

# **A Conceptual Framework for Testing the Effectiveness of Entrepreneurship Education Programs towards Entrepreneurial Intention**

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## **Abstract**

Research has shown that there is a significant relationship between entrepreneurial training and the propensity of engaging as an entrepreneur. Knowing that Entrepreneurship Training Programs (ETPs) can change entrepreneurial intention is intriguing if one considers the economic relevance of entrepreneurial activity mentioned by various authors. But how do we need to design ETPs in order to positively influence participants' attitudes and beliefs towards entrepreneurship to eventually increase the likelihood that they engage as entrepreneurs? To address this question, a first step is the development of a framework which allows us to describe ETPs in such a way that we can trace back changes in attitudes, beliefs and intention triggered through ETPs to the relevant characteristics (of those ETPs).

Drawing on insights from education and behavioural sciences, combined with empirical findings about experiences from entrepreneurship educators and former students, this paper presents a framework to assess the impact of entrepreneurship education programs on the participant's intention. The framework presented is an advancement compared to existing models, which successfully structure prevailing objectives or structures in currently taught ETPs, but do not consequently strive to capture characteristics enabling the change of attitudes and beliefs – something necessary to encourage future entrepreneurs.

## Introduction

Encouraging entrepreneurship has become an accepted wisdom in economic management and government decisions. One crucial element to foster entrepreneurship is to motivate individuals to become entrepreneurs and equip them with the right skills to turn opportunities into successful ventures. Consequently many business schools have been initiating courses and program over the past two decades. More recently, several governments and foundations have also set up initiatives to create awareness about "entrepreneurship" and to train potential entrepreneurs. If people were born as entrepreneurs, providing education in the field of entrepreneurship would be easier: it would be sufficient to ensure that entrepreneurs were identified and provided with the best possible environment to establish new companies, create new jobs and increase a nation's wealth. Unfortunately, it is not so easy.

However, it is possible to influence the likelihood that somebody will consider becoming an entrepreneur. Several authors (Kolvereid and Moen, 1997; Noel, 2001; Tkachev and Kolvereid, 1999; Varela and Jimenez, 2001) have shown that there is a significant relationship between entrepreneurial training and the propensity of becoming an entrepreneur. Knowing that Entrepreneurship Training Programs (ETPs) can change entrepreneurial intention is intriguing if one considers the economic relevance of entrepreneurial activity mentioned by various authors. The growing importance of ETPs in research and education shows that this thought is already being taken seriously (Katz, 2003). This is not only the case for the U.S. but also for Germany, with more than 60 university chairs related to entrepreneurship (Klandt, et al., 2005).

With such large resources invested in ETPs, the importance of investing them wisely and effectively is growing. So far empirical studies have mainly focused on the question of *if* ETPs have an influence on the decision to become an entrepreneur. However, less attention has been paid to the effectiveness of educational variables. As Gibb (2002: 234) rightly remarked "there is no absolute agreement among providers as to the basic concept of entrepreneurship to be taught". The pressing question today concerns the contents that should be delivered and in which manner, in order to achieve the highest impact on the participant's intention to become an entrepreneur. Therefore, this paper focuses on the methods and features which have the potential to increase entrepreneurial intention and more interestingly, *why* they should be more effective.

The purpose of this paper is to develop a conceptual framework for testing the effectiveness of entrepreneurship education and training programs towards entrepreneurial intention. We develop this framework by first drawing from the field of education science (Laurillard, 2002; Christensen, 1991) and Ajzen's (1991) theory of planned behaviour. We also conducted an exploratory study in Germany with lecturers in entrepreneurship and students formerly enrolled in entrepreneurship courses, to gain insights regarding the possible impact of ETPs on intention. The results were later used to develop a model of entrepreneurial intention and to support the formulation of hypotheses.

This paper is divided into four sections. First of all we conduct a review of the literature on entrepreneurship education, and identify the contributions of education science and the behavioural sciences to entrepreneurship education. In the second section, we outline the methodology used to conduct the exploratory study with lecturers in entrepreneurship and past students. We then present the results of the study. In the last section we build a conceptual framework and a series of hypotheses which have been developed based on the literature review and explorative study.

## **1. Literature review**

### **1.1 Entrepreneurship teaching and training**

The first entrepreneurship course was offered at Harvard University in 1947. Since then numerous courses, teaching programs and endowed positions have occurred in the United States (Katz, 2003) and in Europe (Vesper and Gartner, 1999). Besides research, entrepreneurship is also becoming more and more important for business education. According to Katz (1991b) “entrepreneurship stands as part of the new frontier of business education in the 1990s”. In his article, Katz refers to three important ideas addressed by Porter and McKibbin (1988) in their book “Management Education and Development: Drift or Thrust in the 21<sup>st</sup> Century” why this is the case: firstly, the prediction of entrepreneurialism as one of the driving forces of the twenty-first-century economy. Secondly, the identification of cross-functional integration which is central to entrepreneurship and small business management, as an important part of future business education. Thirdly, the stressing of the need for faculty who understand their speciality *and* the larger system of business. All arguments hold true for the German-speaking countries considered in the study, where entrepreneurship is an advancing and growing field.

