to focus on experiments rather than analyses and studies, prioritize customer and concept development rather than product development etc. Now there is an acceptance of methods, an understanding that entrepreneurship can be taught (Blenker & Christensen, 2010), strategies for implementing among students and graduates (Mason et al., 2006); (Johannisson et al, 1997) and how the link between education and incubation can be applied (Ollila & Williams Middleton, 2011).

The following discussion focuses on SE’s use of networks – the compliance with other relevant aspects such as background, behavior and "performance". At last discussions of how SI can support the SE using the networks as a mean to achieve learning and possible "performance".

METHOD

VIA UC has, through the past three years, worked with the inclusion of entrepreneurship in both curricular and extracurricular activities. VIA UC has activated "impact" of modules towards entrepreneurial content, developed new disciplines with entrepreneurial focus, settled interdisciplinary projects and established competence development in the field of entrepreneurial teaching. On every campus, as an extracurricular activity, is established VIA Student Incubators (VIA SI), where a variety of activities (courses, workshops, camps, seminars, networking-, mentoring- and advisory activities etc.) have been completed and tested. The experience has been positive, and activities are expected to continue and be developed in the near future.

The explorative approach, to investigate the SE’s use of network etc., was chosen, because the data cannot unambiguously be statistically analyzed, but represents a qualitative deep knowledge of each of the 11 cases.
(see Appendix 1) according to incubation and network behavior. Meanwhile, the students’ use of, and stay in, VIA SI is fragmented and limited in terms of time and priorities. Furthermore the population, that used VIA SI, has been limited in the period.

The selection was made across educations, programs and disciplines, and thus also from SI at various campuses. The choice of the SE’s (cases) were subject to the fact, that they were a key player in the SI environment and that the project had undergone a certain progression, unlike other projects that are abandoned and / or moved away from SI. These projects could have been interesting to uncover. Which factors influence in the lack of persistence, potential and / or progression? - but is not the focus of this study.

Interviews were selected, so the main campuses and educational areas in VIA UC was represented. This includes pedagogical, health professional, technical and business educations. It has not been essential to assess the educational background’s impact on, how the student will partly "perform" and partly use network. Diversity of education background has rather been intended to include, to “uncovering aspects" so the approach to project development and networking was as diverse as possible. This includes disparate aspects of the education professional background in a context "to create projects and company establishment and - development”. Two pilot interviews were held, that successively required minor revisions of the questionnaire - which since has been largely unchanged.

In addition to interviews with is through an intensive course (Idea Creation) and daily work in VIA SI analysed, observed and explicitly discussed with the students, how they develop their projects and companies. Including how they (can) use network, both internally and externally. Thus, the data assembled is not only from the interview situations, but is supported by a daily practice. The research design has a character of combination of case studies and mixed methods (Blenker et al., 2014). The study covered hereby 11 qualitative in-depth interviews (cases) and a course with 16 students (Idea Creation), specific guidance of 4-5 projects and ongoing observation in VIA SI. Interviews are conducted in the period from June to November 2014. They have had a lasting between 40 minutes and 70 minutes. (See Appendix 1)

The question framework is further developed on the basis of inspiration for the division of areas of attention, research and interview questions (Kvale, 2007). This is done partly to ensure a progression of questions and partly to ensure that the relevant data were assembled in the interviews. The remaining, and more qualitative basis for the analysis is applicable in the following section and in the subsequent discussion part.

**FINDINGS**

Initially it is assessed that various assumptions relating to SE’s “limitations” found in an SI actually is present compared to traditional BI. That is less time (presence), less priority on the project (priority for studying or else ...), lower earnings (early stage) and “not-a-career-approach” (performance is not an obligation). In addition, the assumption of the students’ weaker-based professional network is also considered.

The four above-mentioned hypotheses were mostly confirmed (with slight exceptions) and so it can be unambiguously confirmed that a majority of the students from VIA SI:

- Students do not spend so much time (presence) in an SI compared to a traditional incubator – they value time spent in the classroom (education) and on the job (earning money).
- Students give a higher priority to their studies or at least the same priority as the project – some experience a “shift” in this priority.
- Students have limited income and resources (financially) limited – with exceptions.
Students did not consider the project as a career path – only for a short term perspective!

Students generally have weak professional networks – however, some students were strong networkers and used their personal internal relationships extensively.

The students justified their absence from SI with lack of time because of the study. Conversely, it may be interpreted to indicate that the absence of fellow SEs in the environment had the consequence that the students downsized their presence due to missing value. A few students, however, used the SI and the environment of the campus intensely because they developed an entrepreneurial identity (Sørensen & Gartner, 2006).

All students gave a higher priority to their studies than to the project. However, some (DM, JB & CH) experienced a change in priorities and the time consumed during their studies. In these cases, there is a clear correlation between the results (performance) and the time consumed by the project. This has not necessarily been transmitted into revenues, as the projects generally have had no or only limited earnings. However, two of these projects have progressed so that the students (JB & CH) are currently self-employed. This fact also supports the assumption that the projects are typically in their early infancies. Two of the cases can be classified as being in proof-of-business, while the other projects are in the proof-of-concept stage or earlier.

The students’ use of the networks is characterized by great diversity. This applies to the use of SI and campusrelated networks (internal) and to external relationships. It can be concluded that their professional (project and business related) network, in principle, has a weak foundation. It can also be concluded that more students are strong in the use of random and internal relationships in order to create relevant contacts with external resource persons. At the same time, there is a segment that has a massive need for help and support to “connect” with external relations (see below).

In the research phase, there have been these additional findings in the different contexts (interviews, guidance and observation):

Students have, or have had, an obvious need for support to make progression of the project. They find it difficult to specify and articulate their needs and consequently have challenges in terms of finding the right resource persons (primarily external – weak ties (Granowetter, 1983)), use (the right) methods and taking action because of the lack of clarification (Sarasvathy 2011, Ries, 2011). Statements like; "Where should I go", "To whom should I have talked to," "I have not heard of" and / or "I'm not ready" is explanations for the absence of action and progression in the projects. They have, in other words, difficult to "address" their needs and thus contact external network and resource persons.

The "critical mass" and the presence have not been sufficient to create a strong internal network and a dynamic between the students. More students have criticized the absence of "natural and continuous" knowledge and experience exchange from other projects and the lack of "social dimension" in SI. "Why sit there when no one else is doing it ..." is an objection, but also an explanation, everyone stresses.

In the SI it is predominantly SI coordinators and fellow students, who are used as natural sounding boards and advisors, while externally (outside SI), the use is more diverse and sporadic (some using a lot of external relationships, others very few) and partly highly differentiated depending on needs and project status. The most important external relationships of the students have been (in order of priority):

- other entrepreneurs / "project managers" from "nearby" entrepreneurial networks and BI.
- activities organized by (public) business links, educational institutions, entrepreneurial networks etc.
- "specialists" – people who knew something about how... (e.g. production, use of materials, IT ...)
- advisors – law, accounting, marketing, etc.

In this context trust to the relation is crucial to how much relations are used by the students (Tötterman & Stone, 2005). Internally, it is friends, family, certain classmates and the SI-coordinator, who are used. Externally it is "other new entrepreneurs" directly or indirectly through activities and / or network. The factor of "identification" plays a major role and is important.

Several approaches with fixed internal meetings ("tenant meetings"), has had a somewhat limited support and thus had a negative impact on building a strong network among the students. Often students preferred activities out of the house as an alternative. Examples are the Spin-in project (CH, AS) from the University of Aarhus, Start-up weekends (DM, JB, JJ, MC), Start-It Network (AS, CL), project "Green Conversion" (CH) etc.

When asked about "the outcome" by participating in activities in and around the SI, everybody express it like; "...I have learned a lot", "...gained experience, which can be used subsequently", "...have developed new skills", "...gained more knowledge about myself", "...got a (new) passion" etc. Learning and entrepreneurial behaviour are their main benefits and yield in the students optics.

There are just two reasons for why students seek SI. The first is that "they cannot help it." They have always created and committed attention to ideas, projects and the like. The second motive is that they, as a mandatory study activity, have to work with "Entrepreneurship". By then, they have been "carried away" – and now want to develop the idea and project in the auspices of SI. There is no evidence in establishing any correlation between the motive and network use or "performance".

**DISCUSSION**

Regarding the challenges of an SI towards facilitating development and support learning and possible "performance" of the students, then access to and use of networks is a key factor. The prerequisite for a strong internal network in SI is (prioritized):

- interaction between the students (knowledge, identification, business experience, etc.)
- close contact with coordinators and other "staff" (trust, "keep-in-hand")
- external "input" from the relevant resource persons, who have (or easily can get) their trust (access to explicit/professional knowledge)

If these basic factors are NOT present, the value of using SI is diminished and alternatives to use SI are considered (Bellingtoft & Ulhai, 2005). It is essential to SI to ensure, these three conditions of the internal network is successively satisfied. Then content, activities and programs are relevant. The decision process for the SI-input should be grounded on the students' wishes and needs.

Internally, the SI should make staff-role clearly defined and described. There is a need for close support to a large number of the students - a kind of "keep-in-hand concept". It can make students more acquainted with the use of methodology and approach, help to address external resource persons as well as motivate and ensure progression in the project.

External resource persons are essential to use in the SI, it can be as "bridge builders" / connectors to the external network. Contacts, that one can establish a relationship of trust and certain "identification cohesion" with. It could be graduates with their own businesses, entrepreneurs from local BIs other
SIs or the like. Public business links and misc. projects and networks offer should also be covered by the dense external networks. Meanwhile specialists, management consultants, professionals and advisors mainly should be used more adhoc and based on specific needs.

Optimizing the work with networking in SI, in conjunction with the identified limitations in the (possible) presence, a generally weaker-based capital (both human, social and financial) and to some extent their (initial) priority, giving opportunity to discuss, how set-up and concept for an SI should be established and developed. It does not necessarily make sense to be “too inspired” of BI-experience. A balance between, exploiting student motivation combined with a close and trusting support to students from staff, fellow students and “the close” external network is preferable. Co-creation with the students (users) around the setup, content, activities etc. may be a method to maintain and motivate them in SI environment.

It is possible to recruit students to the SI, if they in their curriculum are acquainted with innovation, concept development and the entrepreneurial field. It is essential that the “SI-staff” are aware of, and possibly part of, these and/or related activities. Other students will seek SI as a more “natural born activity”. These considerations are important, because a critical mass is essential to establish and develop a dynamic internal network in SI.

In establishing and maintaining critical mass and internal dynamics, it is important to focus on learning. This is the main value and yield and the results (performance) can be a consequence. Most students’ motive to establish them in BI is “just to learn” - but also “a hope” for value creation, personal development, potential income and maybe a career opportunity.

Which outputs should the SI have? It is easy to focus on the immediate outcomes (performance), but is it the primary aim? (Sørensen & Garner, 2006) Maybe it’s done unconsciously, because it is easier to view measure and document results, while it may be more complex to measure and evaluate the experience, development and “learning”. This paradox must SI be aware of and implement methods of “making learning in SI measurable and assessable”. The educational institution must focus on “learning” and that is the focus. No political and / or results-oriented approach must be prioritized before that.

**IMPLICATIONS**

That entrepreneurship education can cultivate more than “just” entrepreneurial behaviour is, in this context, only supportive to prioritize and establish entrepreneurial learning supported by incubation programs for students. Working with entrepreneurship also creates and develop personal identity (Sørensen & Gartner, 2006) and is not only a curricular-building activity. Other studies suggest that entrepreneurship education and incubation, strengthens the students’ employability much more. They become better problem solvers, works more innovative and even their “quality of life” is increased (Studdard et al., 2013). That entrepreneurship is generally popular among young people, and there is some attention and hype surrounding the phenomenon (increasing activities in the form of competitions, workshops, networking etc.), primarily among young people, only makes argue for working in this area even stronger for educational institutions.

Creating an attractive set-up with content, activities and exciting external resource persons, as an integral part of SI, is not necessarily the right approach. SI must rather, to a greater extent, focus on the basic conditions for creating a dynamic internal network and environment and co-create content, activities and visibility in a strong trust-filled relationship with the students. Results are not the main objectives for student incubation – at least not in the short term. It cannot be expected, that a greater number of students establish themselves with own sustainable companies and projects in the immediate continuation of the studies. And is it really what the educational institutions want?
Focus on measuring performance may, for performance-driven and successful projects, give greater risk of a "drop-out". It may, in the long term, be an inappropriate consequence of an elusive success story. The paradox here is, that those who do not "perform", perceives an "inferiority" and less attention, but might have acquired a valuable learning to use later or in another context. It may prove far more valuable!

It is essential to SI not to be bound of institutional pressures to "create success stories" and interesting cases. But it might be crucial in the students' context, to be a part of that. And that's a paradox, SIs got to handle. The success stories will come anyway, but might steal attention from SI's actual and prior task - to create a space for learning capture and exchange of entrepreneurial methods, processes and behaviour. Who's needs should be met - SE's or the institution’s? Is SI's mission and tasks misunderstood or under pressure from policy makers - so result- and performance-driven SI's is on track to become a condition? (Honig, 2014)

Various questions can be asked towards the conceptual approach of the SI.

- Must learning-driven incubators (SI) create "business"? Or is the task, to a greater extent, to qualify students’ employability in general?
- Is SI a clarifying activity? Or must SI be a pipeline for BI?
- Is it a case of showing patience? Because SI develop qualified graduates, who establish their own businesses and/or works entrepreneurial/innovative through their later careers? I.e. the effects, and real value, are seen in a long term perspective.
- Or is it "the arena" for spotting talents for....?

CONCLUSION
Establishment of SI has become an increasingly frequent activity for education institutions. The SI, and related activity, may appeal to the students’ needs to test practices and create learning and achievements in their own context. SI can also be an activity that, support a central key objective to create and develop economic development, growth and other values. The thesis is that qualified students could test their social, entrepreneurial and innovative skills in this way to identify and recognize potential, so it can be brought into “the market” - fast or in a more long-term career perspective.

There are a number of challenges for educational institutions by establishing and running a SI, in which the concept cannot be copied from the more well-known BI. There's a huge difference in the prerequisites among users, but also due to the purpose for the incubators are very different.

Access to network is a critical factor in establishing and developing successful projects. In a SI is the primary network, access to and dynamics of the internal resource base essential for the projects, as they are in a very early stage. To ensure and develop a close confidence filled limited base of resource persons, in and around the SI, is the main objective to ensure the learning and performance of students in the SI.

