**Original Business Modelling: Potential Roles of Creativity in Entrepreneurship Training**

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**Abstract**

This extended abstract aims to design a research method for studying potential meaningful roles creativity may take in entrepreneurship training. It suggests an experimental setup using a 30 ECTS entrepreneurship course at a Danish university for conducting the experiments and the data collection. It presents the entrepreneurship course components, teaching method and evaluation methods as well as the potential creativity experiments. It also presents the suggested data collection and analysis methods. Finally, it presents expected findings from the study. The experiment and data collection is planned to take place in autumn 2017. At the conference, we hope for any kind of feedback that may help us improve the quality of this forthcoming study.

**Keywords**

Creativity Training, Entrepreneurship Training, New Venture Creation, Opportunity Spotting.

**Introduction**

The relation between creativity and entrepreneurship has several dimensions. Firstly, the goal is similar. Creativity is the production of novel and useful ideas in general, while entrepreneurship is the pursuit of novel and useful ideas for business models, products, services and so forth. Secondly, creative persons and entrepreneurs have overlapping characteristics (Fillis & Rentschler 2010). Key overlapping characteristics include self-confidence and achievement. However, also the curiosity of the creative person has many similarities with the calculated risk taking of the entrepreneur and the higher ways of intrinsic motivation seen in the creative persons are similar to the higher energy levels seen in the entrepreneurs. Thirdly, a high creative self-efficacy seems to be a determining factor for entrepreneurial intention (Zampetakis & Moustakis 2006) and it has been found that student entrepreneurs seem to be more creative than others (Shrader & Finkle 2015).

Given the strong relation between creativity and entrepreneurship it seems obvious to focus on what this means for entrepreneurship training. Creativity training is a systematic enhancement of creative abilities. Typical focuses in creativity training includes motivation (Hennessey, Amabile & Martinage 1989), improvisation (Karakelle 2009), self-efficacy (Mathisen & Bronnick 2009), imagination (Lalemi 1991), analytical abilities relevant for creativity (Osburn & Mumford 2006), creative process (Parnes 1992), creativity technique (Osborn 1963; Gordon 1961), communication design (de Bono 1985) and horizontal knowledge application (Byrge & Hansen 2014). It is generally accepted that creativity training has a significant effect on the development of creative
abilities of the trainee (Rose & Lin 1984; Scott, Leritz, & Mumford 2004; Torrance 1972). However, not much research has been conducted trying to understand the relation between creativity training and entrepreneurship training. This paper studies this relation and attempts to develop insight into the roles creativity may take in entrepreneurship training.

Research Method

The research uses an experimental-case-study setup explained in the following section.

The Case

The case is a 30 ECTS elective master level cross discipline international business model training program on a Danish university, called New Venture Creation (www.nvc.aau.dk). The New Venture Creation training program is based on the lean definition of a Start-up: “a temporary organisation in search for a scalable, repeatable, profitable business model” (Blank & Dorf, 2012, p. 24). The ambition with this course is to give subjects a hands-on live case experience with entrepreneurship. A positive spill-over effect of this course is that some teams actually register a company during the program, some even start generating revenues, and some teams start their company when the program finishes. Other teams remain “school-projects-experiments”. The ambition is that the subjects go through the entrepreneurial process of starting a company so that they will be able to repeat this process later in life. The objectives, components, teaching method and evaluation methods will be introduced in the following.

Learning Objectives
The learning objectives are categorised into knowledge, skills and competencies.
The knowledge objectives state the trainee should be able to:
- Understand the importance of business models, customer development and agile development in the process of new venture creation
The skill objectives state the trainee should be able to:
- Verify business ideas/problems and validating needs/pains from customers
- Assess potential market opportunities and validating assumptions via the target market
- Understanding some of the key drivers that impact upon the successful creation and management of a new venture
- Identify methods to acquire the resources required in starting up a new venture
- Generate new business ideas and validate these
- Critically assess new business ideas based on evidence from the market
- Assess the resources required to pursue an opportunity
- Prototype a minimal viable product
- Apprehend different business model configurations and business model innovation routes in the entrepreneurial process
- Understand the skills and resources needed to create an entrepreneurial organization
The competency objectives state the trainee should be able to:
- Spot and create business opportunities
- Assemble own teams
- Acquire necessary resources to pursue the identified business opportunity
- Design business models to match the identified business opportunity, evidence from the market
- Evaluate different business model configurations and innovation processes
- Pitch the business model of a new venture, the underlying validation process and its academic relevance
Components

1. **Introduction.** One-week activity giving an introduction to the training program, basic theoretical knowledge and social activities that is designed to support the subsequent team formation process, all of which have an entrepreneurial outset.

