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PROJECT SEMINAR BUSINESS PLAN DEVELOPMENT – AN ANALYSIS OF INTEGRATIVE PROJECT-BASED ENTREPRENEURSHIP EDUCATION

TM Johann, H Koch, S Chlosta, H Klandt
KFW-Endowed Chair for Entrepreneurship
European Business School (ebs), International University Schloß
Reichartshausen
Oestrich-Winkel, Germany

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INTRODUCTION

The question whether entrepreneurship can be taught has been a major debate in entrepreneurship research and even lead to the question whether entrepreneurship can actually be learnt (Edwards & Muir, 2004; Rae, 2000). Basic outcome of these debates has been the identification of different aspects in entrepreneurship education, of which some are teachable with the help of classical education tools and formats, while other do not seem to be teachable in the same manner. These aspects can only be developed by students themselves through active engagement in the learning process. Against the background of these findings a general call for shifting the emphasis from classical teaching to facilitate active learning arose, promoting the integration of more action-oriented concepts in current entrepreneurship education (Shepherd & Douglas, 1996).

As a result, active-learning concepts were increasingly integrated into entrepreneurship education. Regarding the dedicated research to that topic, however reveals, that empirical evidence regarding the effects and appropriateness of more action-oriented teaching approaches, is still hard to find. Though the role and impact of active learning in an entrepreneurship context is increasingly analysed by many scholars, most of the research conducted in that area is of qualitative nature and based on rather short observation periods.

Focusing on a specific type of active learning approaches, the concept of project-based learning, this survey has the objective to help closing this gap of empirical research, by analysing the annually held project seminar 'Business Plan Development' at the European Business School (ebs) in Germany. The main task for participating student teams in the project seminar is to co-operate with scientists from prominent German technological research institutions as the Fraunhofer institute, and to write a business plan that enables these scientists to market their inventions.

The survey focuses on the experiences of the participating students and alumni of the project seminars' eight-year history and their own founding activities. It thus aims at indicating whether project-based learning or teaching approaches might be an answer to the challenge of conveying the non-teachable aspects in entrepreneurship education to business students. To

test for how close the assigned tasks of the project seminar are to reality, the survey also provides some basic evidence regarding the realisation of the technology-projects the students wrote their plans for.

Theoretical Background

Science and art elements of entrepreneurship

The question whether entrepreneurship can be taught has been a major debate in entrepreneurship research and even lead to the question whether it can actually be learnt (Edwards & Muir, 2004; Rae, 2000). While some scholars as Gorman et al. (1997) indicated that entrepreneurship can be taught or at least be developed by education, other researchers as Saeed (1996) argued that entrepreneurial skills are not teachable and that entrepreneurship education is only able to create entrepreneurial awareness. Entrepreneurial awareness hereby refers to stimulating entrepreneurial spirit in an individual, that one day might lead a person to start-up its own business (Duchéneaut, 1997).

As discussed by Jack and Anderson in 1998, the ongoing debate regarding the teachability of entrepreneurship, lead to a distinction in entrepreneurship education between teachable science elements, that refer to classical business administration and management aspects and non-teachable art elements, that refer to the more experimental and creative aspects.

The rationale of the teachability of the science elements is based on the positivistic nature of traditional management education. Positive knowledge yields a hierarchical conception of science, focusing on the identification of causal laws that are derived from observation. The science of business or management is hence analytical, rational and logic. Instrumental knowledge that is important for SME or start-up management is thus communicable in traditional lecture settings, by elaborating on the identified causalities. Entrepreneurship as a holistic, dynamic, unique and sensitive process is however characterised by unpredictability (Hofer & Bygrave, 1992) and of an anti-positivistic nature. Any entrepreneurial event is unique, probably

idiosyncratic and could be perceived as a phenomenon. In this context, entrepreneurship is thus more an art than a science. The art elements of entrepreneurship are creative, generative, and provocative, and thus constitute a major limitation for classical educational concepts. (Anderson, 1999; Shepherd & Douglas, 1996).

As instrumental knowledge and SME management skills, which are taught as the functional role of entrepreneurship, do not assist the students in dealing with the unknowability of entrepreneurship, uncertain situations and environments, it is necessary to also convey students the art elements of entrepreneurship. These are however not teachable in a traditional educational concept, due to their experiential nature. Being unpredictable, innovative and new, the art elements of entrepreneurship education can not be directly provided but only be developed by active participation of the students in the learning process, and experiences from trial and error (Anderson, 1999).