Jobs, duties and tasks for users, staff and possibly external relations should be clarified and be given priority over the definition of activities and content in SI. Instead, this should take place in a co-creation process with the users, assuring the student’s ownership, responsibility and motivation. It helps sustain the "natural motivation", located in many students to work in the field of innovation and entrepreneurship.

More forceful external network for the SI-users is a more sporadic and individual need, that is a necessity for projects that "performs" - develops further and as potential unfolds. For these projects, it is important to ensure cooperation and a possible changeover to other, more appropriate services from BI, projects, Business Links, and / or private consultants and consortia.

SI should have a focus on supporting students and support the learning that accumulates. At the same time, efforts to express
learning and experience, so it is partly a visible success factor and partly measurable, maybe including ECTS and grading system. To focus on results that establishment rates, profitability, growth etc. are secondary or "just" less important, but might be a minor (positive) impact of the process.

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Sider/om-via-studentervæksthuse.aspx (In Danish)


Appendix 1: T Information from interviews (cases)

<table>
<thead>
<tr>
<th>#</th>
<th>A: (In)-Origin Education</th>
<th>B: Gender</th>
<th>C: Project</th>
<th>D: Status (E / F)</th>
<th>E: Owners / partners</th>
<th>F: Market</th>
<th>G: Using network (Int. / Ext.)</th>
<th>H: Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>JAG – DK BIZ</td>
<td>M/ W</td>
<td>Event</td>
<td>G / G</td>
<td>2</td>
<td>EPC</td>
<td>High / High</td>
<td>High</td>
</tr>
<tr>
<td>2</td>
<td>ING – DK TECH</td>
<td>M / W</td>
<td>Tech (E)</td>
<td>S / GSOH</td>
<td>2</td>
<td>EBP</td>
<td>High / Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>3</td>
<td>DRM – INT BIZ</td>
<td>M</td>
<td>Serial</td>
<td>G / G</td>
<td>1 + more (incubating)</td>
<td>1</td>
<td>ECO</td>
<td>High / Low</td>
</tr>
<tr>
<td>4</td>
<td>LAU – INT BIZ</td>
<td>M</td>
<td>Recyc</td>
<td>G</td>
<td>1</td>
<td>EBP</td>
<td>High / Medium</td>
<td>High</td>
</tr>
<tr>
<td>5</td>
<td>JAG – DK BIZ</td>
<td>M</td>
<td>Serial</td>
<td>4 / GSOH</td>
<td>1 / (more)</td>
<td>EBP=ECO</td>
<td>Medium / Medium</td>
<td>High</td>
</tr>
<tr>
<td>6</td>
<td>ING – INT TECH</td>
<td>M</td>
<td>Serial</td>
<td>G / G</td>
<td>1</td>
<td>EBP</td>
<td>Medium / Medium</td>
<td>Low</td>
</tr>
<tr>
<td>7</td>
<td>JAG – DK BIZ</td>
<td>F</td>
<td>Serial</td>
<td>G / G</td>
<td>1</td>
<td>EBP=ECO</td>
<td>Medium / Low</td>
<td>Low</td>
</tr>
<tr>
<td>8</td>
<td>JAG – DK BIZ</td>
<td>F</td>
<td>Recyc</td>
<td>G / G</td>
<td>1</td>
<td>EBP=ECO</td>
<td>Low / High</td>
<td>High</td>
</tr>
<tr>
<td>9</td>
<td>JAG – DK PED</td>
<td>F</td>
<td>Consulting</td>
<td>G / EH</td>
<td>1</td>
<td>EBP</td>
<td>Medium / Low</td>
<td>Medium</td>
</tr>
<tr>
<td>10</td>
<td>JAG – DK PED</td>
<td>F</td>
<td>Consulting</td>
<td>G / EH</td>
<td>1</td>
<td>EBP</td>
<td>Medium / Low</td>
<td>Low</td>
</tr>
<tr>
<td>11</td>
<td>ING – DK HEALTH</td>
<td>F</td>
<td>Tech</td>
<td>1 / GSOH</td>
<td>1</td>
<td>EBP</td>
<td>Low / Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

A: Initials (cases); Origin (DK: Denmark / INT: International student); Education: (TECH: Technical; BIZ: Business; PED: Pedagogical; HEALTH: Professional Health educations)
B: M: Male; F: Female:
C: Type of project / business: “Serial” means more projects are ongoing (+ 2 projects)
D: Status of education (E) & project (P): G: Graduated; S: Student / G: Going, OH: On-Hold; S: Stopped
E: Number of owners / partners
G: Usage of network: Int.: internally in the incubator (and campus); Ext.: Externally out from campus, on the market, in “real life” etc.
H: In which degree did the project succeed / improve, meeting the criteria’s and objectives for the project? (Primarily the “learningissue”)
How to encourage enterprising behaviour in students?

INTRODUCTION

Up until World War II, the Danish school system was characterized by an authoritarian approach with focus on content before student (and had been for centuries). The way we used to think about children was influenced by the notion that children were disobedient and immoral and needed disciplining. The result of this approach was that children were stripped of personal initiative and critical thinking. A child was seen as an empty box into which you just had to pour knowledge. After World War II, there was a reversal of the educational thinking. Now the child was considered a whole person and we began to be attentive to the opinions of the child. Modern educational thinking aims to give the personal initiative back to the students. Nowadays it is expected that students participate actively and are critical towards what is going on. Over the past 200 years, the idea of compiling students in classrooms has been a well-adopted method, regardless of educational thinking (Appel & Fink-Jensen, 2013; Larsen, Nør & Sonne, 2013; Gjerløff & Jacobsen, 2014; Gjerløff, Jacobsen, Nørgaard & Ydesen, 2014; de Coninck-Smith, Rosén & Vyff, 2014).

My interest in this field stems from my experience as a teacher at VIA University College. I have wondered how natural it is for me to plan a lesson that builds on old-fashioned values, where the teacher speaks and the students listen. My interviews with teachers have revealed that we might not have completely detached us from our history of learning.

One teacher said: “they also expect something to be poured in. I just do not believe that this is the way you learn, but I do it anyway.”

Two questions arise from this quote. Why do the students have these expectations? Moreover, why does the teacher do it anyway?

The answer to these questions might be that students are used to textbooks studies and teacher-led lessons. Moreover,
the focus on learning objective that can be measured in an exam might be part of the answer (Kirketerp, 2010).

However, the questions underline my motivation to work in this field. I have focused on the “giving the initiative back to the students” part, which means focusing on enterprising behaviour in students.

The aim of the research has been to find a connection between the different didactic elements of different educations and the student’s perception of enterprising behavioural skills in order to identify the didactic elements with an effect on achieving a higher level of enterprising behaviour. In that way I can contribute with knowledge about what actually gives the personal initiative back to the students.

My research question is: which didactic elements in the different teaching methods applied provide the students with enterprising behavioural skills?

**THEORY**

The focal point of this article is entrepreneurship education. Entrepreneurship is seen as a social process, based on the individual’s own opportunities where ideas are discovered, created and exploited to create value for others. It is a particular way of acting and a method that can be learnt (Sarasvathy, 2008; Shane & Venkataraman, 2000).

A distinction can be made between three different forms of entrepreneurship education: 1. Learning to become an enterprising individual 2. Learning to become an entrepreneur 3. Learning about academic entrepreneurship (Fayolle & Gailly, 2007: 581)

This paper focuses on point 1, training to become an enterprising individual. The focus is not on a specific course, but on the general didactics where teachers focus on supporting students to act in the field of the profession they are entering. This is important because not everyone has to become entrepreneurs. However, everyone has to act in his or her profession and thus create value for others. Enterprising behaviour is defined as a competence to perform a changing action of positive value to others (Kirketerp, 2000). You can look at enterprising behaviour as an attitude to life and it is essential for a good life. Above all, a good learning environment must leave room for the students to be enterprising as regards their own development (Kirketerp & Knoop, 2012).

Enterprising behaviour has an impact on all aspects of life. It is beneficial for the learning acquired during an education. The more active students are and the more they engage, the greater chance they have of learning something essential and that they learn it in a way that allows them to remember it and use it in relevant contexts (Illeris, 2009).

The enterprising behaviour of individuals manifest itself in fundamental psychological needs for
- Survival as individuals and species
- Freedom for growth and self-regulation
- Positive emotions
- Engagement
- Coping skills/performance in terms of learning, creativity and change
- Social relations
- Existential meaning/actions of value to others.
(Kirketerp & Knoop, 2012)

Enterprising behaviour is affected by the self-efficacy of the individual (Bandura, 2012). High self-efficacy has a positive effect on the enterprising behaviour of an individual. Positive experiences from behaving in an enterprising way will most likely encourage even more enterprising behaviour in the future (Kirketerp & Knoop, 2012).

Another relevant theory is The Self Determination theory by Deci & Ryan. According to this theory, conditions supporting the individual’s experience of autonomy, competence and
relatedness foster the most volitional and high quality form of motivation and engagement for activities (Deci & Ryan, 2014).

Based on the above-mentioned theories this paper focuses on five psychological needs:

- Engagement
- Courage, to perform actions of value to others
- Competence
- Social relations
- Freedom, room for autonomy

These are the psychological needs from the above-mentioned needs, especially relevant in a didactic context. A high degree of compliance with these five psychological needs generally generates a higher level of enterprising behaviour (Kirketerp & Knoop, 2012).

With the focus on giving back the initiative to the students, the theory of self-initiated learning by Carl Rogers come in relevant. To him teachers cannot just hand over knowledge to students, because no knowledge is secure. The teacher must be the facilitator of learning, creating a community of learning dictated by the interest of the students (Rogers, 2005).

The facilitation of significant learning rest upon certain attitudinal qualities that exist in the personal relationship between the teacher and the learner.

Carl Rogers points out three important qualities of the teacher that facilitate self-initiated leaning.

1. Realness (teacher as a real person, with no mask on in the classroom)
2. Acceptance of the learner (the teacher can accept personal feelings that both disturb and promote learning)
3. Empathic understanding (sensitive awareness of the way the process of the learning seem to the student) (Rogers, 2005)

In this way, Rogers suggests that the different didactical elements we bring to the classroom does not support self-initiated leaning itself. However, our attitude and the way we interact with the students are essential.

This knowledge links up with the five psychological needs. The attitude of the teacher and the relationship between teacher and student is bound to influence the psychological needs and thus the enterprising behaviour of students.

The didactic model by Illeris is used to explain different learning environments. This distinguishes between teacher-led or self-directed learning as well as theory- or problem-based learning. Convergent thinking represents a clear distinction between what is right and wrong. Divergent thinking, however, represents a more open approach with many equally good results. Assimilative thinking aims to apply knowledge in a specific context, whereas accommodative thinking aims to apply knowledge in a much broader general field (Illeris, 2009).

![Figure 1: A didactic model (Illeris, 2009)](image)

The need for autonomy calls for didactic thinking with self-directed focus. The general aim of entrepreneur-ship education is to give the students a holistic and problem-orientated understanding in contrast to the discipline-orientated thinking (Kirketerp, 2010). With this in mind, this paper argues that
project-orientated didactics would produce the highest degree of enterprising behaviour in students.

This does not mean that didactic thinking should only build on project orientation. A good learning environment builds on different didactic elements from the above model (Illeris, 2009).

**METHOD**

In the search for variations in teaching methods, various educations and locations were brought into the research. The aim was to find similarities across educations and locations in order to qualify the findings in a broad perspective.

The final research covered 129 students from four Danish-speaking classes:

- Nursing education in Aarhus (34 students)
- Nursing education in Holstebro (49 students)
- Architectural technology and construction management in Horsens (ATCM) (33 students)
- Civil engineering in Horsens (13 students).

Common for these students is that they all study professional bachelor programmes at VIA University College with each programme targeting a very specific profession during the whole study period. All students are in their second year of study.

The major differences are different learning environments and didactic approaches. The educational programmes represent different areas in the didactic model by Illeris.

The two nursing classes have the same curriculum but with different groups of teachers on different locations. How would that affect the students’ perception of enterprising behaviour? Generally, the education is characterised by heavy learning of theory, placing the education mainly on the left side of the didactic model (Figure 1), where teaching and studies are the main methods. Module five of the education, the period when this research was conducted, is a severely criticized module by both students and teachers, mainly because this module is very different from the other modules, focusing on entrepreneurship and problem-oriented studies. This specific module five is actually playing with some didactic methods placed more between divergent and accommodative thinking.

The ATCM program became part of this research project because it builds on problem-based learning using case studies as the focal point throughout the education. The education is based on problem-oriented thinking and group work, placing it mainly in the upper right area of the didactic model (Figure 1). Parallel to the students’ work with projects, the teachers teach theory to support this.

The civil engineering education was selected for this research project because it is mainly based on convergent thinking. As is the case for the nursing education, this education places considerable emphasis on the theory to be learnt. Most of the semester studied for this research project was characterised by classroom teaching followed by individual assignments, placing the education mainly in the lower area of the didactic model. However, the last three weeks of the semester students worked in groups on a project, moving to the upper right area of the didactic model.

The approach has been to distinguish between three different levels of knowledge.

1. Is something happening in the classroom regarding the five psychological needs?
2. What is happening in the classroom regarding the five psychological needs?
3. Why is this happening in the classroom?

The *first level* is a search for knowledge on the basic issue: is something happening in the classroom regarding the five psychological needs? Here the research project used a quantitative method, the digital tool ACT, measuring the students’ perception of enterprising behavioural skills over
time. The ACT program was developed by Anne Kirketerp and used for the first time in this research (Schmidt, L.K.P, 2014). The program had to be installed on the students’ computers and the program popped up randomly twice a week between 10 am and 2 pm. The ACT program measures the five psychological needs mentioned above. The students scored from 1 to 10, with 10 being the highest score.

This research method builds on the experiencing-self of the students instead of the remembering-self (Kahneman, 2011). When the program pops up on the screen, the student can choose not to score that day. This means that the data represents a different number of students each day and consequently the data may not represent the whole class. Therefore, the ACT data was used as a basis for qualitative interviews with students and teachers.

After repeated data input over a period, the student replies resulted in a graphic image like this:

![Figure 2: Screen shot of ACT program](image)

The curve shows that something is happening regarding the five psychological needs. However, it does not say anything about what lies behind the curve and what affected the scoring in ACT.