2. **Entrepreneurship Toolbox Weeks.** This is a two-week workshop training focused on giving the subjects an entrepreneurship toolbox for spotting opportunities/problems in the market, initial market research, learning how to talk to people as well as the actual team formation. At the end of this workshop all teams have identified a potential business opportunity.

3. **Business Model Canvas Introduction & Opportunity Assessment.** This is focused on teaching how to navigate the business model canvas, market size analysis, market type hypothesis as well as competitor landscape analysis.

4. **Customer Segments.** This is focused on understanding customers, creating customer profiles and defining initial customer archetypes and identifying customer pains/gains.

5. **Value Proposition.** This is focused on how to design a compelling value proposition, product and service features, gain creators and pain relievers.

6. **Product-Market-Fit.** This is focused on prototyping, developing a minimum viable product, creating a fit between customers and the value proposition.

7. **Channels.** This is focused on channel-customer fit, channel economics (the economic behind distribution channels), start setting up a website and running/wireframe or demo prototypes for physical products.

8. **Get-Keep-Grow.** This is focused on customer acquisition and activation, customer economics (customer acquisition costs, customer lifetime value), demand creation, web and mobile marketing.

9. **Revenue Model and Pricing.** This is focused on revenue model strategy, pricing tactics, customer feature and price sensitivity.

10. **Key Partners, Key Resources and Key Activities.** This is focused on partner-resource/activity fit, company architecture, most important resources and activities.

11. **Cost Structure, Operational Plan and Fundraising.** This is focused on financial forecasts, budgeting, planning and fundraising strategies.

12. **Business Model Environment and Business Model Configurations.** This is focused on business model environment analysis and further business model innovation processes.

13. **Team Project Work.** It is focused on starting up a business by going through and reflecting on the entrepreneurial activities in components 1-12. It has the format of a written report that is handed in at least 2 weeks before the oral exam.

**Teaching Method**

Component 1 is a mix of traditional lecturing and social team work activities. Component 2 is a workshop that consists of a mix of lectures, team work and facilitated processes. Component 3-12 follows the same structure; the subjects start on a Monday morning where each team present the work they have conducted during the previous week’s theme. Teachers, mentors/advisors and classmates give feedback. This is followed by lecturing and a subject relevant professional giving a speak. The following morning is reserved for team supervision. Component 13 is started as part of component 2 where the teams are formed and each identify an opportunity. The rest of the team work takes primarily place from Tuesday midday to the following Monday every week until the end of the training program. Each team have one supervisor assigned. The role of the supervisor is to help their teams test their business model hypotheses, offer them strategic guidance, business model suggestions as well as identify and correct gaps in their team's business knowledge. The supervisor also provides process guidance by reviewing teams weekly work as well as pushing each team to talk to at least 10 potential customers a week.
Evaluation Method

The evaluation is based on the weekly presentations and discussion as well as a final oral defence based on the written project. The trainees are evaluated based on the learning objectives. The evaluation has a strong focus on how and why they applied component 1-12 in their project work as well as on their progress on starting up a company.

Subjects

The subjects are expected to be about 50 students following the New Venture Creation program. The subjects are expected to be between 22 and 28 years old, primarily from Europe with about half from Denmark. They are expected to come from different study programs, representing all faculties (humanities, social sciences, technical scientific and health science).

Manipulation

The manipulation is based on a series of creativity experiments during the New Venture Creation training program focused on the learning objectives, components and evaluation method. No experiments have been planned in relation to the teaching method. The manipulation consists of the following experiments.

Experiment 1: Introduction to Creativity Methods in Team Work
Experiment 1 is a two-day introduction to creativity in teamwork to help subjects become creative in their entrepreneurial teams. This experiment relates primarily to component 13 on project work in teams.