Looking at the contents of entrepreneurship education research Grégoire and Béchard (2005) remarked that a lot of reviews have been done in the entrepreneurial education field, however none of the reviews look at the philosophical, theoretical and normative links which could be drawn between entrepreneurial education research and education science. The authors analysed 103 peer-reviewed articles in entrepreneurship education and conclude that while a couple of topics predominate (e.g. the social and economic roles of entrepreneurship education for individuals and society, the systematisation of entrepreneurship education) “three education preoccupations remain under addressed, that is, those proceeding from social-cognitive, psycho-cognitive, and spiritualist or ethical theories.” To overcome that limitation they suggest that “scholars must develop a dual expertise in management and education research.” They also mention numerous references in order to provide a starting point for gaining knowledge in education science. These references have been used as a starting point to research available concepts in order to classify educational measures.

Various studies have been conducted to show if ETPs do have an influence on the entrepreneurial intention or actual entrepreneurial activities: Kolvereid and Moen showed that students with a major in entrepreneurship have a higher intention to engage as entrepreneurs and are more likely to found companies (Kolvereid and Moen, 1997). An observation which has been confirmed by Noel, who showed that students who graduated in entrepreneurship reached higher scores in entrepreneurial intention and entrepreneurial “self-efficacy” than students who graduated in other disciplines (Noel, 2001). Similarly, Varela and Jimenez showed that there is a correlation between a university’s investment in the promotion of entrepreneurship and the percentage of students becoming entrepreneurs (Varela and Jimenez, 2001). Similarly, Tkachev and Kolvereid (1999) showed that the self-employment intentions among students could be increased through Entrepreneurship Training Programs (ETPs). Those results were confirmed by Fayolle (2005) who showed that attitudes and intentions towards becoming an entrepreneur were influenced through ETPs.

### **1.2 Education sciences**

We analysed the education science literature to identify methods to structure or classify education training programs. What aspects are differentiated? Are there any taxonomies which, once applied to Entrepreneurship Training Programs, would be helpful to understand what it really is that increases entrepreneurial intention? We conducted a two-step analysis of the literature in education sciences.

First, drawing on Grégoire and Béchard's (2005) recommended literature for “scholars preoccupied with the systematization of entrepreneurship education”, we identified the following factors to decide

whether or not research papers could be helpful: (1) literature explicitly recommended as being relevant for systematisation, (2) literature dealing with taxonomical aspects, and (3) sources about teaching effectiveness, to assess whether these sources somehow classify, divide or describe the education program they measure.

In a second step, the Education Resources Information Centre (ERIC) was used to find further “taxonomical” education literature. Combinations of two sets of words have been used to find literature concerned with categorising education programs. The first set of words contained synonyms or related words for “classifying” namely the words “categorization”, “categorisation”, “classification”, “framework”, “taxonomy”, and “typology”. The second set of words contained synonyms for “education program” such as the terms “education program”, “teaching program”, “instructional program”.

The sources identified in the two steps described above were used as a starting point and were complemented with other articles indicated in the “starting-articles” or found through other sources such as recommendations from professors. Two sources emerged as particularly valuable: Laurillard’s (2002) “Rethinking University Teaching” and Christensen’s (1991) “Education for Judgment” since both studies are concerned with working out the aspects necessary to improve learning results of students.

Laurillard (2002: 77-78) developed a conversational framework which based on empirical studies revealed the following key aspects to enable student learning: (1) discursive elements like sharing conceptions between teachers and students; (2) adaptive elements which include that students have the responsibility and the chance to receive feedback and consider the feedback in their further studies; (3) interactive elements which includes that teachers must provide meaningful intrinsic feedback, and (4) reflective elements providing students with the chance to reflect on task goals, action on it, receive feedback and relate the feedback to their conception of the topic goal.

### **1.3 Behavioural sciences**

Explaining human behaviour is a complex and difficult endeavour for which different approaches have been tested. One of them was using general dispositions to predict human behaviour, an approach which turned out to be a poor predictor. Similarly, general personality traits were not able to predict behaviour in a reliable manner leading theorists to claim trait concepts as being “intenable” (Ajzen, 1991). The attempt of using a generalised locus of control to predict behaviours in specific contexts also showed disappointing results.