This leads to the second level, searching for knowledge about what happens in class. The curve has fluctuations and it is essential to know more about these. In this study, the focus has been on the highest score to reveal which didactic elements encourage enterprising behaviour in the students. For this second level, qualitative interviews with a teacher from each class as well as quantitative surveys among all teachers involved lead to analyses of what happened in class.

The teachers were asked about their:
- joy of teaching
- view on learning in general and didactical approach
- view on entrepreneurship and their reflection about the didactic elements when planning lessons according to the five psychological needs
- interpretation of the ACT curves

The teachers provided me with teaching plans to be studied in relation to the specific lessons achieving high scores.

The third level of knowledge searched for answers as to why these fluctuations occurred. Which initiatives in class could be linked to a high ACT score? The research of this level consisted of qualitative studies among students. Focus group interviews with the students were conducted for each class. The
interviews revealed that the different didactic approaches and elements affected the students’ experience of enterprising behaviour. However, they also revealed that other circumstances affected the curves also, such as personal and social circumstances. If the students had a good day in general, they were likely to score higher than on a bad day. Since circumstances were likely to affect ACT data, this level is solely addressed in view of qualitative data from focus group interviews. The ACT curves have been used to identify tendencies to highlight in the focus group interviews with students.

Searching for similarities across educations and locations in the students’ perception was part of this level.

FINDINGS
The findings revealed that something does in fact take place in the classroom in terms of the psychological needs. Some of this can be linked to the initiatives taken by teacher in class. However, the research also reveals that other circumstances affect the students’ perception according to the psychological needs as well. Focusing on the didactic initiatives by the teacher positively influencing enterprising behaviour revealed a common pattern across the four classes, four important didactic elements representing all three educations.

ACTIVITY
First, the students scored high on the five psychological needs when they were being active. Getting up from their chairs and having something in their hands. The research also revealed high scores for the five psychological needs when the students had to teach students from other educations about topics from their own profession. One student said: “if I have to teach someone something, then I have to have the hang of it and then I will of course do sufficient homework in relation to this subject.”

In addition, the findings clearly demonstrate that project work has a positive effect on the five needs. Project work tends to make the students more engaged. The students are attentive about the influence of project-work on their level of activity. Quotes like “we are most active during project periods” and “during project periods we talk to each other more, and in general social bonding is stronger” support this finding. This underlines the above argument that project-orientated didactics support the enterprising behaviour of students because it complies with the psychological needs. It is also worth making a note of the fact that students that are more active also benefit from a greater chance of learning something essential and useful in relevant contexts. Interviews with students underline that the students are very much aware of this. They really want to be active students, and they ask for learning environments to support and push them to behave in an enterprising manner.

INVOLVEMENT OF PRACTICE
Second, relationship to practice was an important element, teaching that was related to or involved practice. The students searched for a link to the practice of the “real world” out there when studying theory. Quotes like “it makes it easier to learn when it is related to practice” and “they have to link the theory to something we can use in practice” support this finding.

They score high on engagement when they work in practice or practice-like situations. As an example, one student said: “I am very motivated during my work placement”.

Knowing that the students aim for a specific profession from day one this does not come as a major surprise. It is critical, however, to be aware of this knowledge when searching for ways to motivate these students.

VISIBLE RELEVANCE AND SENSE
Third, all students emphasize the importance of visible relevance and meaning. They are always interested in why they need to learn certain things and how they can use it. Their motivation is closely linked to their view on relevance. Quotes
like “I am very motivated when I have a need for specific learning”, “my motivation depends on how I can use the knowledge”, “it has to make sense to me”, “I am more motivated when I can see the red thread” and “I am passionate about the things I would like to work with later in my life” support this finding.

This element is related to the second element. The students search for awareness about how they can use certain knowledge when they go to work in practice.

**THE TEACHER AS A DIDACTIC ELEMENT PER SE**

In addition to the above didactic elements, the teacher was found to be a didactic element per se. The students put a lot of emphasis on the behaviour of the teacher. They did not mention the professional competences of the teachers at all. However, the focus was on the enterprising behaviour and personal competences of the teachers. Among other things, the students emphasized elements like the teacher personally exhibiting commitment, being enthusiastic about the subject, listening to the needs of the students, changing lessons according to the needs and focusing on the self-confidence of the students. As an example, one student said: “If the teacher understands us and listens to us that can make us feel motivated”. This finding indicates that the students of VIA agree with Carl Rogers and that the relationship between teacher and student has a huge impact on the achieving of enterprising skills.

The data also revealed that the thinking of a whole group of teachers can make a change.

One aspect that became evident when studying the data was that the curves revealed large differences in terms of courage. At first, you would think that the nursing students from different schools would have similar score when asked about their courage. However, the results from the two nursing classes produced the following ACT curves:

![Figure 4: Courage of nursing students](image)

The general level of courage was found to be remarkably higher in Holstebro than in Aarhus for the same education. Research among teachers indicates that there is generally higher awareness of entrepreneurship in Holstebro. The teachers discuss it and the motivation to let the entrepreneurship approach influence the didactic is higher.

The findings led to a discussion of the different learning environments. The nursing and civil engineering educations represent educational programmes with a considerable level of professional skills to be acquired. Does this mean that they have to focus mainly on teaching, studies and teacher-led learning? The findings prove that this is not the case. Educations such as these can also benefit from focusing on a balance between teacher-led and self-directed learning and subject- and project-based learning.

**CONCLUSION**

The learning environment available to students has a huge impact on their experience of achieving enterprising skills. The learning environment is strongly influenced by the didactic approaches and the relationship between teacher and student.

The focus on enterprising behaviour in the general didactics is essential in order for students to achieve a higher level of
enterprising behavioural skills. There is a need for teachers who will focus on the enterprising behavioural skills of students as well as on their own enterprising behavioural skills and attitude in class. This study reveals four main didactic elements to focus on. Firstly, encourage student to be active. Secondly, make sure to involve practice as much as possible. Thirdly, make sure the students see the relevance and meaning according to their further education and practice. Finally and no less important, the teacher is a didactic element per se exerting a huge impact on the students’ experience of achieving enterprising skills.

The findings are useful knowledge to all teachers. Especially in relation to professional bachelor programmes at the University Colleges where the students aim for a specific profession. All teachers should work towards implementing the above didactic elements when preparing lessons. It is especially advisable to focus on the relationship between teacher and student. The three attitudinal qualities found by Carl Rogers; realness, acceptance of the learner and empathic understanding can be the key to promote enterprising behaviour as well as significant learning. Through this attitude, the teacher can create a safe learning environment which pay due regards to the psychological needs and thus promote enterprising skills.

The findings partly answer the question how we can give the initiative back to the students. It is my view, from interview with many students, that they are ready to fight for more enterprising behavioural skills. They realise that they will gain also more essential and useful knowledge by being more active themselves. However, the students play by the rules laid down by the teachers. This makes the teachers responsible for creating a learning environment where the students’ enterprising behaviour is given a natural focus. If we do not give them the opportunity to behave in an enterprising manner, they will most likely languish instead of flourish.

Centuries of learning history cannot be denied. It is hard work to fight against the tradition of learning. The fact that we still have classroom teaching as the most widely adopted method might be making us stick to the traditional learning methods we have all been exposed to in school. However, it is obvious that today both students and teachers know that we need to separate ourselves from our history of learning. We need to find a balance between pushing and supporting students as well as a balance between different didactic methods.

As teachers, we need to focus on our own courage to feel confident that if we plan lessons according to the findings of this paper, students will grow in terms of the five psychological needs and thus take more responsibility for their own learning and development.

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Professional identity in entrepreneurship – the perspective from nutrition and health education

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KEY WORDS
Enterprising behaviour, learning environment, didactic elements.

ABSTRACT
Purpose
The present study investigates the construction of a professional identity as an entrepreneur in a sample of people with educational background in nutrition and health. The study examines the connection between professional identity construction and entrepreneurial business emergence using ‘entrepreneurial preparedness’ as parameter. This research seeks to address the following questions: What significant components or characteristics do entrepreneurs rely on in the early processes of constructing an entrepreneurial identity?

Design/methodology/approach
Based in the social constructionist perspective the methodology for the present study relies on qualitative interviews with five entrepreneurs with educational background in nutrition and health.

Findings
Results from the study show that ‘entrepreneurial preparedness’ is happening rather in a continuum than a fixed sequence why each entrepreneur should be viewed as a unique individual entrepreneur constructing his/her professional entrepreneurial identity. There is no fixed or pre-described entrepreneurial identity that the prospective entrepreneur can aim for, but instead many constituting factors in the continuum that lead in direction of business emergence, creation and growth.

RESEARCH LIMITATIONS
A limited number of interviews were conducted and further data collection is required in other educational settings to determine exactly how professional identity construction affects entrepreneurial identity and vica versa.

INTRODUCTION
What motives lies behind choosing a career path as an entrepreneur? This question is well considered within entrepreneurship research (Muofhe, Du Toit 2011, Pihie, Akmailah 2009, Chan, Ho et al. 2012, Sherman, Sebora et al. 2008, Gibb Dyer 1994) but the particular linkage between the educational context and the real work-life setting is sparsely explored. This study reveals findings about the complexity of learning processes which have and still has huge focus from many scholars (Pittaway, Thorpe 2012, Collins, Smith et al. 2006, Pittaway, Cope 2007, Cope 2005). However key topics about transformation of knowledge and experiences from one system (education) to another (work life) is still seen as a paradox where elements and support systems in both “worlds” could be improved.

THEORETICAL BACKGROUND
Studies of entrepreneurial identity construction show the importance of seeing new venture creation as a complex and reflective process, dealing with the two major questions “Who am I?” and “What are my capabilities?” (Pratt, Rockmann et al. 2006, Ollila, Williams Middleton et al. 2012, Harmeling 2011). Factors found to be influencing entrepreneurial identity construction have been evidenced to be role models, educational experience, professional interests, demography and professional image (Molinero, Pereira 2013, Rigg, O’Dwyer 2012, Muofhe, Du Toit 2011, Van Auken, Fry et al. 2006). There has recently been a considerable interest amongst entrepreneurship scholars in identity construction (Nielsen, Lassen 2012, Ollila, Williams Middleton et al. 2012). In these studies participants in entrepreneurship programmes are seen as active agents in construction of entrepreneurial identity but it is not necessarily the positions provided by the
entrepreneurship programmes or educational context (Hytti, Heinonen 2013, Donnellon, Ollila et al. 2014).

PROFESSIONAL IDENTITY
Professional identity is defined as one’s professional self-concept based on attributes, beliefs, values, motives, and experiences (Ibarra 1999, Slay, Smith 2011, Ibarra, Barbulescu 2010, Pratt, Rockmann et al. 2006). Becoming professional is a process of reflection and socialization (Jones, Latham et al. 2008, Ibarra, Petriglieri 2010), and some even uses the notion ‘identity customization’ (Pratt, Rockmann et al. 2006).

Kullasepp refers to the term ‘dialogical becoming’ (Kullasepp 2008) where construction of a professional identity is “…a complex developmental process which trajectories are based on the work of a number of internal (personal) and external (social) factors.” (Kullasepp 2008 p7).

Several studies have tried to identify factors that influence the professional identity amongst individuals. In a recent study Moliner and Pereira grouped factors into categories and at the same time described what way they strengthened or weakened the conception of professional identity (Moliner, Pereira 2013). They relied their categories on 16 articles chosen in a thorough literature review summing the categories up to: A) Role models, B) Educational experience, C) Congruence with profession and professional interests, D) Demographic characteristics, E) Professional image, and F) Professional experience (Moliner, Pereira 2013).

Cope and others explored the notion of trigger events as part of entrepreneurial preparedness (Rae 2013, Liang, Dunn 2007, Cope 2003, Morrison 2000) in order to explain the ‘the moment’ where conscious mental awareness about the entrepreneurial decision. These moments are described as ‘learning episodes’ as periods of experience subsequently seen as influential in forming attitudes to life and work and at the same time constructing identity (Rae, Carswell 2000, Rae 2013).

The decision of applying an entrepreneurial role to your professional identity is by Gibb Dyer presented as happening in two stages. In the first stage the general entrepreneurial role is recognized as a valid choice related to building and starting up a business, whereas the second stage relies on the specific orientation towards an entrepreneurial role and identity as an entrepreneur (Gibb Dyer 1994, Henderson, Robertson 2000).

This indicates some of the complexities explained earlier about professional identity construction processes and indicates some sort of continuum for entrepreneurial identity construction. There seems to be a paradox about the graduate defining him or herself as an entrepreneur which does not automatically imply stepping into a pre-fixed role or identity but moreover involves a negotiation with other concurrently held identities that can be evaluated through reflection (Alvesson, Ashcraft et al. 2008, Sánchez, Carballo et al. 2011).

APPROACH AND METHODOLOGY
The sample for the qualitative study consists of a selected group of professionals with a nutrition and health background. From a database with 38 professionals the sample of graduates were selected based on criteria as scope of the business, length of existence and prior work experience from the professional field. A qualitative approach is used to explore major topics to be analyzed. The preliminary data presented here derives from the qualitative interview study but only three of the five interviews are included in the paper due to time constraints.

Based on Kvale’s notions of designing qualitative interviews (Brinkmann, Kvale 2014, Kvale, Brinkmann 2009) the aim of the study is to highlight the complexities in linking experience and knowledge from an education to the actual day-to-day work life as an entrepreneur in that particular field.

Working with the dynamic qualitative approach from Maxwell (Maxwell 2009, Bickman, Rog 2009, Maxwell 2012) the research question in focus is: What significant components or
characteristics the entrepreneurs apply in the process of creating an entrepreneurial self-identity.

**DISCUSSION OF RESULTS AND FINDINGS**

Common for all participants is, that they have a clear and well defined purpose for the company.

One example of a clear value proposition is:

**A:** “We cook company lunch programs and also food for banquets for private customers or companies. That is our main task.”

**B:** “I would like to inspire people in general to live a healthier life – that is probably the foundation for my work life. Whether it is as self-employed or fulfilled in other ways doesn’t matter that much.”

**C:** “To go out to pedagogical institutions and implement food and meal policies and guidelines, do speeches, lunchbox events...that’s where my drive is at the moment.”

What kind of constituting elements does the entrepreneur rely on from the education when looking back?