During the two days, the subjects will be introduced to fundamental theories and methods for enhancing creativity in team work. This includes an introduction to creative processes, creativity techniques, creative problem solving, definition of problems, creative environment, the role of knowledge and mental blocks as well as the identification of creative ideas based on their originality and usefulness. The subjects are instructed to use this introduction to creativity methods in team work as part of their project work and in all relevant entrepreneurial activities during the training program. This intervention is a total of 14 hours during two days.

Experiment 2: Kickstart Problem Solving Creative Bootcamp
Experiment 2 is a two-day creativity boot camp. It is designed to identify relevant problems and useful solutions to these problems. This experiment relates primarily to component 2 and 3 on opportunity spotting and assessment.

The first day of the creativity boot camp focuses on identifying real life problems in a self-defined area focus. Firstly, the subjects are facilitated to identify one area focus in teams that everyone finds interesting. An area focus may be a hair dresser saloon, a supermarket shopping car or a door handle on a door in a hospital medicine room. Secondly, the teams are facilitated to identify areas of concern related to their chosen area focus. Areas of concern for a door handle on a door in a hospital medicine room may be the carpenter fixing the door handle to the door, the staff touching the door handle on a daily basis, the addicts who sometimes attempt to break up the door, the cleaning personnel who have to keep it free from dangerous bacteria, the architect who choose the particular door handle, the hospital staff union who attempt to influence the architect and so forth. Thirdly, the subjects are instructed to observe, interview, interact, and try out as many areas of concern as possible in order to identify problems related to the area focus. Fourthly, the subjects are instructed to identify and select one problem related to their area focus that all members of the team find interesting. This intervention during the first day is seven hours.
The second day of the creativity boot camp focuses on solving the problem identified on the first day. The subjects are instructed to design and perform a creative process of about seven hours based on the introduction to creativity methods in team work they experienced in experiment 1. The instructions include a dedicated production of ideas, a selection and further development of interesting ideas as well as a video presentation of the 2-3 most original and useful ideas. The subjects are later instructed to watch the produced video presentations from all teams as part of the business opportunity spotting and assessment components. This intervention during the second day is seven hours.

Experiment 3: Opportunity Spotting Creativity Workshop
Experiment 3 is a one-day creativity workshop to produce thousands of potentially original and useful ideas. This experiment relates primarily to component 2 and 3 on opportunity spotting and assessment.

The workshop consists of four rounds of cognitive stimulation as well as a process of selection, further development and video production with a presentation of the developed ideas. In each of the four rounds of cognitive stimulation the subjects are facilitated to perform 5 minutes creativity exercises in pairs. In round 1-3, each exercise has a unique focus and a number of unique stimuli. Examples of unique focuses are a chair, bicycle, hotel online booking system and children theme park. In the first round, the stimuli are person analogies like “what ideas would a queen produce if she was to improve the focus” or “what ideas would an astronaut produce if he/she was to improve the focus”. In the second round, the stimuli are random words like “use the word bed as inspiration for how to improve the focus” or “use the word hospital as inspiration for how to improve the focus”. In the third round, the stimuli are random pictures like “use the picture of a boxing match as inspiration for how to improve the focus” or “use the picture of a man running in a park as inspiration for how to improve the focus”. The fourth round is different from the three other rounds. In this round, the subjects are instructed to take a random object (scissor, shoe, ring, glasses, etc.) from an object box provided by the teacher. In pairs, the subjects are now to combine their objects in multiple new ways, for example by taking a function or principle from a scissor and integrate into a shoe to improve the shoe somehow. Every 5 minutes the subjects are instructed to find a new partner and continue the exercise. After the fourth round, the subjects are facilitated to put all ideas on the wall, select two ideas each, further develop the ideas individually and produce a video presentations in teams. The subjects are later instructed to watch the videos from all teams as part of the business opportunity spotting and assessment components. This intervention is totally seven hours.

Experiment 4: Weekly Component Focused Creative Processes
Experiment 4 is a three-hour creative process focused on producing alternative strategies for each entrepreneurial activity related to the components of the training program. This experiment relates primarily to component 3-12 on each of the entrepreneurial activities.