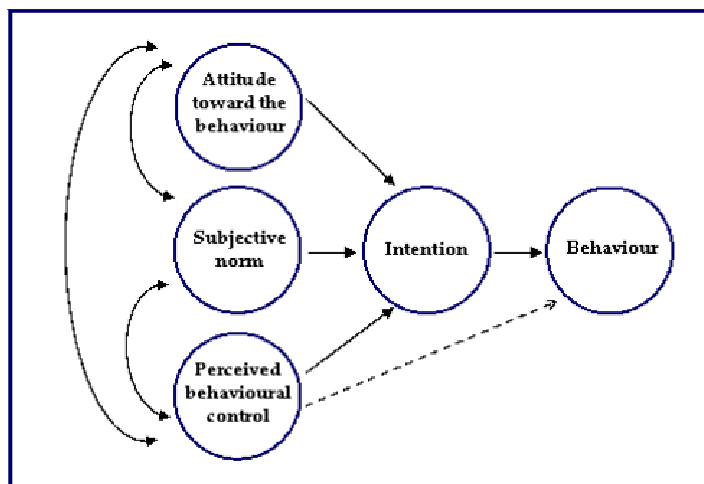
The aggregation of specific behaviours across situations seems to be a remedy for that shortcoming. The thinking behind this is that behaviour in a specific situation is always influenced through both general dispositions and factors being unique to the situation. The principle of aggregation does not allow the prediction of behaviour in specific situations. Indeed, Ajzen argues that those “broad attitudes and personality traits have an impact on specific behaviours only indirectly by influencing some of the factors that are more closely linked to the behaviour in question”. Those behaviour-specific factors are included in the framework of the theory of planned behaviour which is therefore regarded as being suitable for the research question at hand.

The theory of planned behaviour is an extension of the theory of reasoned action a theory trying to understand behaviour (Ajzen and Fishbein, 1980; Ajzen and Fishbein, 1975). The theory of reasoned action is concerned with behaviour “over which people have incomplete volitional control” whereas the theory of planned behaviour is concerned with behaviour over which people do have the complete volitional control (Ajzen, 1991). They can “plan” their behaviour. The difference between the two theories lies in the construct of “perceived behavioural control” (Ajzen, 1991: 183) which is included in the theory of planned behaviour. Furthermore the theory of planned behaviour is designed to predict

and explain human behaviour in specific contexts especially behaviour which is “rare, hard to observe, or involves unpredictable time lags”, as mentioned earlier: characteristics holding true for starting a business.

The theory of planned behaviour is based on research done by Ajzen (1991; 2002). In this theory, the immediate antecedent of behaviour is the intention to perform a given behaviour. An individual’s intention to perform a given behaviour is a central element in the theory of planned behaviour. Intentions are assumed to contain the motivational factors that influence a behaviour. According to Ajzen they are “indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behaviour”. Generally speaking the stronger the intention, the more likely the behaviour will be carried out.

Intentions to perform a certain behaviour can be predicted “with high accuracy” from “attitudes toward the behaviour”, “subjective norms”, “perceived behavioural control”. Intentions, together with the perceptions of behaviour control explain actual behaviour to a considerable degree. Collectively, these factors represent people’s actual control over the behaviour. To the extent that a person has the required opportunities and resources, and intends to perform the behaviour, he or she should succeed in doing so. The relationships between the different elements are shown in figure 1.

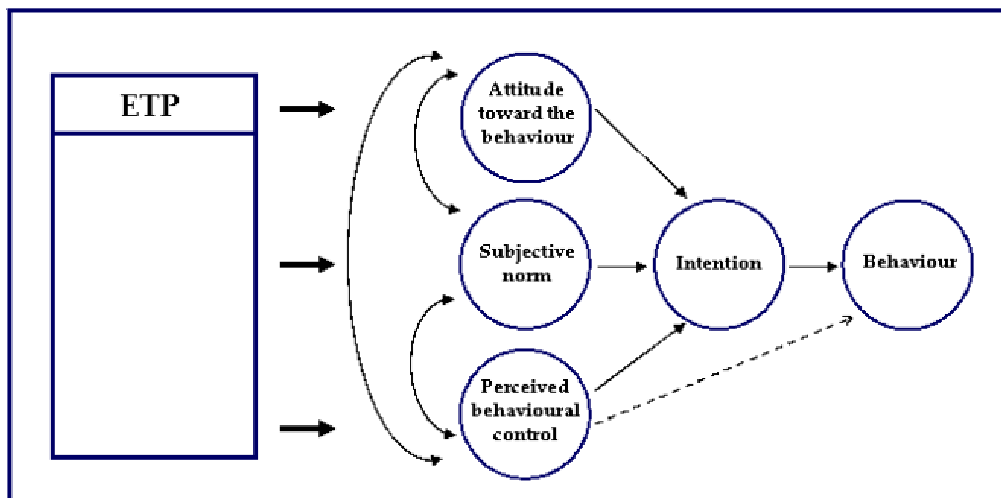


**Figure 1: The theory of planned behaviour – Ajzen's Intentional Model**

The three different elements influencing behaviour through intention can be shortly defined as follows. *Attitudes toward the behaviour* are concerned with the “beliefs about the likely outcomes of the behavior and the evaluations of these outcomes (behavioural beliefs) (Ajzen, 2002: 1). *Subjective norms* refer to a person’s perception of normative expectations of others and a person’s “motivation to comply with these expectations.” *Perceived behavioural control* refers to someone’s “perceptions of the ease or difficulty of performing the behaviour of interest, a construct which is more important than the actual control over the behaviour of interest (Ajzen, 1991).