A key aspect for the conveyance of these creative, artistic elements is the creation of entrepreneurial awareness among the students. Given the great variety of different kinds of ventures, entrepreneurs, inconsistent environments and ways to become entrepreneurial, students are best suited for a satisfying career if they understand these dimensions and contingencies and learn how to deal with them by being actively integrated in the teaching concept (Anderson, 1999).

Important for the creation of entrepreneurial awareness is in particular the development of a learning environment that reflects the real-life environment of entrepreneurs. This provides the students with a chance to encounter the risks and ambiguity of the unstructured situation, which dominates the job of most entrepreneurs, by themselves. (Shepherd & Douglas, 1996; Robinson & Haynes, 1991)

The call for more action-orientation in entrepreneurship education

In order to overcome the limitations of traditional theory-based learning approaches by creating entrepreneurial awareness among the students, and in order to design a learning environment that is close to reality, a call for shifting entrepreneurship education towards more action-oriented teaching,

arose in the literature (Shepherd & Douglas, 1996; Formica, 2002; Gorman et al., 1997)

As a concept the active learning approach aims at providing opportunities for students to meaningfully write, read, reflect on and discuss an academic subject, its content, ideas and principles (Meyer & Jones, 1993). According to education literature, active learning approaches create a stimulating atmosphere by encouraging interaction among students and thus promoting so-called soft skills as problem-solving, the ability to work in teams, decision taking, conflict management or communication skills.

The active learning concept is often seen as forming a learning continuum, starting from simple tasks or short discussion sessions in class, to more complex tasks, such as long-term group projects or case study (Bonwell & Sutherland, 1996). The underlying thinking of the more complex tasks is that the students shall play the primary role. The teachers are rather seen as 'coaches' or 'facilitators' of learning than as classical instructors (Hytti & Gorman, 2004).

Besides the great prominence of the more action-oriented learning approaches, some scholars demanded that theory-based activities must not be neglected in entrepreneurship education. They argued that theoretical frameworks and theory-based knowledge are essential to ground the practical learning activities (Fiet, 1997). Already in 1993 Bygrave stated that both extremes are obstacles for effective entrepreneurship education. Designing a course to consist only of theory will bore the students while focusing on practical applications only, does not allow for assisting students in their decision-making and derived actions. A good educational approach thus has to integrate an efficient mix of theoretical elements and practical application.

Project-based learning approaches

A teaching concept that integrates the major requirements for effective entrepreneurship education is the pedagogical concept of project-based learning. In project-based learning approaches, students have to take responsibility and conclude a realistic task by independently gathering information and by building up, transforming, and constructing knowledge (McKeachie, 2002; Cuthbert, 2001).

Löwegren argued in 2005 that the project-based learning model is an appropriate pedagogical model for conveying the ‘action-part’ of entrepreneurship education, but that it needs to be further complemented with some theoretical knowledge and reflection. This call for a more integrative approach is based on experiences from a course given at Lund University. Löwegren reports from despair and distrust on side of the students as a result of too little guidance in the beginning of the project-based learning course and of motivation problems that were based on difficulties by designing the project tasks close enough to real life (Löwegren, 2005).

Eight years ago, the European Business School (ebs) also designed a series of courses, lectures and seminars that was bundled in the ‘project seminar business plan development’. The ebs bundled hereby theory-based with active learning modules, external partners and various coaching, discussion and presentation elements and a rather continuous grading structure. The result was a specific integrative project-based learning approach that shall subsequently be analyzed and discussed as a possible answer to the shortcomings in pure action-oriented learning approaches in entrepreneurship education.

THE PROJECT SEMINAR ‘BUSINESS PLAN DEVELOPMENT’

The project seminar is a compulsory element for last-year business administration students majoring in entrepreneurship, but also open to all other final year business administration students at the ebs. It starts with a series of preparatory lectures focusing on business plan theory, the micro-social environment of start-ups in Germany and typical differences between young start-ups and big incumbent companies (Klandt, 2006).

After completion of the lecture series the students are provided with a list of several different business ideas from scientists of the Fraunhofer institute and other technological research institutions. In groups of three or four, that the students form themselves, they chose a business idea and perform a feasibility study of the project.

