# PARTICIPATORY ENTREPRENEURSHIP EDUCATION

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## ABSTRACT

This paper introduces the notion of participatory entrepreneurship education, as the entrepreneurial and educational application of participatory innovation. We assess a selection of our previous research projects, and point out the similarities and differences between entrepreneurship education and participatory innovation on different levels. On a start-up (firm) level, we address how design activities are embedded activities in the larger spectrum of entrepreneurial activities. On an interactive level, we address how entrepreneurial students and educators face educational and entrepreneurial goals paradoxically simultaneously. On a personal level, we address how entrepreneurial students can use autoethnography as method to reflect on their learning. For all levels, we propose several research directions for future research to better define participatory entrepreneurship education.

## INTRODUCTION

In our daily practice, we educate technology entrepreneurship to students on a Master of Science level at the faculty of Industrial Design Engineering at the Delft University of Technology. Therefore, we have a 'design' focus on entrepreneurship education, instead of an 'economic' or 'strategic management' focus, which is common in most entrepreneurship educational programs. Throughout the last years, we developed an understanding how our view on entrepreneurship education shows similarities with Participatory Innovation. Buur and Matthews (2008) describe the purpose of Participatory Innovation as:

1) To generate knowledge about users/customers in a format that inspires company employees to reflect on product, producer role and company identity.
2) To generate business opportunities that relate to a market in the form of product/services concepts with considerations of use, interaction, technology, business model etc. (Buur & Matthews 2008, p. 15)

Furthermore, Buur and Matthews describe that: a Participatory Innovation project, as we see it, is a dedicated activity that takes people's practices and needs as a starting point to generate business opportunities in the form of products and services. The opportunities are developed through ongoing collaboration between the people that they address (users), and the people that are in charge of their realization (company developers) (Buur & Matthews, 2008, p. 15) In our daily practice, we understand entrepreneurship as 'the process of creating a start-up', where a start-up is '*a human institution designed to deliver a new product or service under conditions of extreme uncertainty*' (Ries, 2011). Furthermore, we work with entrepreneurship education as education 'through' entrepreneurship (Nielsen and Gartner, 2017). Students learn about entrepreneurship through the engagement in the process of creating a start-up themselves. This view is contrasting the notions of education 'for' or 'about' entrepreneurship; in which students learn about the general construct about entrepreneurship, or tools and methods that they could use for creating a start-up (Nielsen and Gartner, 2017). Education 'through' entrepreneurship is practice based and focuses on active learning. In this light, the setting of entrepreneurship education shows similarities with the setting of participatory innovation. Entrepreneurial students are also engaged in a *dedicated activity* and in an *ongoing collaboration between the people that they address and the people that are in charge of their realisation.* Entrepreneurial students address users, partners, and stakeholders in the context of their start

up, but also educators and educational stakeholders in the context of their education.

There are also differences between participatory innovation and entrepreneurship education. In participatory innovation, the challenge is to innovate within existing structures or organizations where conflicting and opposing interests are present. Through participatory innovation activities, stakeholders find ways forward within or outside these existing structures. In entrepreneurship education, students also aim to innovate and there are similar conflicting and opposing interests between students, educators, partners and customers. The difference is that in entrepreneurship education, there is no firm yet and thus no existing structure yet. It is the challenge for the entrepreneurial students to create a start-up in the landscape of conflicting and opposing interests of all parties involved.

## METHOD

This article investigates (empirically and theoretically) three projects by the authors with the aim to identify detailed similarities and differences between entrepreneurship education and participatory innovation. The strength of participatory innovation is that it addresses *practices*, and that it understands practices on different levels. Therefore, our analysis approaches the research projects on three levels. The first, highest, level is that of the practice of activities of the 'firm' (or start-up in entrepreneurship). The second, intermediate, level is the practice of interaction between stakeholders (students and educators in entrepreneurship education). The third, lowest, level is that of the practice of individual reflection activities of participants.