Intentional models seem in general to be appropriate to increase the understanding in the selected field of research: Krueger et al. (2000) compared two intention based models and showed that both were able to show a “significant opportunity to increase our ability to understand and predict entrepreneurial activity”. Krueger and Carsrud (1993) stated that the theory of planned behaviour appears to be applicable to entrepreneurship. In order to do so, we can extend the model by inserting the ETP into the model in order to measure its impact on entrepreneurial intention through the three constructs (“attitude toward the behaviour”, “subjective norm”, “perceived behavioural control”).

Figure 2 depicts an extended model which can be applicable to research concerned with ETPs influences on entrepreneurial intention.



**Figure 2: Integration of entrepreneurship training programs (ETP) into the theory of planned behaviour**

Since we are interested in a distinguishable behaviour which can be measured, we define entrepreneurial intention similar to Krueger et al. (2000) in their comparison of the predictive power of Ajzen’s and Shapero’s intention models. Therefore, entrepreneurial intention is the intention to start an own business within five years after finishing university. Entrepreneurial intention will be interpreted as a continuum. High entrepreneurial intention includes that certain actions are taken. Accordingly, effective entrepreneurship education and training will be those which increase entrepreneurial intention.

## 2. Methodology

The objective of the qualitative study was to gain first insights into relevant factors influencing entrepreneurial intention from the viewpoint of entrepreneurship educators and former students who attended entrepreneurship classes held by the respective educators. Students were selected as interview partners if they either became entrepreneurs already or if they expressed a high intention to do so. In more detail the objectives can be described as follows:

- What are potential factors increasing entrepreneurial behaviour?
- Can Entrepreneurship Training Programs influence entrepreneurial intention?
- Specifically, which education variables of ETPs could influence entrepreneurial intention?
- Through which antecedents of Ajzen’s theory of planned behaviour could entrepreneurial intention be changed?

The results of the interviews have been used as an additional source of information for choosing or structuring the independent variable (i.e. the ETP) used in the theoretical model of the dissertation. Data was collected though a series of semi-structured interviews with eight German professors in entrepreneurship and students who participated in their lectures. The selection of the entrepreneurship educators followed the thought of covering a wide range of different ETPs taught by those educators (e.g. case studies, business plan writing, meet “real” entrepreneurs). Also, personal contacts were used to get in touch with educators. An overview of the classes taught at German universities was gained through the FGF-Report “Entrepreneurship Professuren 2004” (Klandt, et al., 2005). The students

were identified with the help of the educators or their assistants who were asked to name former students who are now entrepreneurs. The reason for selecting students who have been attending ETPs and who are now either entrepreneurs or have the strong intention to become one, is the assumption that there is a certain likelihood that those ETPs had an influence on their entrepreneurial intention.

Two different questionnaires were developed for the professors and the students/ entrepreneurs. The behaviour under scrutiny was defined as follows: “*to found an own company within the next five years after finishing university*”. To have equal conditions for each interview and help the interviewee understand the purpose of the interview, a short declaration stating the objectives of the interview was handed out and read aloud at the beginning of each interview. For both interview groups, questions were chosen which should help to gain insights into the effectiveness of ETPs on the antecedents of Ajzen’s construct and entrepreneurial intention itself.

In conducting the interviews with former students we first asked them about their attitudes and perceptions towards “attitude toward the behaviour”, “subjective norms” and “perceived behavioural control” at the time they founded their company (the questions were adapted for the students who had not founded a company already). For the second part, questions gathered information about the influence of the entrepreneurial training.

The questionnaire designed for interviewing educators in entrepreneurship followed the same logic: Within the first part of the interview educators were asked to describe their thoughts on the importance of Ajzen’s construct towards entrepreneurial intention. In the second part the interviewed entrepreneurship educators were asked about their perception of the impact of entrepreneurship courses towards the entrepreneurial intention of course participants.

The interviews have been taped and transcribed. Afterwards, the interviews were sent to the interviewees in order to confirm them or state certain passages more precisely if necessary. The interviews were analysed using a procedure described by Mühlfeld et. al. (1981).

### **3. Results**

The results of the qualitative interviews can be summarised as follows.

#### **Attitude toward the behaviour and its relevance towards entrepreneurial intention**

According to several interviewees positive attitudes towards entrepreneurship have a high influence on entrepreneurial intention. “Entrepreneurship” was associated with freedom, independence, self-realisation, and being able to implement one’s own ideas. Being an entrepreneur is considered something “worth striving for”.