Each creative process is placed on the day of the supervision every week (Tuesday). As such, it functions as an explorative search for potential strategical approaches to take in each entrepreneurial activity related to the specific component. The creative process is instructed and supervised, but self-facilitated. The subjects are instructed to design and perform a creative process focused on the component presented the day before. The instructions include a dedicated production of ideas, a selection and further development of interesting ideas as well as the selection of one or more suitable ideas. The subjects have access to supervision during the creative process in the form of a teacher available for questions and recommendations. The subjects are instructed to write all ideas produced in an appendix in their project report. This intervention is totally three hours.
Experiment 5: Creativity in Learning Objectives & Evaluating Creative Performance

Experiment 5 is to put a creativity dimension into the learning objectives as well as into the evaluation method. This experiment relates primarily to learning objectives and evaluation method.

The following creativity learning objectives will be integrated into the New Venture Creation training program:

- Understand contemporary approaches for enhancing creativity.
- Understand contemporary creativity methods for team work and for individual work.
- Understand the importance of knowledge generation and generation of original ideas in the process of designing and redesigning business models and new ventures.
- Evaluate the potential and relevance of using creative method.
- Plan and execute creative processes, use tools and techniques to generate ideas, thoughts and to obtain new knowledge.
- Validate new ideas and thoughts according to a predefined problem.
- Participate in a creative process.

The following creativity evaluation measures will be integrated into the New Venture Creation training program:

- Subjects will be evaluated on their originality and usefulness in their project report. This will be measured by social judgement on key aspects of their business models.

- Subjects will be evaluated on their fluency and flexibility in their project report. This will be measures by counting the number of ideas and the diversity of ideas presented in the idea appendix.

Implementation

The New Venture Creation starts primo September 2017 and finishes ultimo January 2018. The manipulation, experiments and data collection will be conducted in the same period. The manipulation will be integrated into the curriculum to ensure subjects engagement in the experiments.

All experiments will be planned and performed by the teaching team on the New Venture Creation training program to ensure integration with other teaching activities and learning objectives. They will be performed in the normal classroom setting.

The subjects will be informed about the manipulations, the experiments and data collection in the beginning of the training program as part of the introduction to the semester. No lectures, workshop or any other class activity is obligatory for the subjects to attend. Neither is it obligatory for the subjects to take part in the experiments.

Most of the subjects are working in teams during the training program. Therefore, we may have situations where members of the team attend the experiments, while other team members do not.

Data Collection and Analysis

This study will have two sources of data. The first source of data will be collected using a series of questionnaires. A questionnaire will be sent to all subjects immediate after each experiment. Each questionnaire will be based on a simple Likert scale (e.g. 1-5) asking questions like “To what degree did experiment 2: Opportunity Spotting Creativity Workshop help you identify an original and useful business idea?”; “To what degree did experiment 4: Weekly Component Focused Creative Processes help you identify useful and original customer segments?” and so forth. Each
questionnaire will be send to subjects who are part of a team, where at least one member of their team participated in the experiment. This will provide quantitative data for analysing the influence creativity has on the team and on the entrepreneurial process. The quantitative data will be treated in a statistical analysis.

The second source of data will be collected by formally requesting the teams to reflect on the role of creativity for their team work and for each of their entrepreneurial activities during the training program in the written project. A list of potential entrepreneurial activities will be given to the subjects. The project teams will be asked to integrate this reflection into their project report. This source will provide qualitative data for developing understanding on the potential roles creativity training may have in entrepreneurship training. The qualitative data will be treated in a conceptual analysis using Rhodes (1961) four P’s of creativity: how did the experiments affect the Press (the environment), the Persons, the Products (ideas) and the Process.

All data collection will be performed by the teaching team on the New Venture Creation training program in order to ensure integration with other teaching activities and learning objectives.

**Expected Results**

It is expected that the study will bring new insights to the relation between creativity and entrepreneurship training. Firstly, the results will show how creativity influence the entrepreneurial activities during the entrepreneurship training program. It may be that some components and learning objectives are positively influenced by creativity while others may be negatively influenced by creativity. Secondly, the results will reveal a model suggesting the different roles creativity plays for the entrepreneur and the entrepreneurial process. This may include roles relating to the functioning of the team, the level of originality of the ideas produced and the communication within and with other teams, supervisors and stakeholders. Finally, the results will give recommendations in how to integrate creativity into entrepreneurship education and point towards new creativity manipulations to conduct in future studies.

**References**