**A:** “Well, I remember that I participated in an elective course about entrepreneurship over a couple of days. There came various self-employed to tell about their way into it. That initiated thoughts and dreams about becoming one my-self.”

**B:** “I've had both project management and entrepreneurship courses during my education. That was positive even though it only lasted 4 weeks...If it wasn’t for this, then I don’t think I would have had the courage to do it. Now I had the tools for business plan, registration etc.”

**C:** “...you have to find the essence of who you are and what your core competencies are...that could have been elaborated during the education to be better prepared for now where we have to sell our services and products all the time.”

What kind of professional base does the entrepreneur activate in his or her business?

**A:** “The planning of menus and I also often think in health terms around the food. And the course leadership that covers all sorts of areas. Also economics since I’m responsible for administrative work and to check if the finances are ok. I think there are many things that I draw on from the education...I think you learn the basic knowledge.”

**B:** “If you are really eager about your project and fight for it, then the study environment can support you. I remember the social support and activities with fellow students whom were highly engaged in things.”

**C:** “If we had a module about laws, interventions and innovation...I can't remember if you could choose extra things besides that...I seriously thought that this is never going to be me. We worked with ideas and projects, but it didn’t interest me much back then.”

In relation to this the individuals also assesses their capabilities and competencies in the dialogical process of becoming an entrepreneur:

**C:** “...you have to find the essence of who you are and what your core competencies are...that could have been elaborated during the education to be better prepared for now where we have to sell our services and products all the time.”

And finally the experience of peers and their support for the entrepreneurial process:

**B:** “If you are really eager about your project and fight for it, then the study environment can support you. I remember the social support and activities with fellow students whom were highly engaged in things.”

The study shows the importance of creating grounds for identity reflection in the educational setting. The different entrepreneurs from the case all state that much further support and mentorship in the process of developing an entrepreneurial identity is needed.

This leads me to propose continuum in relation to ‘entrepreneurial preparedness’ since no pre-fixed plan can tell whether or not an individual will choose the career path as an
entrepreneur. Much more it is a question of exposure to a manifold of factors that might lead in the entrepreneurial direction.

VALUE AND IMPLICATIONS
The present study has focused on one educational context namely that of nutrition and health at a University College in Denmark. Further research must be put into how these findings might look in other educational settings. However the importance and urgency of linking education and practical work life close together maintain. In the university of applied science this is the main agenda, but with the group of students wanting to become entrepreneurs it is often seen as a difficult and complex task.

1. How can we prepare students better for a life as an entrepreneur? What features of the entrepreneurial professional identity can be learned prior to starting the venture? (Piihl, Rasmussen 2014, Piihl, Philipsen 2011, Parilla, Hesser 1998)

2. Reflection processes needs to be worked more extensively with in the educational context (Schön 1992, Schön 2001) in order to nurture reflective processes about becoming an entrepreneur (Jack, Anderson 1999). If this notion is coupled with knowledge from entrepreneurship research eg. entrepreneurial preparedness we will in the future be better able to constitute reflection processes that contribute to the creation of an entrepreneurial professional identity.

I propose a new understanding of entrepreneurial preparedness where the concept of continuum is considered a central aspect in order to explore the constituting factors or elements over time when constructing a professional entrepreneurial identity. In the early stages the general entrepreneurial role is recognized as a valid career choice, whereas the second major stage relies on the specific orientation towards an entrepreneurial role and identity as an entrepreneur. But in between lies many important entrepreneurial enablers that needs further attention in research.

REFERENCES


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.

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 BACKGROUND, 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>
<thead>
<tr>
<th>Daily practice</th>
<th>International Classes</th>
<th>Danish Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educators</td>
<td>E E B B B A</td>
<td>E B B A</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Daily practice</th>
<th>1st-3rd semester</th>
<th>4th-7th semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educators</td>
<td>E E B A</td>
<td>E B B B A</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Age</th>
<th>30 - 49</th>
<th>50 - 70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educators</td>
<td>E E B A</td>
<td>E E B B B A</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Experience from the Innovation courses</th>
<th>Educators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involved in Innovation courses</td>
<td>E B A</td>
</tr>
<tr>
<td>Little knowledge upon the courses</td>
<td>E B B</td>
</tr>
<tr>
<td>No knowledge about the courses</td>
<td>E E B B A A</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th></th>
<th>High degree</th>
<th>Some degree</th>
<th>Limited degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressing great understanding of concepts</td>
<td>AAA E B D B</td>
<td>D D D D D</td>
<td>E E E E E</td>
</tr>
<tr>
<td>Expressing relevance to own practice (congruence)</td>
<td>AAA</td>
<td>D D D D D</td>
<td>E E E E E</td>
</tr>
<tr>
<td>Expressing involvement of concepts in own daily practice</td>
<td>AAA E B D B</td>
<td>D D D D D</td>
<td>E E E E E</td>
</tr>
</tbody>
</table>

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”.

As can be seen, the interviews indicate that the lecturer’s background profession is of great importance when implementing the concepts innovation and entrepreneurship.
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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Value creation in training and coaching service co-created by educational institutes and small-scale entrepreneurial enterprises

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KEY WORDS
Educational institutions, training and coaching service, service-design thinking, student start-ups, small-scale entrepreneurs.

ABSTRACT
The objective of this case study is to explore how a training and coaching service can create value between educational institutions, students and small-scale enterprises. The background to this case study is a joint project of three educational institutes and the city of Espoo, Finland.

In service-dominant logic, a company can only devise the attributes of customer value propositions, the actual value is created by the customer. In this case, the customers were student and local small-scale entrepreneurs and the service to be provided to them was a training and coaching service. In the study, the partners from the three educational institutes first attempted to identify the most important training and coaching topics for small and student enterprises. Clear differences in approach emerged between the partners. Thereafter, two different workshops with more than twenty entrepreneurs were organised in May 2014 to aid with planning the content of training service for entrepreneurs. In the workshops, service-design thinking was initiated with an ideation tool (8x8) and extended with the use of an affinity diagram tool, with the aim of co-creating ideas and gathering data from the entrepreneurs present to be used to design the training service for them.

Later, training and coaching service was organised by the educational institutes for small and student enterprises. The topics were: increasing customer understanding, business and accounting, maintaining entrepreneur’s mental resources, and networking with others. A practical outcome of the study was that being coached on the topics increased understanding of value-in-use for the participants. The co-operation with small enterprises also created practical contacts with between the entrepreneurs and the educational institutions.

Another outcome was the emergence of ideas and the use of tools that were beneficial to student start-ups and small-scale entrepreneurs. Developing and planning the training days alongside the students and entrepreneurs also initiated communication and networking with representatives of the educational institutes at different levels.

INTRODUCTION
Co-operation in the area of training in student entrepreneurship strives to achieve higher quality and to save money. The “InnoEspoo” project is a pioneering project in this respect that aims to enhance co-operation between the city of Espoo and educational organizations at different levels: The Omnia Vocational Institute, the Laurea University of Applied Sciences, and Aalto University’s Small Business Center (Table 1).

<table>
<thead>
<tr>
<th>Table 1: Partners in “InnoEspoo” project</th>
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<tbody>
<tr>
<td>Omnia Vocational Institute: a school of 10 000 students and 700 staff in 11 locations around the city of Espoo.</td>
</tr>
<tr>
<td>Laurea University of Applied Sciences: 8000 students studying in 15 Bachelor’s and Master’s degree programmes in 7 study locations around the Uusimaa region.</td>
</tr>
<tr>
<td>Aalto University’s Small Business Center: an interface between Aalto University and entrepreneurs, SME staff and students interested in entrepreneurship. Aalto University is one of the main universities in Finland established in 2010.</td>
</tr>
<tr>
<td>Espoo: a City within the metropolitan area of Helsinki with 260 000 citizens, which is part of Finland’s economic and political hub.</td>
</tr>
</tbody>
</table>

The project aims to identify concrete actions to create a community that serves the combined needs of entrepreneurs and students and of local government. The project consists of two main tracks: entrepreneurship training and service development in the City of Espoo. Within the entrepreneurship
track, training and coaching service for small-scale enterprises, joint entrepreneurship training and the ‘Espoo Challenge’ entrepreneurship camp, for example, have been delivered. Within the service development track, a ‘well-being marketplace’ has been created to facilitate the provision of wellbeing services by entrepreneurs to ageing citizens of Espoo.

The City of Espoo is at the forefront of promoting economic wellbeing and development in Finland. Being one of the three cities of the metropolitan area it is part of a one-million inhabitant region that hosts many important companies and educational institutes. Espoo, among other Finnish cities, has challenges in terms of service provision for its citizens and problems in utilising higher-education students’ skills and knowledge in developing its various functions.

In the larger picture of the entrepreneurship ecosystem (Graham 2014), some enterprises have not extended well in the capital area in Finland, although the entrepreneurship ecosystem is highly regarded in international comparisons. The InnoEspoo project was partly a response to this perceived need to provide useful support to young and new entrepreneurs. The target groups for the InnoEspoo project were student enterprises, student co-operatives, small-scale service businesses, part-time entrepreneurs, and entrepreneurs in creative industries. The project aims to help target groups find new service solutions and business ideas, as well as giving advice about business plans.

THE OBJECTIVE AND RESEARCH PROBLEM
Initially, the project partners did not know how many start-ups or student enterprises existed in the three educational institutes. According to the overall aim of the “InnoEspoo” project, the partners wanted to support small-scale entrepreneurs and student entrepreneurship. Therefore, the training and coaching service geared to supporting new entrepreneurs was created. This study describes the training and coaching practices employed in creating this service and their impacts.

The aim of the paper was also to explore how value is created in the training and coaching service from the perspective of both the educational institutes and the students and small-scale enterprises taking part.

VALUE CREATION AND SERVICE-DOMINANT LOGIC
In 2004, Vargo and Lusch published a new framework that has become the cornerstone of modern marketing theory, the service-dominant logic. According to the theory the meaning of value has shifted from being determined by the producer to being determined by the customer on the basis of “value in use”. This big shift in thinking about how value is created means that companies can only make value propositions in regard to the customer and it is the customer and other actors involved in a service interaction that co-produce the value together with the company (Vargo & Lusch 2004). The service-dominant logic supports the view that the customer is an operant resource – a collaborative partner who co-creates value with the organisation (Vargo and Lusch 2004). It is a logic that is philosophically grounded in a commitment to collaborative processes with customers, partners and employees. Business efficiency is about understanding, internalizing and acting on this logic better than competitors.

The service-dominant logic argues that companies cannot design value, but rather that value happens in the context-of-use and it is always determined by the one that benefits from the service. Companies can design propositions of potential value (Grönroos & Helle 2010; Sandström et al. 2008; Anderson et al. 2006). Value is created and also extracted by customers through personalized experiences, where customer communities and the role of a company’s extended networks are crucial.

Several attempts have been made to define value categories in service marketing (Holbrook 1999; Addis and Holbrook 2001; Anderson et al. 1993; Flint et al. 2002) and also to clarify what
is meant by value-in-use (Grönroos & Voima 2013; Heinonen et al. 2009). According to Grönroos (2010), understanding customer value creation is problematic and cannot be generalized, as value is always perceived in an individualistic way.

Grönroos argues (2010) that even though value creation is frequently referred to in the literature, we actually know very little about the customer’s value creation processes; that is, when and how it appears and for whom. Grönroos (2008) defines value creation as a process where the customer becomes better off in some respect. The customer’s value creation process can be defined as activities performed by the customer to achieve a particular goal (Payne et al. 2007), in the process of which value is created by the customer (Grönroos 2010; Heinonen et al. 2009; Gummesson et al. 2010). How the value creation process works and the precise roles of customers and suppliers within it is a matter of ongoing debate.

In this case study, the entrepreneurs are the customers and the service provided to them is the training and coaching service.

**Methodology, Tools and Findings**

Service design is an emerging field arising out of a new-found interest in services as design material, and is being advanced by practitioners and academics of the human-centred design tradition. As such, the field can build on knowledge from previous work in design as well as from service research (Segelström 2013). Service design is a shared way of thinking. It is the shared language between different experts and co-operation partners. It is also a shared set of tools and a collection of processes (Tuulaniemi 2011). Service design combines expertise and skills across organizational levels. It develops service concepts in co-operation with different experts and stakeholders. Today’s design and especially service design extends to the experiences that customers have with products, services, spaces or a mix of these.

Service-design principles are customer centric, in that the customer is kept closely in the middle of the design process; the focus is on what the customer will do with the service and what makes it desirable (Stickdorn et al. 2012). When adopting a customer-centric approach, it is usual to create a common shared language based on the customer’s own personal history or experiences, with less possibility for misinterpreting the customer’s needs. Co-creativity requires stakeholders from different backgrounds to participate in brainstorming together, so that they can bring the value elements into the designing process, while keeping the customer in the centre. In this study, the training and coaching service was developed in accordance with Moritz (2005) (see Table 2).

<table>
<thead>
<tr>
<th>Needs of entrepreneurs</th>
<th>Tool: 8 x 8</th>
<th>Tool: affinity diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding</td>
<td>Thinking and generating</td>
<td>Filtering</td>
</tr>
<tr>
<td>Thinking and generating</td>
<td></td>
<td>Explaining</td>
</tr>
<tr>
<td>Filtering</td>
<td>Decision on training topics</td>
<td>Course programs: knowledge and inspiration</td>
</tr>
</tbody>
</table>

**Table 2: Service design process for the training and coaching service**

The training and coaching topics required initial inspiration and ideas that the team could then continue to develop while implementing the content of the service. The initial ideas were provided by the project partners from the three educational institutes, although the partners had different perceptions about which training and coaching topics would be relevant to small enterprises. To resolve these different approaches into a coherent service that was satisfactory to all the partners required further a planning activity.

A common approach to ideation is co-creation, in which a group of different stakeholders are brought together in a workshop. In the case study, two different workshops with more than twenty entrepreneurs and student entrepreneurs
from three educational institutes together with project partners were organised in May 2014 (Figure 1).

Figure 1: Entrepreneurs and participants in small groups working with the 8x8 tool

As people are involved in all aspects of services, it is crucial that service developers would understand these human aspects so that they can make well-informed design choices. The service design process was started with an ideation tool (8x8) in the workshops. The tool divides the main question into eight subtopics, which are then further divided into eight more. With this tool, a total of 64 ideas are generated within small groups. In our workshop the tool was used to generate entrepreneurs’ ideas and gain understanding of their thoughts and needs in regards to education and coaching. The 8x8 tool could be used in the early phase of the innovation process by both customers and researchers (Leminen et al. 2012). In the centre box is written the main target question and around this are written explanatory ideas that are linked to it. The next step is to move these ideas into the 8 yellow boxes (Figure 1). The eight main ideas of each group from the first innovation workshop are presented in Table 3.