#### **Subjective norm and its relevance towards entrepreneurial intention**

Several interviewees believe that an entrepreneurial family background can lead to a higher consciousness or openness towards choosing an entrepreneurial career. Also, it can support and encourage one’s own entrepreneurial aspirations and the realisation of entrepreneurial endeavours (e.g. through existing networks or financial resources). Compared to the influence of “attitude toward the behaviour” and “perceived behavioural control” the impact of subjective norms towards entrepreneurial intentions is perceived as being less influential.

#### **Perceived behavioural control and its relevance towards entrepreneurial intention**

Perceived behavioural control was considered a “sine qua non” from one of the interviewed entrepreneurship educators. A thesis which seems to be supported by the interviewed (potential) entrepreneurs: all of them believed in the (future) success of their endeavours. At the same time, they

did not have effusive but rather realistic viewpoints towards their success. Being able to build a company together with a reliable partner seems to increase the belief that the foundation of the company can be successful. In general, “perceived behavioural control” is regarded as having a high influence on entrepreneurial intention.

### **ETPs and their impact on entrepreneurial intention**

A couple of interviewees, entrepreneurs as well as educators, acknowledged the encouraging, motivating and supportive virtue of ETPs. At the same time they doubt that ETPs can fundamentally change someone’s attitude towards the topic: A basic interest, certain characteristics or socialisation patterns are considered as being relevant in order to possess an “entrepreneurial seed” which can be increased to entrepreneurial intention.

### **Influences of ETPs on “attitude towards the behaviour”**

The interviewed educators seem to believe that attitudes can be changed through ETPs. From the side of the interviewed (potential) entrepreneurs this can neither be confirmed nor denied since they reported to have had a positive attitude towards entrepreneurship before they attended an entrepreneurship class. The interviewed (potential) entrepreneurs did confirm that participating at ETPs reinforced the existing positive attitude towards becoming an entrepreneur.

### **Influence of ETPs on “subjective norms”**

The interviewees believe that subjective norms can be changed but only to a minor extent. Changes can be reached through facilitating contacts with entrepreneurs, bringing together students with entrepreneurial aspirations or getting in touch with professors who appreciate entrepreneurial spirit.

### **Influence of ETPs on “perceived behavioural control”**

ETPs could increase the feeling that “I can do it as well”, e.g. by inviting entrepreneurs students can identify with (e.g. same age or education). Educators and entrepreneurs also believe that the “real” behaviour control can be influenced to actually make start-ups from students who attended entrepreneurship classes more successful. Especially in areas like finance, marketing or team composition they believe that the number of mistakes could be decreased.

### **ETP characteristics with a perceived high impact on entrepreneurial intention**

Courses providing insights into what it means to be an entrepreneur together with examples of entrepreneurs who increase the feeling that this is something manageable for me as well, increased entrepreneurial intention. Along the same line, educators mentioned that entrepreneurial intention could be influenced by presenting the foundation of a company as something which can be managed and which can be done while decreasing (financial) risks. Also, getting as close as possible to really found a company, earn some money, receiving feedback and adapt to the market is considered as a promising element. In summary, the following constructs or characteristics seem to positively influence entrepreneurial intention: “Experience the feeling of being an entrepreneur”, “Potential for identification” and “Receive feedback.

In the following a short definition of the characteristics or constructs together with a citation from the interviews is being presented:



### **“Experience being an entrepreneur”**

Definition: The degree to which the course provides students with the opportunity to gather entrepreneurial experiences. The characteristic is supposed to positively influence the attitude towards becoming an entrepreneur.

### **“Potential for identification”**

Definition: Degree to which the course allows students to identify with successful entrepreneurs “potential for identification” may be provided either through real contacts with entrepreneurs or through case studies describing entrepreneurial activities. The characteristic is supposed to increase “perceived behavioural control”.

### **“Receive feedback”**

Definition: The degree to which an ETP allows students to receive feedback on an idea or a business model from the market (if a business idea is implemented) or from sparring partners (if ideas or business models are discussed). In the first case this could mean that a business model is brought into life so that students can experience reactions from the market to either draw conclusions theoretically or actually refine a business model.

The results stated above have been used to formulate hypotheses and to develop a framework to describe the independent variable ETP.

## **4. Development of a conceptual framework**

Ajzen’s model was used to measure how ETPs influence entrepreneurial intention through the respective antecedents. Therefore the constructs suggested by Ajzen are the dependent variables of the model. To describe the contents of the independent variable, i.e. the entrepreneurship training program, potential relevant constructs or characteristics derived from literature research and the explorative qualitative studies have been developed and adopted: level of discursive elements, interactive elements, adaptive elements and level of elements enabling identification. The core elements are depicted in Figure 3.