In this stage of the project seminar the students work rather independently, though they are encouraged to contact the scientist who developed the business idea. After the completion of the feasibility study, every team presents his results in front of all participants of the seminar, the chair, and the idea providing scientists and defends his results in an open discussion. If the idea is judged feasible, the students are assigned with the task to further develop their feasibility analysis into a complete business plan.

While great parts of the business plan are developed in intensive independent group work, each team is assigned a tutor from the chair who supports the team through coaching, feedback and the provision of contacts. Furthermore, every team is obliged to present their progress in regularly held meetings with the chair on the basis of written project status reports. In these meetings the students are provided with feedback, contacts, hints, ideas and general support. Discussions with the idea providing scientists and other experts in the respective technological field are strongly encouraged in this stage of the business plan development.

After completion of the business plans the students have to present their final outcomes to a board of experts from the respective industry, venture capital firms, banks, public support programs, experienced scientists in the respective field of technology and academics from the area of entrepreneurship. Subsequent to each presentation the team has to defend their results in an open discussion. After each team has presented, the panel of judges evaluates the results and elects the winner-team, which is rewarded with the ebs-Business-Plan-Award and some prizes from sponsor companies in an evening ceremony.

The grading structure of the project seminar aims at a continuous assessment of the students commitment. Key parts that are graded are the final written feasibility study as well as the final written business plan, the two presentations and discussions with the panel of experts, the written project status reports, and the discussions within the status meetings.

METHODOLOGY

The data gathering of this study includes questionnaires sent to the students and alumni of the European Business School that participated in the project seminar and a variety of primary research activities focusing on measuring the performance of the founded start-ups.

To evaluate the effect of the project seminar business plan development for the participating students, an internet based survey was conducted among the alumni of this course. In the recent eight years, that this seminar takes place at the European Business School as one part of the Entrepreneurship major, more than 150 students have participated in this project-based-learning event. 129 of this former students from the years 1998 until 2005 were contacted via e-mail and asked to fill in an online-survey. In total 45 responses were collected, which represents a response rate of almost 35%. The responses were collected from former students of all years, i.e. 1998 to 2005.

To evaluate the results for the developed business plans, traditional market intelligence techniques were used to gather information on the current status of the ventures including interviews with cooperation partners of the project seminar.

Results and Implications

Concerning the 45 former students only 20% are female and 80% are male with the youngest respondent being 24 years old and the oldest respondent with an age of 35 years. Considering the background of these students, more than 75% stem from a family that is running a family business, or did run a family business in the past. Moreover, one third of the students already started to invest time, money or personal effort to plan a new venture during their studies. This could be an effect of the entrepreneurship related family background and the fact that entrepreneurship education creates greater entrepreneurial awareness (Saeed 1996).

Nevertheless, at this point of time, only 10% of the respondents name self-employment as their main source of income. Comparing to the German population this is however little above the average, according to the German Statistical Office. Almost two thirds are working as employed managers or

executives and 15% are working as a research assistant. As above all more than 26% of the alumni have already started a new venture or taken over a business in the past, some former students started a venture and give it up to work as an employed manager afterwards and other students may have founded a venture in the past, but still have a job as their main source of income. In most cases the company was set up together with a team of founders, as only 25% of the students who already started up a business assumed the role of a solo-entrepreneur. In the last year of business, with an average number of over 30 employees, the businesses made an turnover within the range from several thousand Euros until more than ten million Euros, with five companies generating more than half a million Euros of sales. Most of the companies were started in the services sector, and the entrepreneur had on average gained an experience of more than two and a half years in the respective industry.

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Figure 1: Percentage of students that founded or took over a company

Taken into account the employed people, another 25% of the respondents are planning to become self-employed in the future and additional 45% have already thought about this topic. Only 15% have never thought about becoming self-employed or are determined not to become self-employed at all.

Concerning the actions that were undertaken to start a venture, more than 40% of the former students have already spent some time on thinking about an adequate business idea and half of them have a written concept of it. But only a few have already developed a full business plan for their venture (5%), talked to potential investors (7%) or determined a concrete date to start the business (7%).

These numbers prove that the entrepreneurial activities of the former students that participated in the project seminar are above average when being compared with the average activities of German students (Golla et al., 2005). This indicates a potential relationship of the entrepreneurial awareness created via the project seminar and the entrepreneurial action undertaken by the former students.