<table>
<thead>
<tr>
<th>Group A - 5 persons</th>
<th>Group B - 6 persons</th>
<th>Group C - 5 persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business management</td>
<td>Financial management</td>
<td>Strategic management, be able to manage</td>
</tr>
<tr>
<td>Service- and product development</td>
<td>Entrepreneur wellbeing</td>
<td>Subcontracting, purchasing know-how</td>
</tr>
<tr>
<td>Marketing and communication</td>
<td>Advice, tax advice, entrepreneur consulting</td>
<td>Communication, social media, communication skills</td>
</tr>
<tr>
<td>Self-management</td>
<td>Mentors, other entrepreneurs</td>
<td>Self-management, Start-up and stakeholders</td>
</tr>
</tbody>
</table>

Table 3: Examples of findings in the 8x8 innovation workshop

After the first workshop, there were a lot of ideas concerning the educational needs. For the enterprises, the workshop provided a variation to the routine everyday life. The entrepreneurs were willing to continue working with us. They usually worked alone in their own enterprise, which is very often at home. The second workshop was created with the entrepreneurs.

The co-created ideas were formulated for the second workshop by the project partners. Some of the participants were new, while entrepreneurs from the first workshop asked other entrepreneurs to join the second workshop. Our next step was to select ideas so as to arrive at a small number of ideas that would focus attention on the future training design. The entrepreneurs that were present were asked to use an affinity diagram to again order the ideas and select three of the most important ideas in their small groups (Service Design tools 2009). The affinity diagram is a process used for organising large amounts of ideas. Figure 2 presents the process flow from the 8x8 tool to organising the ideas with the affinity diagram in the second workshop.
Figure 2: From the 8x8 ideation findings to four main topics for the training service

In the second workshop four training and coaching topics were co-created: customer understanding and service design, business and accounting, maintaining entrepreneur’s mental resources, and networking with other entrepreneurs.

Outcomes of the Coaching Days

During autumn 2014, four training days were organised for student entrepreneurs and small-scale entrepreneurs. The training and coaching service was branded “Knowledge and Inspiration”. The process progressing from ideas that arose in the workshops to the service implementation based on four topics: customer understanding and service design, business and accounting, maintaining entrepreneur’s mental resources and networking with other entrepreneurs. The total amount of participants in the various workshops and training days was 138 persons.

Content analysis was used to analyse the verbal feedback and short stories from the participants. Customer experiences were interpreted from the verbal data. According to Sandström et al. (2008) the experience of value is created in the mind of the customer. The value creation can be described as a process, such as in Figure 3. Service-dominant logic and customer-dominant logic explore the concept of value-in-use (Grönroos & Voima 2013). The coaching was individually planned and created as a value-in-use in the entrepreneur’s life. Value-in-use is created following experiences and it requires an individual evaluation (Sandström et al. 2008).

Figure 3: Customer value creation process

Examples of participants’ verbal feedback:

- “The coaching gave me a lot to think about concerning my own work and economic planning. I was excited”
- “It was great to receive the material beforehand and to be able to study it”
- “The coaching enabled me to start developing my own business model”
- “The time was a bit too short, but we received a lot of good tools”

During the training course days the participants felt they received useful information, tools, and materials. They experienced the service as excellent, referring to the training
and coaching service as being e.g. self-referential and creating value experiences. Social value was brought up in several comments and was concretely realised in the form of new relationships between enterprises. New viewpoints and information was received during the training service, which can be seen as giving epistemic value. Table 4 describes the different value dimensions that can be ascribed to the comment categories (Table 4).

### Table 4: Conscious value categories and observations of the customer value

<table>
<thead>
<tr>
<th>Customer value in particular was considered useful information, in that it assisted with developing the businesses of entrepreneurs. The occasion brought together enterprises from different fields of working life, and this enabled the enterprises to find new potential clients among the participants. Customer value was also received through combining resources; a few entrepreneurs started to develop a service co-operatively.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased co-operation supports all parties and is an opportunity in educational institutions to develop new study assignments and thesis topics with outside partners. Students that have a start-up enterprise also found mentors in other entrepreneurs.</td>
</tr>
</tbody>
</table>

### CONCLUDING DISCUSSION

The training and coaching service offered learning possibilities to all the participants. The co-operated days provided ideas and tools for the entrepreneurs’ work. The service design process for planning the training and coaching service (workshops) and the implementation (the training service) facilitated communication and networking among local small enterprises and educational institutions.

An outcome of the study is that the experience of the training and coaching service increased understanding of value-in-use for participants. Students who have a start-up enterprise met mentors in the form of other entrepreneurs. Co-operation with small enterprises initiated contacts with educational institutes, with the possibility for further beneficial assignments and the potential for constructing academic theses around the topics.

Moreover, the project helped in creating a community where entrepreneurs and students work together in shared facilities and training sessions. Simultaneously new services for the area were created and learning facilities within the Espoo region were opened up for the use of various professionals, specialists, and entrepreneurs.

Perhaps the most valuable outcome has been the creation of an actor-level network across different educational institutes. Through mobilising this network, it is possible to take advantage of up-coming opportunities in the area of supporting student entrepreneurship. This is likely to have a long-term impact on developing the national system of entrepreneurship in the capital region in Finland.

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Artevelde University College Centre for Creativity, Innovation and Entrepreneurship

BY AN BOONE
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ABSTRACT
ACCIO= Artevelde University College Centre for Creativity, Innovation and Entrepreneurship.

Accio was founded 5 years ago. The mission of ACCIO is to inspire intrapreneurship and entrepreneurship for students and teachers of the Artevelde University College. Artevelde University College was also the pioneer to launch the statute of student-entrepreneur in april 2014 and the statute of starter-entrepreneur, in order to stimulate entrepreneurship with students.

Students who already are enterprising during their studies can receive special facilities in order to be able to combine their studies and entrepreneurship.

Artevelde University College also wants to stimulate students to Enterprise in a safe environment, and therefore they are launching a structure to guarantee students to Enterprise safely (by learning and failing) during their studies. Artevelde University College also has a lot of good and best practices of combining multidisciplinary skills in order to stimulate creativity, innovation and entrepreneurship and intrapreneurship with students and teachers.

KEY WORDS
Artevelde University College, Centre for Creativity, Innovation and Entrepreneurship - good practices

ACCIO: WHAT’S IN A NAME?
The Artevelde University College Ghent Centre for Creativity, Innovation and Entrepreneurship (ACCIO) was set up in 2011 as a knowledge centre contributing to the college’s strategic objective “to stimulate creativity, innovation and entrepreneurship among students and employees”. ACCIO challenges students, staff, alumni, and national and international partners to find answers based on new ideas within a rapidly-changing educational context.

In each of the university college’s departments ACCIO project officers carry out this mission of entrepreneurship and creativity. Curricula are updated to introduce relevant skills for entrepreneurship. ACCIO creativity officers facilitate brainstorm sessions, support teacher training in creative thinking and offer inspirational lectures to enhance creative and entrepreneurial actions. In addition substantial support and coaching is provided to students and young graduates wishing to establish their own start-up companies.
The ACCIO initiative provides an interesting example of how creativity, innovation and entrepreneurship can be mainstreamed across a wide range of learning areas, thus contributing to the development of creative skills among graduates and future professionals in different sectors. Creating such structured links to creativity in the college system is invaluable in building a new generation of entrepreneurs.

Organisations involved: Artevelde University College Ghent
Genesis: Since 2011
URL: http://www.arteveldehogeschool.be/en
https://www.facebook.com/AccioArteveldehogeschool
https://twitter.com/ACCIOArtevelde

ACCIO is focusing on 4 target groups:
1. Students
2. Employees of the Artevelde University College
3. Management
4. Sector + Alumni

ACCIO also wants to work on 4 core domains:
1. Education
2. Research
3. Service

**COMBINING EDUCATION AND ENTREPRENEURSHIP?**
During Higher Education, students might think they are taking place on a container ship where they will stay for approx. 3 years during their bachelor studies. They will be overloaded with a lot of knowledge during their trip. When they finally are able to mooring (aanmeren), they can apply what they have learned in their container...

NO, that’s not the mission of ACCIO! ACCIO wants that the Artevelde University College students are boarding off an aircraft carrier where they are getting taught knowledge, skills and know-how. During their 3 years stay, ACCIO stimulates the students and employees to step out of their comfort zone, by flying out once and a while to practice and apply the acquired knowledge.

ACCIO is spreading the think – do- become virus! ACCIO wants to challenge employees and students in a rapidly changing environment and education context. ACCIO stimulates creativity, innovation and entrepreneurship with students, employees, management and alumni. Let them leave their comfort zone, and think out of the box. If you are having a wild idea or crazy dream, ACCIO wants to stimulate you to go for it.

ACCIO: SOME FACTS AND FIGURES
ACCIO = Artevelde University College Ghent Centre for Creativity, Innovation and Entrepreneurship.

- Type of activity: Entrepreneurial teaching methods and pedagogies
- Country of implementation: Belgium
- Institution implementing the activity: Artevelde University College Ghent
- Website or link to project or institution:
- Contact: An Boone an.boone@arteveldehs.be – Telephone: +32 09 234 73 96 – GSM +32 472 34 49 76
- Application / target audience of activity: College teachers and students, alumni, national and international partners

2.6 FTE is employed within ACCIO: 1 FTE in the ACCIO Center and 1.6 FTE is spread over the 16 ACCIO officers out of the 16 different departments.

These ACCIO officers are the added value for ACCIO, because they are able to translate Creativity, Innovation and Entrepreneurship into the different bachelor degrees. Entrepreneurship for a nurse has to be translated completely different compared to entrepreneurship for a marketer.

ACCIO coached 100 students this Academical Year 2014-2015 and we have 20 students who asked for the statute Student Entrepreneur: students who already have their own business while studying.

The Artevelde University College counts 1 150 employees and 14 000 students spread over 16 different professional bachelor’s degrees, located in 9 different campuses all over Ghent.
ACCIO TOOLS AND METHODS TO STIMULATE CREATIVITY, INNOVATION AND ENTREPRENEURSHIP

ACCIO AS A SIGNPOST

- ACCIO and the ACCIO officer are the first line to students who are having an idea and who want to do something with this idea. ACCIO supports these students by working out their business model, ACCIO is connecting these students to their network in order to get tailor made information.

- ACCIO offers a community to these students. Thanks to this community students can exchange experience with alumni and other student entrepreneurs, and learn from each other.

- ACCIO developed a competition matrix in order to implement Creativity, Innovation and Entrepreneurship within the curriculum.

- ACCIO organizes train-the-trainers for employees in order to give them tools, information, techniques to implement the ACCIO values within their lessons.
Artevelde University College Ghent trains professionals who are able to push boundaries through the use of creativity, innovative thinking and entrepreneurial spirit. The aim is to challenge students and staff to find new answers, based on new ideas within a rapidly changing educational context. The knowledge center ACCIO, chaired by the general director and launched in September 2011, takes the lead in this process. This should lead to the achievement of one of the college’s main strategic objectives: ‘to sow and stimulate creativity, innovation and entrepreneurship among students and employees’. Every single school department (16 departments) has its own Accio project officer.

All the innovations within the curricula are inspired by the skills that an entrepreneur should have including: creativity, opportunity seeking, customer focus, leadership, persistence etc. An online tool was developed to allow pre- and post-testing of students’ and teachers’ entrepreneurial skills. The ACCIO project officers are trained to detect these skills. Every programme has its ACCIO dictionary that contains skill descriptions and corresponding learning outcomes. This dictionary facilitates the integration of creativity, innovation and entrepreneurship within the curricula in a systematic way. In addition, the ACCIO creativity officers facilitate brainstorm sessions and teacher training on creative thinking, inspirational lectures and other activities to enhance creative and entrepreneurial actions.

Some of ACCIO’s outputs include:
- 15 brainstorm sessions with teachers and students in the last 3 months. University college staff can call upon ACCIO to organize brainstorm sessions for various purposes, for example in order to reorganize their department. Students can apply to ACCIO to get a brainstorm session in order to work out their idea for their start up. Brainstorm sessions can be integrated within the curriculum, for ex. the students of Event- & Project management have the possibility to follow a choice option ‘Creativity’. These event students work out real-life projects for real-life customers. They need a lot of creativity during their project to make it successful.
- Gathering 130 students with a creative idea at the start of the academic year 2013-2014 - VOKA mega brainstorm. Companies who are looking for innovative solutions can send in their business case to VOKA. Students will think of new ideas for these specific business cases during the mega brainstorm.

http://www.voka.be/oost-vlaanderen/nieuws/2013/9/megabrainstorm-bekijk-uw-bedrijf-door-een-innovatieve-bril/ or the VOKA Mega brainstorm –
- 50 students were supported by Accio to pursue the start-up of their own company over the first semester of 2014 – 10 students asked for the statute Student-Entrepreneur to start up their business
- 400 students took the online test Entre-Spiegel http://www.syntravlaanderen.be/entrespiegel-20 in the academic year 2011-2012 – a special quality characteristic was gained thanks to the competency-based approach
- Student Ghentrepreneur output – 70 events were organized with interesting topics for the student entrepreneur and thanks to these events networking opportunities were offered. The virtual wallet was created to offer a specific tailor made service to the student-entrepreneur. Student-entrepreneurs were given visibility thanks to the Student Ghentrepreneur network. A community platform ‘we start up’ was offered to expand the network of the student entrepreneur.
- International publications http://asef.org/pubs/asef-publications/3251-enabling-crossovers

The successful integration of entrepreneurship into the curriculum and teaching performance, as well as stimulating entrepreneurship and innovation amongst students in order to increase their employability.
Artevelde University College launched in 2011 the statute student entrepreneur and statute candidate entrepreneur. The main purpose of this statute is to facilitate the combination of studying and venturing. Thanks to the statute, the student entrepreneur can ask for facilities to make sure he can combine both innovation and entrepreneurship.