### *FIRM LEVEL:*
### DESIGNING AS EMBEDDED ACTIVITY IN CREATING A START-UP

On an activity level, we explored how design activities are embedded in the overall process of entrepreneurship. We educate entrepreneurship from a design perspective, but we recognize that design activities are not enough to create a start-up. We do however also recognize that design activities are important through the *whole* process of creating a start-up. Therefore, we build on the work of Smulders, Dorst and Vermaas (2014) who provide an integrated vocabulary to describe generic activities within innovation processes. Smulders et al (2014) identified four sets of activities: Initiating (I), Designing (D), Engineering (E) and Realizing (R). Initiating (I) is defined as the activities in the front end of development, focusing on idea generation and market studies. Designing (D) is defined as the development of new concepts. After the first identification of a problem area and the initial generation of an idea, designing is about creating a frame (Dorst, 2015) for the business proposition. This frame will lead to an understanding of how the problem and solution fit together. D-activities lead to a conceptual understanding of the business proposition. Engineering (E) is defined as the 'robustification' of the developed concepts. E-activities validate the concept and serve a role in getting the business proposition ready for implementation. Realization (R) is defined as the finalization and market implementation of the business proposition. R-activities involve logistics, production, and sales. R-activities apply the knowledge that result from the previous I, D & E-activities.

By interviewing ten entrepreneurs in a longitudinal study of four years, we discovered how different entrepreneurs follow different kind of patterns of activities, where there is a different 'weight' on design activities in different types of start-ups. (For all findings and conclusions, see van Oorschot, Smulders and Hultink, 2016) The different IDER perspective offer insights into how entrepreneurs and entrepreneurial students use design as embedded activities in different ways in the overall process. Especially in entrepreneurship education, design activities always have a strong connection with business opportunities that relate to the market. In that sense, the embedded design activities serve the same purpose as participatory innovation activities. In participatory innovation, the challenge is to organise the different participants to participate in 'design' activities. We experience that for entrepreneurial students the challenge is not so much to bring stakeholders together in design activities; stakeholders are very willing to engage with students. The challenge is however to have students to engage in these design (or participatory innovation) activities over a longer time in a way that fits to their particular start-up. Another finding of this research was that entrepreneurial students (and entrepreneurs in general) have the tendency to engage in more engineering and realisation activities too early on, while design activities throughout the whole process offer entrepreneurs knowledge about how to constantly alter the business opportunity they want to work with in their start up.

### *INTERACTION LEVEL:*
### QUALITY OF ENTREPRENEURIAL DESIGN CONVERSATION

In a second research project, we address entrepreneurship education on an interactive level, and we explicitly linked to literature from the field of participatory innovation. Buur and Larsen (2010) introduced the notion of '*quality of conversation*' and explain that: *'Conversations may lead to innovation when:*

1. Crossing intentions are allowed to surface;
2. New themes emerge in the interactions between crossing intentions;

3. New, vigorous concepts emerge that resonate with participants' own experiences;
4. There is a spontaneity that allows participants to imagine new roles;
5. There is an ongoing discussion and readjustment of goals; and
6. *Facilitation is exercised within the circle of participation, rather than from 'outside'.'* (Buur & Larsen, 2010, p. 163)

We analysed coaching conversations with students in our entrepreneurial courses and introduce the notion of Qualities of Entrepreneurial Design Conversations (for all findings and conclusions, see van Oorschot, Smulders and Hultink (2017)). For participatory entrepreneurship education, it is important to mention that we redefined the notion of *there is an ongoing discussion and readjustment of goals* into *student's goals are enabling constraints for entrepreneurial goals*. The conflicting interest for entrepreneurial students is to deal with both educational and entrepreneurial goals simultaneously. As highlighted in the previous section, students want to realise their start-up as soon as possible, and plan their goals accordingly. The students also need to learn (and reflect on their activities) on a Master of Science level. The coaching conversations we have with students are aimed at planning concrete actions to develop their start-up. Simultaneously, we ask to set up these activities according to academic standards and report on their activities on an academic level. The interest tension regarding goals that we encounter during coaching conversation is not much recognized in the entrepreneurship education literature. As well, entrepreneurial educators and students have the tendency to separate the entrepreneurial and educational goals. However, following Buur and Larsen, we would advise to appreciate the 'enabling constraining' element, to work with both goals paradoxically simultaneously.

Furthermore, we emphasise the similarities between facilitating in participatory innovation settings and coaching in entrepreneurship. In education 'through' entrepreneurship, educators find themselves facilitating (or coaching) constantly 'within the circle of participation'. Educators need to appreciate the conflicting situation in which they find themselves. Just as students need to deal with entrepreneurial and educational goals simultaneously, educators need to deal with that their role is sometimes one of an educator and sometimes one of a 'participant' who develops the start-up in collaboration with the students. It is through appreciating this paradoxical position, that educators can improve educational activities and educational research.