Due to empirical results the two moderating variables “previous entrepreneurial behaviour“ and “gender” will be considered when analysing the impact of ETPs and entrepreneurial intention and its antecedents respectively. Hypotheses 1 to 7 show the main assumptions which will be tested with the model. Nevertheless the whole model including the relationship of the antecedents of entrepreneurial intention towards intention itself will be analysed as well.

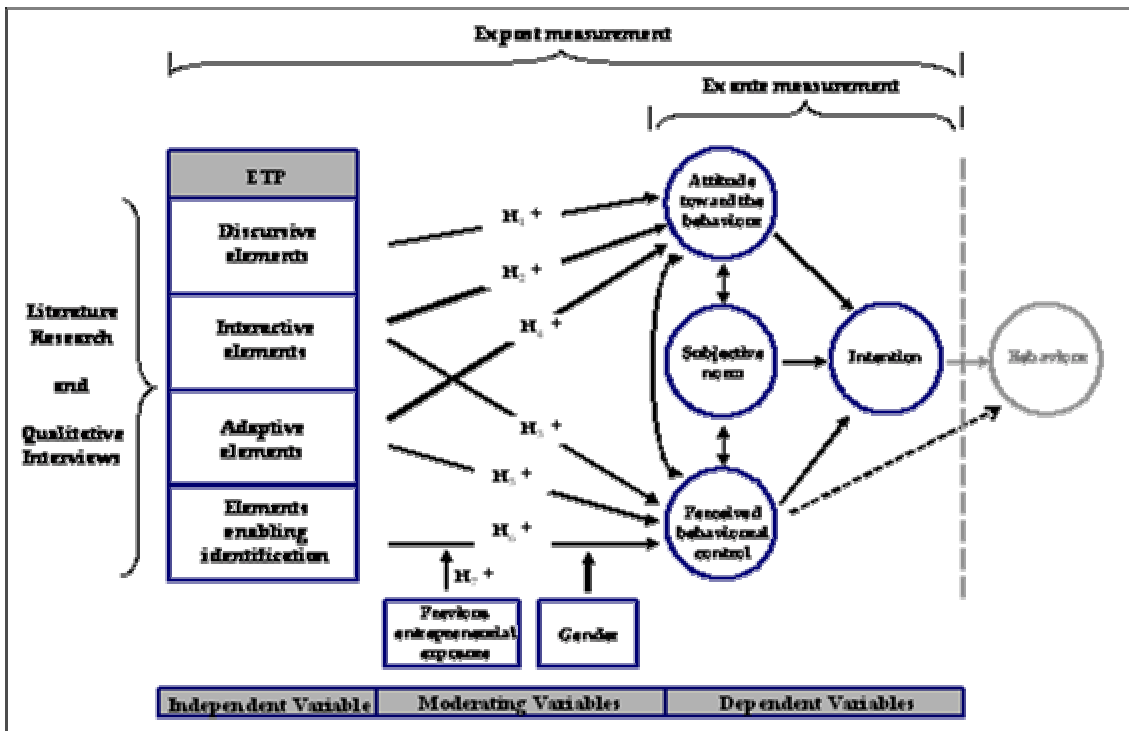


Figure 3: A model of entrepreneurial intention

#### 4.1 Variables of the model

The main objective of the thesis is to discover the relevant aspects of entrepreneurship courses for changing the intention to start a company through the antecedents of Ajzen's model. To reach this goal it is necessary to find appropriate constructs describing an ETP. Bringing together the research results of education science literature with the results of the qualitative interviews, four constructs have been identified or developed as the independent variables of the model.

Each construct itself as well as the four constructs together, reveal the degree to which the ETP is either teacher-centred or student-centred. The underlying paradigms of the two extremes of the dichotomy can be described as following. Teacher-centred education considers teaching as conveying information, an objective which can be disconnected from learning. According to that definition a good teacher would be someone who can organise and communicate content in a good manner without asking if students learned something (Elmore, 1991). On the other side student-centred education would focus on enabling student learning and increasing the understanding of how this goal can be achieved.

##### Discursive elements

Discursive characteristics or elements of a course could be discussions about concepts and perceptions of entrepreneurs: their role in society, ethical considerations, necessary skills or attitudes etc. Literature reveals that discussions assigning students an active role through participation or through giving them the opportunity to influence the direction of the discussion, changes their mindset. The concept of discussion and its positive influence on learning is elaborated in various essays of Christensen's "Education for Judgment" (1991).

##### Interactive elements

Learning requires the active participation of students in the learning process (Whitehead, 1929). Since "learning" is clearly needed in order to change students' attitudes and perceptions, the effectiveness of ETPs should increase with the level of active participation allowed in the

classroom. The role of active elements in education is described in literature concerned with enabling learning through shifting the focus in education measures from teaching to learning (Laurillard, 2002; Christensen, et al., 1991; Barr and Tagg, 1995).

