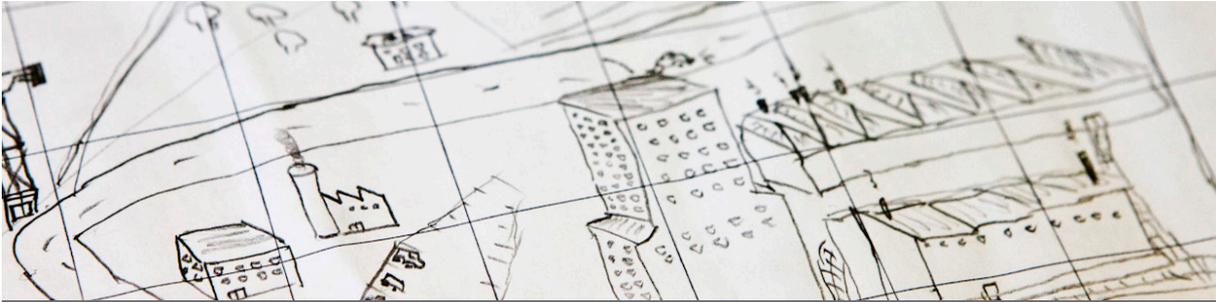




Impact of Entrepreneurship Education in Denmark - 2012





Executive Summary

This report is the second in a row that shows the short term results of a research project on the impact of entrepreneurship education in Denmark. The longitudinal project follows students at the primary, secondary and tertiary levels over a longer period of time which allows us to eventually measure long term variables such as the level of education, employment and income. This includes of course number of new start-ups as this is the most obvious indicator of entrepreneurial behavior.

This year we analyze the short term impact of entrepreneurship education and are mostly focused on the educational aspects. Our assessment project has a broad scope, including all levels of education, from ABC to PhD, so to speak. In the design of the evaluations we have attempted to make them comparable to one another, while at the same time making sure that the outcome variables are aligned with the learning goals and educational goals that apply at each level of education. In order to do this we have in all our studies used the same measurements of the students' entrepreneurial attitudes and his or her entrepreneurial intentions, while aligning other of our measurements to the specific educational goals that apply at each level of education.

Throughout the report we analyze and discuss new and contemporary perspectives in entrepreneurship education. Our analyses of the effects of entrepreneurship education at the primary, secondary and tertiary levels of education show that the newer perspectives in entrepreneurship education such as for instance Sarasvathy's effectuation perspective seem – in comparison with the traditional perspectives - to have the most positive effect on students.

At the primary level we analyze the effects of two different approaches to entrepreneurship education: *Entrepreneurship as a method* which focuses on fostering non-cognitive and general skills and *Entrepreneurship as a trademanship* which focuses on cognitive and specific skills. We found that students who were taught Entrepreneurship as a trademanship had a higher level of entrepreneurial intentions while their attachment to school was negatively influenced. In other words, students who participate in traditional entrepreneurship education with a cognitive approach increase their intentions of becoming self-employed but are not particularly happy about school. Students who are taught non-cognitive entrepreneurial skills (Entrepreneurship as a method) are not as keen on becoming self-employed, but enjoy going to school, feel connected to their peers, and supported by their teachers.

We see that entrepreneurship education has a strong impact on students' enterprising behaviour. Compared with other students in the sample significantly more of the students who had received entrepreneurship education only in 9th grade had become leaders and founders of activities outside school. We found that there was a 78% increase of leaders among the entrepreneurship students and twice as many of them (111%) had become founders of new activities outside of school. The corresponding values for the students in the control group were 18% and 33%.

At upper secondary level a first evaluation of Company Programme participants shows that this programme which focuses on developing both cognitive and non-cognitive skills has increased their level of entrepreneurial intentions. We asked the students about their perceived barriers and incentives to entrepreneurship and found that the three most commonly stated barriers were: "it takes too much effort", "the risk of failure is too high" and "the financial risk is too high". The programme seems to have the greatest impact on girls with regard to overcoming these barriers as the analysis shows a higher increase in the girls' level of entrepreneurial self-efficacy. This goes for all dimensions: Managing ambiguity, Marshalling resources, Creativity, Planning and Financial literacy. However, when we analyze which of these dimensions explain the increase in entrepreneurial intentions, we see that the levels of Managing ambiguity and of Marshalling resources bring about the increase in the girls' entrepreneurial intentions, whereas the levels of Financial literacy and of Planning explain the boys' growing entrepreneurial intentions. In the students' own assessments of their abilities they had improved their Planning abilities and their Financial literacy more than they had improved their abilities to Marshal resources and Manage ambiguity. This implies that the educational design of Company Programme focuses more on the needs of boys than on those of girls.

At the university graduate level we found a significant impact of entrepreneurship education on entrepreneurial behavior. The number of entrepreneurship students who started their own company during their education increased with 50%, whereas the number of students in the control group doing so decreased by 49,4%. The entrepreneurial self-efficacy dimensions which explained the university students' entrepreneurial behavior were to a great extent their perceived ability to manage uncertainty, and their level of Financial literacy. We also found that entrepreneurship students improved their creative abilities as well as their entrepreneurial attitudes significantly more than did the students in the control group, whereas the students in the control group significantly increased their level of Financial literacy.

In conclusion, we see that entrepreneurship education has a positive impact on new venture creation, but that these programmes are not focused on fostering the right skills, which according to our analysis are the skills of Managing ambiguity and of Financial literacy. The newer perspectives in entrepreneurship education, such as effectuation, advocate that we should focus on the marshalling of resources and constant iterations in order to control and manage uncertainty. Our analysis supports this view, but one must not forget the emphasis on financial knowledge in the process.

An English translation of the report will be elaborated and made available for download from our webpage: www.ffe-ye.dk/videncenter