ACCIO also founded an Innovation lab, a physical place where students from all 16 departments can launch and introduce their idea for setting up a start-up. These students are coached by professionals who work out the business plan together with these students and who look at the feasibility of their project. The next step is to redirect the students to the ACCIO community and the Student Ghentrepreneur Network. Once the student entrepreneur has a feasible business plan, he can onset into the student cooperation.

ACCIO is also the project leader of Student Ghentrepreneur http://www.studentghentrepreneur.be since October 2013. By working out this project together with 5 other partners City of Ghent, Hogeschool Ghent, University Ghent, Unizo and iMinds within Ghent, we have built up a lot of experience in creating a real-life platform where student ghentrepreneurs can combine studying and starting up their own business. Student Ghentrepreneur is a networking community in which the Student-Entrepreneur of Ghent is involved.
represented. The community organizes events for student entrepreneurs in Ghent in order to prepare them for their own start-up. Thanks to this project, ACCIO is able to develop best practices and to exchange experience with the partners. ACCIO has also a good feeling with the limits and the difficulties the students experience when starting up a business during their studies.

- The virtual wallet was an output thanks to the cooperation with Student Ghentrepreneur. The partners felt the need to create a possibility to give more specific tailored advice to the student ghentrepreneur.

**STUDENT COOPERATION**

- Artevelde University College and ACCIO are setting up a cooperative enterprise as a structure in which start-up enterprises created by students can develop and grow in a supporting and safe business environment. This cooperative enterprise http://www.depunt.be/news/4/De_Punt_Formaat_en_Arteveldehogeschool_werken_aan_blauwdruk_voor_jongerencoperatieve is built with other partners in the field of youth employment and youth entrepreneurship, Formaat and De Punt, and Flemisch agencies supporting entrepreneurship in general, Starterslabo and Agentschap Ondernemen. The general idea is to create a learning environment for the student entrepreneur who wants to combine studying with his start up. In February 2015 this structure becomes operational in a pilot phase within Artevelde University College with +/- 10 student entrepreneurs who already have customers but no structure for their business. In the academic year 2015-2016, the pilot project will be tested on a larger scale with +/- 40 student entrepreneurs in order to work out a structure that can be translated and copied to other universities, cities, countries.

**CONCLUSION**

ACCIO tries to create a place within the Artevelde University College where creativity, innovation and entrepreneurship are possible to combine. Dear visitor of the 1st European Networking Conference on Entrepreneurship Education in Denmark, do you want to jump with us?
Please don't hesitate to contact ACCIO. You are more than welcome to visit ACCIO in the city of Ghent, Belgium.
Artevelde University College – ACCIO – Hoogpoort 15 – 9000 Gent, Belgium, an.boone@arteveldehs.be
Tel: +32 9 234 73 96
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CONFERENCE PRESENTATION
TEACHING EXPERIMENTS AND INCUBATOR
Start up with Storytelling

BY KARIJN BONNE & KAROLIEN HUYLEBROEK
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KEY WORDS
Storytelling, startup, passion, workshop, research.

“Entrepreneurial teaching is only for passionate people and nerds”

“Data satisfy the analytical part of our brains but stories touch our hearts.” Inspired by the Educational Design Research method we have developed a one day storytelling workshop for startups.

Using the Business Model Canvas, which is based on nine universal criteria explaining the logic of a business, will result in answering the ‘what’ and ‘how’ question of the start-up. However, a logical construct is only half the work. The links between several criteria explaining ‘why’ particular choices have been made is crucial to convince future customers or investors. Storytelling unleashes the power of connecting on an emotional level. We focused on creating an emotional layer above the rationale of the business as is explained in the Business Model Canvas.

The research project combined a study of literature, expert interviews and methodology testing. Literature was mainly based on narratology, management and working of the brain. Experts in these domains gave us more practical information. Then, designing the workshop was mainly the combination of different domains and finding ways to transfer abstracts of theoretical knowledge in order to coach start-ups in telling their story so that it works for them. Finally, this design was tested in an iterative process.

It was surprising for the researchers to discover that trainees almost never linked their competencies or passion with their business concept. Matching the ‘what’ and the ‘how’ with the ‘why’ was not always obvious but nevertheless essential to strengthen the entrepreneur. Trainees were surprised how the intervention of storytelling revealed aspects they had never realised before. This is illustrated by quotes like ‘It seems as if trainers can read our minds’, and ‘they knew exactly what was missing to make our plan work.’

As a result, we have a workshop to offer to (student) start-ups, but also a train-the-trainer.

CONFERENCE PRESENTATION
Call for partnership for the summer school of creativity

BY LIEVEN DESOMVIELE
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KEY WORDS
Design thinking, idea development, creativity, internationalisation, entrepreneurship.

This summer course will launch your idea into a startup in less than a week!

This is a week-long, hands-on experience where aspiring entrepreneurs can find out if their ideas are viable amongst other international students. This week is all about learning through the act of creating.

Don’t just listen to theory, build your own strategy and test it as you go. We will focus on cooperative, conceptual thinking (as opposed to analytical thinking). We will facilitate you in order to transform your ideas into an innovative (business) plan. We will provide an array of learning experiences with brainstorming, flipped classroom lectures, tutorials and presentations. Themes included throughout the week are pattern breaking, diverging, converging, business model canvas, design thinking.

This course is organized by Artevelde University College, Ghent, Belgium. We aim to be a dynamic and ambitious institution true its new mission, formulated in 2011. “Artevelde University College trains professionals which are able to push boundaries true the use of creativity, innovative thinking and an entrepreneurial spirit.”

This brings us to the core of why we want to invest in creativity, innovation and entrepreneurship as a competence. We want to challenge students and staff to find and realize new answers, based on new ideas within a rapidly changing educational context. This thought is embodied within the creation of the knowledge center ACCIO (Artevelde university college Center for creativity, innovation and entrepreneurship). This should lead to the achievement of one of our main strategic goals: To Sow and stimulate creativity, innovation and entrepreneurship in students en employers.

CONFERENCE PRESENTATION
Crowdsourcing – Disrupting Entrepreneurship & Education

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KEY WORDS
Crowdsourcing, Crowdfunding, Open Innovation, Entrepreneurship, Collaborative Economy.

VIA University College has now launched VIA Connect, a crowdsourcing community bridging higher education, research and innovation. The community connects private and public organizations – including leading global brands and local governments – with thousands of researchers, educators and students, who will provide ideas and innovations tailored to their organizations.

Following the launch phase, micro-communities and work spaces will be introduced, which will allow members of the VIA Connect community to also create their own innovation challenges, and invite stakeholders to collaborate on these. Concurrently, VIA University College will be delivering an educational program to give students hands-on knowledge of the collaborative strategies, practices and tools that are powering new forms of production and value creation, equipping them with the skills required to become successful entrepreneurs and intrapreneurs in a globally connected world.

For VIA Connect, VIA partnered with Chaordix, a global crowdsourcing leader that has worked with clients like P&G, KPMG, IBM, Virgin and LEGO. Chaordix provides an enterprise technology platform and applications – combining crowdsourcing processes with social sciences practices – and has collaborated closely with VIA to realize the vision for VIA Connect as a major, new innovation driver.

The VIA Connect project and platform will be presented by Chief Consultant Flemming Binderup Gammelgaard, who directs the project for VIA University College and is Co-Founder & Chairman of the Danish Crowdsourcing Association.

As an added bonus, we will be inviting potential partners to explore opportunities for collaboration following this session.

CONFERENCE PRESENTATION
Blogging as a method to stimulate intrapreneurial reflective practice learning

BY VIBEKE BRINKMANN LØITE & BETINA RINGBY
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KEY WORDS
Blogging, reflective practice learning, progression model, intrapreneurship, physiotherapy

BACKGROUND
The elective course; The Physiotherapist as a Global Intrapreneur was developed by two intrapreneurial lecturers in spring 2014, with a purpose to inspire students to develop an intrapreneurial physiotherapeutic mindset in relation to global health. To achieve this purpose the course called for a new method that proved the following statement to be wrong - "Entrepreneurship education is not effective".

PURPOSE
To identify and create a method that stimulated reflective practice learning to support the individual student’s need in the learning process. Blogging was considered to be a flexible method to support students’ different theoretical level of knowledge and experience in relation to intrapreneurship.

METHODS
Seven, 7th semester physiotherapy students created a personal blog on the first day of the course. The blogs were created free of charge at the WordPress.com hosting platform. During the course the students were asked to publish their personal and theoretical reflections on intrapreneurship, their solutions to different tasks given by the lectures and their reflections on the intrapreneurial collaboration with private companies. Each student decided for themselves the amount of posts on the blogs. The use of blogging as a method was evaluated in the end of the course in an open-ended online questionnaire.

RESULTS
Blogging showed to be a very powerful and successful tool to encourage intrapreneurial reflective practice learning. Blogging stimulated students to reflect and recognize their personal development in all of the dimensions of the progression model. According to the students blogging was an engaging and motivating learning method, due to the methods ability to break down barriers of right and wrong. The students emphasized that blogging stimulated their reflection on theory and intrapreneurial experience as well as supporting their knowledge and insight in the other students thoughts.

CONCLUSION
Blogging is a relevant method in achieving reflective practice learning in relation to developing intrapreneurial competences. It makes intrapreneurship education effective by stimulating reflection on theory and personal development in relation to the dimensions of the progression model.

CONFERENCE PRESENTATION

Blogging as a method to stimulate intrapreneurial reflective practice learning
A New Mindset Focusing on Teaching in Professional Locations

BY BIRGITTE WOGE NIELSEN & ANNE SOFIE LANDBO

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KEY WORDS
Mindset, innovation, entrepreneurship, action, students

ABSTRACT
The point of departure of the process is a concrete disharmony experienced by the lecturers in the Department of Occupational Therapy: the teaching of Occupational Therapy has moved out of the professional locations and is at present carried out in the context of traditional classrooms. A focus on new didactical approaches which to a greater extent integrated and applied professional locations in the Occupational Therapy program was required. This was the first step in a course of events that developed in various workshops over six months. The workshops and their contents are outlined in the survey below:

The most important finding to date is the potential embedded in carrying out and facilitating innovative processes with a view to creating concrete actions for the benefit of the educational program. By virtue of the fact that the students are qualified players in the development of various types of courses and approaches, the process is generated by the users.

CONFERENCE PRESENTATION
How to “open up” a profession - when wonder is a part of teaching

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KEY WORDS
Wonder, Professional innovation, Socratic dialogue, open up

ABSTRACT
Within recent years the entrepreneurial principles from a mercantile context have found their way into the educational system (Steyart 2004). On the other hand recent research point out the risk of introducing a mercenary approach in education as opposed to cultural and moral values (Scharmer 2008).

Within the past three years we have been a part of Project “Wonder based Entrepreneurship teaching - a dialogue learning method”. The philosophy behind the project is inspired by Socratic dialogue and Wonder based learning principles (Hansen 2012). Our hypothesis is, that this method is changing the students way of thinking about their everyday life/profession and maybe creates another way of innovation.

The 3 week of inter-professional teaching program at Campus Randers is set within the ME 2 model (Bager et. al 2010) which aims at stimulating students innovative skills step by step. In the model is a need for finding disharmonic areas of a real life case. In this process we have used wonder based teaching to “open up” as a step, where students are encouraged to express their values and ideal wishes for the product they are working on. The “open up” step does not entail solutions to the problem, but ideally stimulates visions that ultimately enhances students’ motivation and gives them a direction in which to go.

The results shows that the “open up” step is an important step that may enhance students’ innovational skills in the entrepreneurial innovational process. The students’ learning outcome is greatly dependent on the relations between the students in the inter-professional cooperation process. The process also requires close guidance in order to withhold the students from jumping to solutions at an early stage. The students should experience that creative reflection takes time.

CONFERENCE PRESENTATION
The value of coaching in developing students’ enterprising behavior

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KEY WORDS
Coaching, individual entrepreneurial opportunities, dialogue

PURPOSE
The present study investigates how coaching as a purpose of creating a process of dialogue is able to push students to become enterprising in an entrepreneurial context. The study examines the connection between the interpretation of student’s enterprising behavior before and after coaching in an entrepreneurial context. The focus of this research is to investigate the influence of coaching as a method of dialogue executed with students in the early phase of their entrepreneurial enterprise. The main two questions arising are: 1. How are students able to be enterprising at the means of coaching, and 2. How are educators able to facilitate coaching to develop student entrepreneurship?

APPROACH
From a social constructive perspective, the approach of this abstract is based upon two coaching workshops where educators, facilitators, consultants, etc. connected to the student incubator at Herning and Silkeborg facilitated by Martabolette Stecher. The workshop raised a number of questions in terms of how coaching is a means of approaching the students in their entrepreneurial process, hence how people working in the student incubator environment are able to develop students enterprising behavior.

FINDINGS
The study shows that coaching is an active driver in developing student enterprising behavior, hence emphasizing that educators, consultants, etc. engaged in this process working with students should develop their dialogic competences and seeking to understand the student perspectives in a constructive approach not knowing what is the possible outcome of this type of dialogue. However, this dialogue is potentially filled with risks stating that the process of developing enterprising students mirror a process filled with risks which emphasize the potential of coaching as a method to reduce the risky situation and circumstances.

VALUE & IMPLICATIONS
The value of the study indicates that a coaching approach in counselling and guiding students in their search of individual entrepreneurial opportunities, stimulates and support the student process. Therefore it seems as the study emphasize the importance of supporting students in examining and searching for their own individual opportunities (Shane & Venkataram, 2000). Hence, entrepreneurial opportunities are individual, whereas entrepreneurship is the meeting between the individual and the opportunity (Shane & Venkataram, 2000). In terms of the educator it is important to emphasize this in their interaction and dialogue with the students seeking to exploit their entrepreneurial potential. At the student incubator center a dialogue framework has been developed to guide the educator in supporting and stimulating the student process.

LIMITATIONS
The limitations of this study reveal that it is only at the prior of its execution, why it needs for research for validating the value and implications.

CONFERENCE PRESENTATION
The Beginning of a Journey for Physiotherapists to Become Global Intrapreneurs

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KEY WORDS
Intrapreneurship, global health, progression model, effectuation, physiotherapy

BACKGROUND
In trying to challenge the statements that “Entrepreneurial teaching is only for passionate people and nerds” and that “You are a born entrepreneur” two intrapreneurial lecturers created an elective course for Danish physiotherapy students to contribute to global health and to develop intrapreneurial physiotherapeutic skills within an international setting.