### **Adaptive elements**

Multiple interviewees noted that receiving feedback and integrating this feedback into further thinking and acting is vital to encourage learning and the changing of mindsets.

### **Elements enabling identification**

The observation and interaction with skilled people encourages learning, especially if the interaction takes place with people participants can identify with: e.g. invite entrepreneurs from the same school, at the same age (Elmore, 1991). Interacting with others can be one example to allow “identification”. Another type of identification could be possible if students learn about business ideas which seem to be manageable to them.

The dependent variables used in the studies are the constructs described in Ajzen’s model: “attitude toward the behaviour”, “subjective norm”, “perceived behavioural control” and “intention”. The actual “behaviour” which is part of Ajzen’s model is not included in the analysis of the doctoral thesis.

Based on literature research the following moderating variables have been chosen.

### **Previous entrepreneurial exposure**

Various studies revealed the moderating effect of previous entrepreneurial exposure: Fayolle (2005) showed that the impact of ETPs on entrepreneurial intention varies based on previous entrepreneurial intention. The entrepreneurial intention significantly increased when the course participants did not have any entrepreneurial exposure whereas the intention stayed at the same level or even decreased in the case the respondents had previous entrepreneurial exposure. The influence of previous knowledge is also acknowledged by Laurillard (2002: 25): “The knowledge that students bring to a course will necessarily affect how they deal with the new knowledge being taught”. Similarly, Kolvereid (1996) and Krueger (1993) showed that prior self-employment experience indirectly influences intention through the effect on attitudes, subjective norm, and perceived behavioural control.

### **Moderating Variable 2: Gender**

According to empirical studies males seem to have a higher propensity to found an own business than women (Kolvereid, 1996; Mazzarol et al. 1999). In order to see whether or not gender is also influencing the impact ETPs have on intention, gender is considered as the second moderating variable in the model.

## **4.2 Hypotheses**

In the following chapter hypotheses are developed based on the results from literature research and insights from qualitative interviews.

### **Discursive characteristics of ETPs**

Various literature sources mention the importance of active discussions in the classroom to enable learning. Laurillard (2002) for example mentioned that teachers must provide and should encourage discussions as a discursive element to foster learning. Discussions help students and teachers to make conceptions about the discussion topics accessible to each other. Along the same line Garvin (1991) noted the importance to actively involve students in shaping discussions.

The relevance of discursive elements was confirmed by the interviewees who noted that open discussions helped to shape or change their perception about entrepreneurs. This leads to the following hypothesis:

*H<sub>1</sub>: Courses with a high degree of encouraging participants to actively participate and shape discussions about entrepreneurial aspects and perceptions positively influence the attitude towards becoming an entrepreneur.*

### **Interactive characteristics of ETPs**

Garvin (1991) mentioned that learning is anchored in the experience and interest of students. Therefore elements allowing students to experience what they are supposed to learn and receive feedback are likely to increase the effectiveness of ETPs. Laurillard (2002) also remarked that students must reflect on the task goal, their action on it, and the feedback they received. In order to receive feedback, action is necessary. For the topic of discussion this does not necessarily mean that students start their own company during the ETP. Participating in case studies, case competitions or doing market research are also actions relevant to entrepreneurs which allow them to experience the actual “doing” and receive feedback.

The interviewees also mentioned the importance of “doing” and receiving feedback. One interviewee explicitly mentioned that being active as an entrepreneur, be it in a simulated or real environment, actually shows that being an entrepreneur "is fun" and therefore "something enjoyable".

This leads to the following two hypotheses:

*H<sub>2</sub>: Courses with a high level of interactive characteristics do positively influence the attitude towards becoming an entrepreneur.*

*H<sub>3</sub>: Courses with a high level of interactive characteristics do increase the perceived behavioural control over the behaviour at question.*

### **Adaptive characteristics of ETPs**

The concept “adaptive characteristics” summarises elements that allow students to relate the experience encountered through the ETP to their own situation or to themselves. It also includes the extent to which classes allow students to influence the information and situations they encounter in order to fulfil their knowledge needs. “Adaptiveness” is therefore understood in two meanings: How situations can be adapted by participants and how the content delivered through ETPs adapt to student needs. The latter was also revealed by the interviewees saying that it was helpful to choose from a range of different offers to actually select those contents currently helpful for them (instead of acquiring knowledge “on stock.”)

The importance of adapting knowledge to one’s own encountered problems has often been stated in literature. Elmore (1991) for example noted that knowledge only becomes “usable when it is acquired in situations that entail applications to concrete problem-solving.” This notion is especially relevant for the topic in question since entrepreneurial knowledge is supposed to be knowledge (e.g. how to identify opportunities) which should be applied. Also, interviewees mentioned that seeing business ideas which seem to be “realisable” for them, increases perceived behavioural control.