*PERSONAL LEVEL:*
AUTOETHNOGRAPHY AS ENTREPRENEURIAL LEARNING

As last element, we emphasise how entrepreneurial students and educators can make sense of their practice on a personal level. Several writers in the participatory innovation tradition have used autoethnography to make sense of their entrepreneurial practice. For example, Gottlieb (2017) explored the interface between participatory innovation on the one hand and entrepreneurial practice and entrepreneurial identity on the other. By reflecting on his own experiences, he offers a transformative perspective on notions of entrepreneurial process, opportunity and entrepreneurial identity. Robert and Lindemann (2013) took up the autoethnographic method to write their Master of Science thesis and reflected how their own entrepreneurial practice influenced the business model development of their start up. In our own research (van Oorschot, 2017) the first author of this article used autoethnography to reflect on the findings of the first and second research projects. By taking part as a 'student' in a five-week summer course on creating a start-up, we reflected on the difficulties of working with design activities as embedded activity throughout the whole process and dealing with these paradoxical student/entrepreneurial goals. Through extensive autoethnographic texts, we provide depth to the findings of the studies in which we took an analytical point of view. The power of autoethnographic text is that they function as inspiration and enable reflection to researchers and practitioners who find themselves working with similar content (therefor we cannot present a key take away from this research in a 4-page paper, see the original work for the full autoethnographic texts). One autoethnographic text can lead to a next one, and the collection of texts offers deep understandings into the highly uncertain process of creation a start-up.

The notion of reflective texts written by students is not new. In many courses, reflective texts are often an extra assignment next to a report, business model or other form of examination. The difference in using autoethnography as main method is that the reflection itself becomes the main deliverable of an entrepreneurial course. It is in autoethnographic writing, that students can reflect on the embedded role of design or participatory innovation activities and are forced to link their experiences to theory. Participatory innovation has a rich tradition on research through autoethnography. Since this autoethnographic tradition is lacking in entrepreneurship education research, scholars and students could use autoethnographic texts from the field of participatory innovation to make sense of their entrepreneurial practice.

## PARTICIPATORY ENTREPRENEURSHIP EDUCATION: FUTURE DIRECTIONS

The previous sections have assessed three levels of understanding on entrepreneurship education and described the similarities and differences with participatory innovation. The context of working with participatory innovation projects and entrepreneurship education is similar, but the challenges are different. Table 1 provides an overview of the similarities and differences.

Considering the similarities and differences, we alter the original defined purpose of participatory innovation, and propose the purpose of participatory entrepreneurship education as:

1. To generate knowledge about the entrepreneurial process in a format that allows the entrepreneurial students in a new venture to reflect on product and identity of the start-up.
2. To generate entrepreneurial opportunities that relate to a market in the form of product/services concepts with considerations of use, interaction, technology, business model and financial model.

Linking entrepreneurship education to participatory innovation allowed us to identify several aspects that are not addressed much in either entrepreneurial research or educational practice. On an activity level, we propose to embed design practice throughout the whole

| | Participatory Innovation | Participatory Entrepreneurship Education |
|---|---|---|
| Facilitator | Innovation consultants and researchers | Educators / coaches from practice |
| Participants | A variety of stakeholders from different companies and institutes | A variety of students from different educational programs |
| Challenges | To get the right stakeholders to participate in participatory innovation activities | To embed participatory innovation activities in a wider range of activities |
| Conflicting goals | conflicting goals between stakeholders | Student goals versus entrepreneurial goals |
| Making sense of practice | Reflecting on own one's own practice in a social context | |

Table 1: similarities and differences between participatory innovation and participatory entrepreneurship education.

entrepreneurial and education process. Several entrepreneurship education programs offer a course on 'design thinking', but how can educators implement design activities throughout the whole process of creating a start-up? On an interaction level, we propose to research in more depth how we can better appreciate that students are working on their education and entrepreneurial goals simultaneously, what should we pay attention to as educators? On a personal level, we propose questions like: how can entrepreneurial students specifically use autoethnography to make sense of their learning experiences? Is it possible to identify a general autoethnographic method that fits for entrepreneurial students in general, or is the method always context specific? With the introduction of participatory entrepreneurship education and the proposed (research) directions, we aim to inspire scholars and practitioners to reflect critically on how they are working with entrepreneurship education and how they could embed and alter practices from participatory innovation into entrepreneurship education.

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