PURPOSE
To create a platform for students to take professional relevant actions from an intrapreneurial perspective, to bring students’ own professionalism into value-creating initiatives in existing organizations, to challenge students to find alternative solutions when encountering obstacles and to make students analyze and reflect on cultural issues of importance in an international context regarding health solutions and decisions.

METHODS
Seven, 7th semester physiotherapy students participated in the elective four-week course of 6 2/3 ECTS-points. The course was developed in cooperation with a Portuguese university. Learning activities were organized as a mix of theoretical lessons, workshops, blended learning, project work in groups and tutorials and two weeks of international fieldwork in four private companies in Porto, Portugal. Two lecturers accompanied the group one week abroad. The approach to intrapreneurship was based on Insights Discovery Personal Profile, theory of effectuation, the progression model (Action, creativity, environment and attitude) and the concept of ‘World class learners’ as a way to educate creative and entrepreneurial students.

Students’ continuous use of individual blogging, a pre and post self-evaluation of competencies regarding the dimensions in the progression model and an open-ended online questionnaire were conducted for evaluation.

RESULTS
Blogging showed to be a very powerful tool to encourage intrapreneurial reflective learning in a global setting. Students showed an overall increase in all of the dimensions in the progression model and the course proved to be a potent platform for making students think of themselves as possible future intra/entrepreneurs.

CONCLUSION
Well-designed international academically relevant health challenges support students to get out of their comfort zone in order to develop intra/entrepreneurial mindset and skills.

IMPLICATIONS
How do we make more students within health care BA programmes interested in intra/entrepreneurship courses?

CONFERENCE PRESENTATION

The Beginning of a Journey for Physiotherapists to Become Global Intrapreneurs
The feelings of confusion in entrepreneurial learning

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KEY WORDS
Risk-taking, confusion feeling, entrepreneurship pedagogy, teacher education

ABSTRACT
In this study the purpose originates from the need to understand, how to enhance entrepreneurial learning in vocational and higher education. The common interest of the research group members is in entrepreneurial learning and risk taking pedagogy; EnTree-model® (Hägg and Peltonen 2013) and Passion and Risk-taking pedagogy (Potinkara, Römer-Paakkonen and Suonpää 2013). The theoretical underpinnings of this research study come from risk taking (Kyrö 2006; Suonpää 2013) and the meanings of confusion in entrepreneurial learning (Peltonen 2008; Hägg 2011).

Generally, learning is initiated when something deviates from normal or awakes interest (Malinen 2012). The need for learning often arises from the feeling of confusion, uncertainty or inadequacy. This cognitive discomfort state forces an individual to take action or to be disabled. The feeling of confusion is the price to be paid for learning (Aalto, R 2013). The role of a teacher is to facilitate or counsel students’ learning. It is important to give students both freedom and responsibility to learn the key competences. The teachers may feel that there is a risk when they give the students the freedom to make their own choices and decisions in learning. To encourage the teachers to entrepreneurial teaching the teachers themselves should have some experience how to cope with uncomfortable and risky learning situations. Therefore, the aim of the study is to explore the meanings of confusion feelings among teachers in entrepreneurial learning situations. Taking part to the conference gives an interesting opportunity to collect data about the confusion feelings of participants in the participant-based experiment.

CONFERENCE PRESENTATION
Does student incubator make an impact – does it leave an imprint?

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ABSTRACT
PROJECT BACKGROUND AND SUBJECT MATTER
Entrepreneurship in VIA degree programmes has had top priority at VIA since 2011. Resources have especially been invested in the development of student incubators at all campuses, and ongoing evaluations focus on different quantitative goals: the number of courses held, the number of participating students and the number of new business registration numbers, etc.

The present R&D project, on the other hand, looks to identify the qualitative benefit students derive from being exposed to student incubator activities.

The project thus studies how involvement in the student incubator is reflected in the students’ understanding of their core professional understanding and own professional role. The project focuses on students in pedagogy and social science programmes and endeavours to answer the following questions:

- The kind of new knowledge, tools and networks the students acquire as a result of their contact with the student incubator
- Whether this contact motivates them to apply and process the knowledge they already have in new and different ways
- Whether participation in student incubator activities helps them identify new ways to apply their professional knowledge. Do they, for example, identify new fields of action, i.e. opportunities for launching value-creating initiatives – a skill that did not previously form part of their professional scope?
- How is their professional behaviour affected by their contact with a student incubator? Do they, for example, experience different challenges relating to their studies or their profession? For example in a more action-oriented manner?

The Progression model gives the project an analytical framework for the collected data. The project seeks to identify qualitative effects and impressions (or the lack thereof) in participating students based on the dimensions: Action, Creativity, Understanding of the Surrounding World and Personal Attitude.

STUDY METHOD AND DESIGN
The current project “Do student incubators have an impact, do student incubators make an impression” sourced its data from three different incubator projects in Aarhus.

The particular projects were chosen because they represent two different ways of engaging with students. In Innovation

1 Nicolai Nybye and Anders Rasmussen: Progressionsmodellen: entreprenørskabs- og innovationsundervisning (The progression model: teaching entrepreneurship and innovation), Young Enterprise Denmark (2013)

2 As one of three sub-projects, “Do student incubators have an impact, do student incubators make an impression” contributes to the main project

*An explorative study of the impact of student incubators at VIA UC on social entrepreneurship teaching in the degree programmes at PSH*.

The overall project is anchored at the Knowledge Centre for Education and Social Studies, Programme for Social Entrepreneurship and Innovation at the School of Education and Social Studies.
Agent and Social Pilot, the students are invited to take part in a fixed process that falls outside the scope of their normal studies, and which they have to actively select.

In the Innovation Project, the student incubator is a less visible player in a compulsory module. In this case, the student incubator comes to the students, so to speak.

The study design stresses the application and development of new data collection methods that match the project's qualitative focus.

**PROJECT CONTRIBUTION**

The project has not yet been completed, and the final analysis work is only just beginning. The project expects to contribute knowledge about how contact with a student incubator helps those studying to become teachers, early childhood teachers or social workers acquire and process new and better understanding of their profession; an understanding of the profession that does not see entrepreneurship and innovation as a goal in itself, but as a way to use and apply professional skills and knowledge.

The project thereby helps to document the qualitative contribution of student incubators towards the student's current education (process) and the student's understanding of the profession involved. The documentation supports that the student incubators should remain an offer to students in VIA programmes after the end of the focus period in 2014.

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<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
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<td>Participating observation</td>
<td>Data collection via a closed Facebook group (virtual participant observation)</td>
<td>Semi-structured research interview</td>
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**INNOVATION PROJECT:**

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<th>Workshop and participating observation</th>
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<td>Semi-structured research interview</td>
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A report on the results from the first two sub-projects can be downloaded here, and sub-project two is described in the article "Bliver man entreprenør af at stå på hovedet?" (Does standing on your head make you an entrepreneur?)
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CONFERENCE PRESENTATION
The Impact of Production Oriented Workshops on Entrepreneurial Intent among Students and Entrepreneurs

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ABSTRACT
This paper explores the impact game jams; intense development - and production - oriented workshops – has on existing and would be entrepreneurs among students. Specifically the impact it has on entrepreneurial intent and the conversion into entrepreneurial behaviors. Based on existing research in the field of entrepreneurial intent, and an exploratory study we explore how and where creating production-oriented workshops such as game jams have an impact on entrepreneurial intent.

PAPER STRUCTURE (IMRAD):
#Introduction
- Definition of gamejams, potential benefits.
- Vi måler på kognitive data, fordi intention er en fornuftig proxy, dog med indlagte problematikker.
- Previous own research
- Previous work
- See references

“What do entrepreneurs learn as a function of new venture foundings that helps them recognize and evaluate similar opportunities quickly and effectively? Indeed, it is possible that experienced entrepreneurs develop dynamic capabilities with each successive event that aid future discovery and exploitation (Holcomb et al., 2007; Ucbasaran et al., 2003)” Architecture of Entrepreneurial Learning Exploring the Link among Heuristics, Knowledge and Action (Holcomb, Ireland, Holmes & Hitt )ET&P 2009

“The role of experience is highlighted as central as it provides entrepreneurs the possibility to improve their ability to discover and exploit entrepreneurial opportunities and to learn how to overcome traditional obstacles when organizing and managing new ventures (i.e., the liabilities of newness).” The Process of Entrepreneurial Learning Conceptual Framework diamanto politis 2005

Bottom line so far; Mix of many things that impact entrepreneurial intent (and success rates), experience is key, nontrivial to establish origin/source.

#Method
- Experiments (Game jams, questionnaires) quantitative data
- Interviews qualitative data

#Results

#Discussion
- Implications for future research
- Implications for practice

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KEY WORDS
Gamejam, entrepreneurial intent, students, game development

CONFERENCE PRESENTATION
Development of an entrepreneurial nursing Module 6 - Chronic patients and citizens in their own homes

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KEY WORDS
Health promotion, creativity, engagement, self-efficacy

ABSTRACT
We planned Module 6 basing on the ME2-model (Aarhus Universitet) and Skub-metoden (Kirketerp, 2011). The module concerns public health diseases, patients/citizens with chronical diseases and clinical methods for observation and intervention, furthermore the module also focuses on health education activities. The module starts with two weeks of theoretical education followed by 8 weeks, which takes place in health care settings in hospitals and/or community health care centres and involves pregnant women, newborns, children, families and/or elderly citizens. Each week the students evaluate their own performance using the ACT-programme, developed by Kirketerp.

We developed an entrepreneurial module 6 because all of our students already work with entrepreneurship in Module 5, and because we aim for achieving engaged and active students with a high degree of self-efficacy and action competence.

Research verifies that creative work increases the experience of autonomy and stimulates motivation and passion for learning. To understand the meaning is another motivating unit: During the theoretical education, the students work with case studies related to their clinical placements, and during the clinical period, the students work in groups with disharmonies, which the students found by themselves. The module is concluded by an internal clinical examination were we also ask our students to reflect on their own flow chart in ACT, which should establish an extern motivation. At last we ask the students to take the next step in their entrepreneurial process, because overcoming something that the students estimate as difficult will improve their own experience of self-efficacy.

CONFERENCE PRESENTATION
How to Nurse the socially vulnerable.

We stand on “A burning platform!!” It is easier to tame a wild idea than to make a tame idea wild!

Do we consider socially vulnerable people “expendable” or “wasted lives”? What do we do with these “Products of Modernity”? Are they merely “a waste of space and time” or do we invent solutions, initiatives, ways of communication in order to produce value for others, for the socially vulnerable and for the rest of the society as well?

How do we reach these vulnerable groups in society? They leave hospitals before their treatments are completed. They reject access for health care professionals in to their homes if not they are homeless as well. “Street Based Treatments” when offered to them, they often seem to avoid. Health promotion and prevention campaigns are considered wasted on these groups or individuals.

In 6 weeks we perform an entrepreneurial course with mixed theoretical and clinical studies. The first 4 weeks we challenge the students on their views on normality, stigmatization, failure to thrive. In weekly meetings we discuss disharmonies spotted by the students and produce new ideas and visions using the ME2 model and “skub-metoden” by Kirketerp.

The last 2 weeks we construct new platforms and present them to our clinical partners for feedback. Each week the students evaluate their own performance using the ACT-programme developed by Kirketerp.

It is our goal:

- The students create new solutions across the barriers of the health care systems.
- They cultivate new interprofessional relations.
- They create solutions of value for socially vulnerable groups.

CONFERENCE PRESENTATION
Student Ghentrepeneur

BY EVELYNE VERHOVERT
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KEY WORDS
Collaboration of university and university colleges in Ghent, unique project to stimulate student-entrepreneurship.

ABSTRACT
What did Steve Jobs (Apple), Bill Gates (Microsoft), Richard Branson (Virgin) and Ingvar Kamprad (Ikea) have in common? They were respectively 22, 20, 16 and 17 years old when they became an “entrepreneur”.

Launching a startup as a student has a lot of benefits: less risks, a lot of creativity and energy.

And that’s why Student Ghentrepeneur was born in 2011! Student Ghentrepeneur is a unique collaboration-platform between Ghent University, university college ‘Hogeschool Gent’ and Artevelde University College. Our aim is to stimulate student-entrepreneurship among the 64,000 students of these schools. Maybe the new Steve Jobs is one of us?!

We want to cross the borders of schools to unite the student-entrepreneurs because we want them to learn from each other and share their experiences as a young entrepreneur.

What do they have in common?
Passion!
They follow childhood dreams
They inspire
They seduce
They pull a crowd
They get you thinking
They like making things
They have fun & party
They cross borders

They keep smiling
They are cool entrepreneurs
(www.coolentrepreneurs.com)
Student Ghentrepeneur is thé community for these cool entrepreneurs. We want to inform them, coach them, stimulate them, support them, encourage them, connect them and celebrate them!

With the election of ‘Thé Student-Entrepreneur of Ghent’, we give some extra visibility and support to that student-entrepreneur that can function as a role model for our Student Ghentrepeneur community.

For this, we get the support of the City of Ghent and the Flemish Government.

CONFERENCE PRESENTATION
How can creativity be trained?

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KEY WORDS
Creativity, unlimited application of knowledge

ABSTRACT
To be an entrepreneur one needs unique ideas. We are born with unlimited application of knowledge but throughout our lives our knowledge extends but at the same time, our way of applying our knowledge gets more vertical. Horizontal thinking is together with parallel thinking, no-experienced judgment and task focus the basic principles of our training programme. At the Department of Occupational Therapy in Aarhus we co-operate with The Research Group of Unlimited Knowledge Application at Aalborg University in a research project in which we measure the creative potential of a group of new students, train their creativity weekly for 6 months by using special creativity-cards (which we are going to show you), and finally assess their level of creativity. It is our vision that the students hereby will become more creatively thinking and use this in their occupational therapy work and we are going to follow the student throughout their education to see if they keep using unlimited application of knowledge.

During our 10 minutes performance (the fifth thematic track) we are going to involve and show you how we train the students' creativity.
The intensive programme, Future for Authentic and Creative Entrepreneurs

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CONFERENCE PRESENTATION
Developing Entrepreneurial Competences in Students Studying the Professional Identity and Health Perspective

BY LONE KRAUSE-JENSEN & ANNE SOFIE LANDBO

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KEY WORDS
Disharmonies personally encountered in practice, enterprising behaviour, entrepreneurial mindset, development of professional identity, inter-professional collaboration of Danish healthcare professionals

ABSTRACT
The Bachelor Programme in Biomedical Laboratory Analysis includes the course 'Developing Entrepreneurial Competences in Students Studying the Professional Identity and Health Perspective'. It teaches students to work in the context of their profession, but to do so from different angles based on an academic and exploratory approach to practice. They do this by working with disharmonies they have personally encountered in practice.