Therefore, the following hypothesis can be formulated:

*H<sub>4</sub>: Courses with a high level of adaptive characteristics do positively influence the attitude towards becoming an entrepreneur.*

*H<sub>5</sub>: Courses with a high level of adaptive characteristics do increase the perceived behavioural control over the behaviour at question.*

### **Characteristics enabling identification**

Mainly based on the qualitative interviews the construct of “characteristics enabling identification” was introduced. Interviewees reported repeatedly that it changed their perceived behavioural control if they had the chance to see an entrepreneur and understand what he or she does, in order to judge whether this is doable for them as well. Two notions were important to increase the thinking of “if *he* can do this with *this* idea”; I can do that as well. Firstly, it is important to understand the activities an entrepreneur does to see that each activity is doable. Secondly, the feeling seemed to be increased when the identification potential was high: e.g. invited entrepreneur was in the same age, attended the same school.

Thus:

*H<sub>6</sub>: Courses with a high level of characteristics enabling identification do increase the perceived behavioural control over the behaviour at question.*

### **Role of previous entrepreneurial exposure**

Fayolle (2005) showed that the impact of ETPs on entrepreneurial intention varies based on previous entrepreneurial intention. The entrepreneurial intention significantly increased when the course participants did not have any entrepreneurial exposure whereas the intention stayed at the same level or even decreased in the case the respondents had previous entrepreneurial exposure. The influence of previous knowledge is also acknowledged by Laurillard (2002): “the knowledge that students bring to a course will necessarily affect how they deal with the new knowledge being taught.” In the same vein, Kolvereid (1996) and Krueger (1993) showed that prior self-employment experience indirectly influences intention through the effect on attitudes, subjective norm, and perceived behavioural control.

Insights from qualitative interviews did support the insights stated above: Students entering courses with an already existing intention to become an entrepreneur (based on previous entrepreneurial exposure) might encounter an additional encouragement or motivation to follow an entrepreneurial career but the entrepreneurial intention will probably not be raised significantly. In the case of high previous entrepreneurial exposure, ETPs probably rather take on a “confirming” role since they provide transparency over what it really means to be an entrepreneur but they do not take on a “stimulating” role.

Based on these arguments the following hypothesis is proposed.

*H<sub>7</sub>: The entrepreneurial intention will not be changed significantly if students entered an ETP with a high level of previous entrepreneurial exposure.*

## **5. Conclusion**

Research has shown that there is a significant relationship between entrepreneurial training and the propensity of engaging as an entrepreneur. Knowing that Entrepreneurship Training Programs (ETPs) can change entrepreneurial intention is intriguing if one considers the economic relevance of entrepreneurial activity mentioned by various authors. Yet, there is currently no indication about how to design ETPs in order to positively influence participants’ attitudes and beliefs towards entrepreneurship to eventually increase the likelihood that they engage as entrepreneurs. To address this question, a first step is the development of a framework which allows us to describe ETPs in such a way that we can trace back changes in attitudes, beliefs and intention triggered through ETPs to the relevant characteristics (of those ETPs).

Besides practical reasons, intentions have been identified as being the best predictors of planned behaviour especially if the behaviour is rare, hard to observe, or involves unpredictable time lags. Such characteristics typically apply to entrepreneurship: identifying business opportunities and engaging as an entrepreneur are clearly types of planned behaviour. Therefore entrepreneurship can be declared as a type of planned behaviour which can be analysed with the help of intention models. Additionally, understanding the antecedents of intentions implies understanding the behaviour. Intention models also seem to be superior to models focusing on either situational or personal variables since they consider both types of variables: attitudes influence behaviour through effects on intentions which depend on the situation *and* the person.

Drawing on insights from education and behavioural sciences, combined with empirical findings about experiences from entrepreneurship educators and former students, this paper presented a framework to assess the impact of entrepreneurship education programs on the participant's intention. The authors believe that a classification scheme for entrepreneurship training programs developed by using insights from education science and entrepreneurship research will be a helpful method to measure effectiveness of entrepreneurship training programs and continually improve their quality.

Evidence gathered in this exploratory study suggests that courses providing insights into what it means to be an entrepreneur together with examples of entrepreneurs, who increase the feeling that this is something manageable for me as well, increased entrepreneurial intention. Along the same line, educators mentioned that entrepreneurial intention could be influenced by presenting the foundation of a company as something which can be managed and which can be done while decreasing (financial) risks. Hence, getting as close as possible to really found a company, earn some money, receiving feedback and adapt to the market is considered a promising element. In summary, the following constructs or characteristics seem to positively influence entrepreneurial intention: "Experience the feeling of being an entrepreneur", "Potential for identification" and "Receive feedback."

The framework developed is an advancement compared to existing models, which successfully structure prevailing objectives or structures in currently taught ETPs, but do not consequently strive to capture characteristics enabling the change of attitudes and beliefs something necessary to encourage future entrepreneurs.

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