PROCESS AND PROGRESS
During the internship, the students identify between ten and twenty disharmonies that reveal themselves based on the practices they encounter in their internship. The students find these disharmonies through observations and experiences, and they can consist of processes or parts of processes that do not work, inappropriate routines or puzzling situations. The students review these disharmonies theoretically and select a situation they want to pursue in further detail. During this process, the students try to examine and verify the validity of the disharmony in order to determine whether it has the potential to be investigated further. The students envision daily routines in which the problem has been solved and use creative ideating methods in order to identify possible solutions. To wrap up, the students present their ideas and their prototypes as part of their exam. The students are evaluated on their enterprising behavior and their reflections on how the entrepreneurial mindset influences the development of professional identity and the inter-professional collaboration of Danish healthcare professionals.
Social Design and Entrepreneurship.
What is it? I Like it😊

BY THOMAS ØSTERGAARD
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Social Design emerges from the contemporary problems of today

New challenges require new skills and capacities of creating intelligent solutions. Social Design could be one of the paths to take.

Issues such as health, rural/urban development, poverty, inclusion, educational needs, environmental threats, global warming and much more are the starting points of social designers’ work. Another field of activity is the design of human-orientated, sustainable processes and systems in corporate and organizational structures.

Social Design describes a design that starts with people: especially attention and empathy is focused on local contexts, socio-cultural environment of people. It includes “non designers” in every phase of the design process: from brainstorming to the actual design and ultimately in the implementation.

So, Social Design describes a design practice that no longer wants to be a purely technical or consumer-oriented design of products and services. Social Design creates social added value by becoming an advocate of social concerns that the state and the market do not serve adequately or at all. Using the special competences of design, solutions are developed to open up new ways to social innovation as well as to significantly improve health and the quality of life.

This ranges from participatory elements right on up to the far-reaching co-design of products, services and system solutions. The design process is hereby expanded into multi-disciplinary including techniques focusing on true devotion from fellow citizens. And the premises for interacting with other people all over the world have changed rapidly over the last 10 years.

Assistant Professor Thomas Østergaard VIA University has just had a grant for developing new fields of study within this framework. Join his presentation to learn more.
Entrepreneurial competences through charity

BY NICOLAI NYBYE & ERIK CHRISTENSEN KNUD

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KEY WORDS
Professions, non-profit-value, learning effectuation principles, volunteers

University College Lillebaelt (UCL) offers higher education programmes – professional bachelors degrees. UCL aims to train tomorrow’s professionals to be key players in a strongly cohesive welfare state. One of six strategic areas for the year 2020 points at educating student candidates with entrepreneurial and innovative competences. In the spring 2014 we established a Student Growth House concept (SGH) that contributes at leveraging this strategic vision.

In the context of entrepreneurship our students might be categorized through the negation non-business students. This discourse is by the SGH concept complemented by a perspective on professions as value-creators. In the fall 2014 we ran, among other activities, a course that student could choose voluntarily. In the course we focused on learning the effectuation principles known from the work of Sarasvathy (2008) meanwhile the students created value through charity. The effectuation principles was used to frame the process in the course and formed in the end of the course a reflective tool. The field of charity invited the students to act in a double role in the environment. On the one side as students using their professional skills, on the other side facing the demands volunteer citizens meet from e.g. legislation and the need for e.g. establishing partnerships and creating non-profit-value with the resources they have at hand. The presentation highlights this course and the effectual process that was created.

TEACHING TOOLS
“You are a born entrepreneur”

BY CHRISTEL DE MAEYER & KARIJN BONNE
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KEY WORDS
Behavior design, pre starters, early stage starters,
entrepreneurial skills

ABSTRACT
You are a born entrepreneur, but sometimes you feel like you are alone in your world. You are looking for peers? You are looking for support? You are looking for that extra trigger that keeps it exciting. Celebrations to your efforts and achievements?

StartMeUp, a mobile buddy app will give you these little moments of support and celebration. A personal coach in your venture, it is always there and it gives you support.

Based on the data you put in, you will receive feedback loops. The more you use the app, the better it will get to know you, the better it will support you.

RESEARCH QUESTIONS
StartMeUp research (2014-2015) questions:
1. How can we create continuous engagement and motivation through triggers?
2. What are the different milestones within a startup venture?
3. To what extend can we provide support and service to achieve the different milestones?

RESEARCH METHODOLOGY
Fogg’s Behavior Model
The StartMeUp mobile app is build on the behavior model of Dr. Fogg. Fogg’s theory illustrates how we can establish behavior change if needed. BeMAT. Behavioral change: Motivation, Ability and Trigger, these elements need to come together at the same moment in order to trigger a behavioral change.

Co-creation – open source
The open source app is in co-creation with students, pre - and early stage starters. Once we have a solid prototype we can open it up to the community for further improvements and subject for debate.

Aim of project
The aim of this research project is to test it out among startup communities in different regions. The data can be used in research to map entrepreneurial behavior.

In addition, we see it as tool that can be embedded in the curriculum of students to test their entrepreneurial skills.

CONFERENCE PRESENTATION
Toolbox for facilitating entrepreneurial processes

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KEY WORDS
110 værktøjer til underviseren/facilitatoren

ABSTRACT
VÆRKTØJER FRA A TIL Z – FRA PROBLEMSTILLING TIL IVÆRKSÆTTELSE
Jeg vil præsentere min Toolbox – et planlægningsværktøj til entreprenørskabsunderviseren og projektlederen. Toolboxen er ind til videre kun udgivet på dansk, - derfor er præsentationen også på dansk.

Den kan bruges både som drejebog, som inspiration og som backup på de undervisningsdage, hvor intet går som planlagt. Og den kan bruges af procesbevidste studerende, så de kan styre deres egen udviklings- og læreproces.

Toolboxen har i alt 110 værktøjer til at facilitere alle faser i en entreprenøriel proces: fra der hvor man skal forstå problemet og få en fælles opfattelse, til videndeling og idegenerering, til screening og videreudvikling af ider, til prototyping og planlægning af iværksættelsen.

Værktøjerne er udformet, så de er meget konkrete: hvad skal de studerende gøre, hvad skal du sige, hvor store skal grupperne være, hvor lang tid tager og hvad er effekten af værktøjet. De er designet til at være en reel hjælp for underviseren/facilitatoren – når man står der midt i processen og sveder.

“Entrepreneurial teaching is only for passionate people and nerds” - Men selv passionerede nørder har brug for inspiration og en hjælpende hånd.
Graphic templates as your co-facilitator

KEY WORDS
Graphic, visual, group work, facilitation

ABSTRACT
One of the challenges of an entrepreneurial teacher is how to facilitate work in smaller groups.

How do I ensure that work in smaller groups will focus on the right subject? How can I guide the students? How can I make sure that the discussions and group work will be future- and solution-orientated, if that's the purpose?

My solution to this problem is graphic templates, which I design for the specific group work. Instead of giving them a few questions to discuss, I design a template — or another task — that they have to fulfill — and while doing that, the students will be able to collectively focus at the key subject, discuss the subject in a constructively way, and keep the right perspective. The template is not the goal itself, but instead the discussion; the prioritizing; the ideation and the concept development, that is indirectly facilitated by the template.

The template becomes my co-facilitator. The performance focuses on how to design a template, which help the students, work in the very best way.

During the workshop, I will present different types of templates, and together we will design new templates that will work as co-facilitators.
Toolbox Used in International Fieldwork to make Students Catch New Insights

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BACKGROUND
In trying to challenge the statement that “It is a problem to include intra/entrepreneurial sightseeing in teaching applied sciences” we created a toolbox to support a new set of sights as part of an elective course for Danish physiotherapy students called ‘The Physiotherapy student as global intrapreneur’. The course overall aimed to make Danish students contribute to global health and to develop intrapreneurial physiotherapeutic skills within an international setting.

PURPOSE
To create a toolbox with tasks that challenge students individually and in groups to focus their professional pre-understanding in new ways – ways to make students see cultural issues of importance in an international context regarding health solutions and decisions.

METHODS
Seven tasks were presented to students during a four-week course. Each task was to be carried out, reflected upon and documented on an individual blog created by each student for the course. All tasks build on top of each other and were presented with a ‘Subject Heading’ and a ‘Why & How’. Tasks were created on the basis of dimensions from the progression model: Action, creativity, environment and attitude.

TASKS
1. Make a Skype call with a Portuguese physiotherapist to exchange knowledge (Environment)
2. Prepare and carry out a workshop on creativity for a team of international students (Action)
3. Become familiar with Porto (Environment/action)
4. I wonder why – explore Porto with your wondering ‘physio-glasses’ (Creativity, environment)
5. Share your Insights Personal Profile (Attitude)
6. Relate and analyze your Portuguese fieldwork-company to the principles of effectuation (Linking theory and clinical practice)
7. Involve the group in an idea-generation mini-workshop (Creativity, action, attitude)

RESULTS
Tasks forced students to work with all dimensions of the progression model and to reflect upon their actions. Students also gained new personal insights through the action-oriented tasks and became aware of unarticulated personal competencies.

CONCLUSION
Meaningful tasks related to a specific health profession can help students catch new insights and get out of their comfort zone in order to develop intra/entrepreneurial mindset and skills.

KEY WORDS
Toolbox, entrepreneurial thinking, progression model, health, education

CONFERENCE PRESENTATION
Strategic Design Thinking in Practice

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KEY WORDS
From disharmonies to Prototyping in an educational context
5F process model within the teaching environment

5F PROCESS MODEL
I’m teaching BA-students within the entrepreneur speciality at VIA University College, Aarhus. The Module in 56 lectures are divided in 2 main areas following the structure of ME2 model:
1. StartUp Module 1 are focusing on ‘Discover your means’
2. StartUp Module 2 are focusing on ‘Disclosing New the worlds/Disharmonies’

My focus point will be ‘Use of 5F process model to Dislose Disharmonies and transfer the disharmonies/y to a ‘useable’ prototype/moodboard

The Strategic Design in Practice/5F model can be seen at Youtube at http://www.youtube.com/watch?v=uOo2ynIEsFU

THE MODEL IS WORKING WITH 5 F STAGES
1. Find: Specially finding out what the customers true need are – Divergent stage
2. Frame: Framing gives the project team the constraints and framework for where to begin ensuring that the underlying needs are truly understood – Divergent stage
3. Form: Specifically forming possible solutions – Divergent stage
4. Fabricate: This iterative process involves constructing Prototypes/MVP – products to make ideas real. A prototype/MVP is anything a person can look at & respond to and is the shorthand of innovation.

CONFERENCE PRESENTATION

1 Developed by 3 teachers at TEKO/VIA University College
2 Based on theory from Spinosa, Dreyfus & Flores
METAPERSPECTIVE ON ENTREPRENEURSHIP TEACHING
Create the Future – New Ways to Think about Cross-disciplinarity

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KEY WORDS
Cross-disciplinary, Health D-Thinking, Best practice, Various Settings, Cross-cultural Co-operation

BACKGROUND
In 2014 VIA Health education programs at Campus Aarhus N have developed and carried out a new cross-disciplinary entrepreneurial module. The module is a six weeks elective, during which new thoughts on disharmonies are explored in selected fields of practice. The purpose of the module is to train the students in ways to spot disharmonies in practice, and then act on them and develop their potential in cross-disciplinary teams in order to develop best practice.

METHOD
The course is designed as an innovative entrepreneurial joint effort, in which prototypes are tested in an iterative process involving the end-users in accordance with the Health D-Thinking concept.

RESULTS
Interviews with the students have provided insights into the kind of mechanisms at large in cross-cultural co-operation. In the course the students work in cross-disciplinary study groups, where their individual competences generate a synergy greater than the sum of its parts. One student stresses the significance of participating in a cross-disciplinary group, where she developed an ability to see beyond her own professional scope: “If I had not worked in a cross-disciplinary team, I would have only perceived the issues involved in the context of my nursing background (…) and I realized that I actually have quite a lot to offer”. Besides this, another learning outcome is the students’ development of personal competences. The students comment that the individual elements of the course have inspired a new self-efficacy and self-confidence.

CONCLUSION
In this course the students assume responsibility for the elements and facilitate them according to their position in the process. The responsibility requires a high degree of independent thinking and courage to dare to “own the project”. The courage gained in the process is an essential aspect of the students’ learning outcomes, and the conclusion is that Create the Future has provided the students with increased competences on personal as well as on mono- and multi-disciplinary levels.

CONFERENCE PRESENTATION

Create the Future – New Ways to Think about Cross-disciplinarity
Developing an entrepreneurial culture in the Swedish school system – key success factors

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KEY WORDS
Entrepreneurial culture, school system, success factors.

ABSTRACT
At Luleå University of Technology we have worked to promote a more entrepreneurial culture in the school system (from preschool to high school) since 2005. In an entrepreneurial school culture the focus is on developing entrepreneurial competences (linked to a strong ability to take action) at the same time as subject-based learning takes place. During the years we have learnt many lessons about what is crucial for achieving lasting effects in these efforts. Three of these lessons – or key success factors – are the topic of our presentation. First, a growth mindset (Dweck, 2012), indicating a shared belief in that all people (children and adults alike) can learn throughout life, is a central starting point. This paves the way for a stronger focus on formative evaluation and places action and effort as central elements in everyday school work. Second, leadership support needs to be in place. The principal must enable for staff (and especially the pedagogues) to try out new ways to work. In turn, pedagogues need to have a similar approach to the children and allow them to be participants in developing the practices in school. This needs to be in a structure (set by the principal and pedagogues) that provides useful guidance without curbing initiative. Third, using collaboration is a means both for developing entrepreneurial capabilities and for achieving results. Collaboration is important at all levels in school (from pupils to principals) and also between school and external actors. Perhaps it is by engaging in collaboration principals can influence their school the most. By working in close collaboration with principals in other schools, they can better set the agenda and accomplish results. It is also a strong signal that collaboration is wanted among pedagogues. We develop these three factors further in our presentation.

CONFERENCE PRESENTATION