Considering the impact of the project seminar for the general orientation towards self-employment this relationship can be underlined, as around 60%

of the students reported that their self-confidence concerning self-employment had risen and 37% said it remained equal. None reported, that their self-confidence was lower after having participated in the project seminar. When being asked whether their wish to become self-employed had changed, 40% said their wish to become self-employed had risen and almost 60% reported it had not changed. Still none of the respondents reported that the project seminar had a negative impact on their wish to become self-employed. When analysing the main hurdles for not starting up a company on their own, more than half of the respondents name their good current job and salary as the main criteria for not becoming self-employed. Considerations about the risk (25%) or the capital requirements (20%) seem less important in this context. Again it is shown that the participants of the project seminar have an above average determination concerning entrepreneurship and that the main obstacles for not becoming self-employed are different than those of ebs-students in general (Golla et. al 2002).

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Figure 2: Main hurdles for not becoming self-employed

When asking the students to name the most important aspects of the project seminar for their own learning objectives, most of the respondents named the active parts as writing the plan, working and discussing with founders and other students as most relevant. Aspects from traditional lectures as reading the course material and listening to the lectures seem less important.

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Figure 3: Important aspects of the project seminar for the learning objectives of the participating students

These results support the call for more action-orientation in entrepreneurship education, as it is shown that students value most the active and action-oriented elements of the project seminar. Especially the educational tools used in traditional lectures are far less important, proving again the need for innovative project-based learning approaches as stated earlier in this paper to teach science and art elements of entrepreneurship.

Error! Objects cannot be created from editing field codes.Figure 4: Percentage of students that rated the project seminar as helpful for their learning in the respective areas.

To analyse the effectiveness of the project seminar concerning the teaching of soft skills, students were asked to rate whether the project seminar was helpful or not in the above eight areas using a five point likert-scale. It is shown that most of the students rate the project seminar as most helpful concerning Teamwork, creativity, problem solving and decision-making skills. Communication skills and conflict management seem somewhat less important in this context. Nevertheless, it is shown that the project seminar “Business Plan Development as a project-based learning approach is able to help students to learn important soft skills. Thus, it can be regarded as a solution to promote the art elements of entrepreneurship and to overcome the shortcomings of classical educational concepts (Anderson 1999).

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Figure 5: Percentage of students that rated the following aspects as important for their motivation to do work for the project seminar.

Related to that, when asked about the motivation to do work for the project seminar, to maximise the own learning was regarded as most important by the students. This proves that the active objectives of the project seminar are highly important for motivating the students, as traditional learning is mostly dominated by the passive motivation of “getting a good grade”.

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Figure 6: Does the project seminar provide a realistic learning atmosphere?

As outlined above another requirement for efficient active learning approaches is a good reflection of the real-life environment. On the basis of the given answers it can be stated that the design of the project seminar meets this requirement. In general the students had the opinion that the project seminar provides a realistic learning atmosphere. Almost 70% regarded the techniques used in the project seminar as helpful for starting a business on their own. And 60% judged the processes of the project seminar as helpful for starting a business in real life.

In addition to these subjective measures there are however also objective indicators for the realistic context that the project seminar, especially the matching of business students with scientists from technological backgrounds provides. Looking at the development of the business ideas and concepts that were analysed and worked on in the project seminar, reveals that nearly 30% of these concepts actually lead to the foundation of a company, for approximately 22% the realisation was planned, and for about 26% the ideas or technologies were marketed via licenses or partner companies. While the founded companies currently employ 4 to 5 employees on average, it is expected that at the end of 2006, 48 jobs will have been created by the realised business concepts.

A limitation to that proposition is however, that only business ideas from research-partner institutions such as the Fraunhofer institute, that entered the project seminar in the years 2001 to 2005, were taken into account. In the years before, the students were also allowed to develop business plans for ideas of their own. The current status of these projects could not be found out, but it is most likely that just a significantly smaller percentage of these ideas will have been realised after the completion of the project seminar.

| Status | Number | Percentage |
|-----------------------------------|--------|------------|
| Projects/ Plans Total | 27 | 100% |
| Companies already founded | 8 | 29,6% |
| Companies planned | 6 | 22,2% |
| Marketed via licences/partners | 7 | 25,9% |

Figure 7: Status of analysed business concepts

Another important aspect of the integrative project-learning approach is the completion of active learning elements with the necessary theoretical foundation, and the opportunity to continuously apply the newly learned theoretical knowledge to practice.

In case of the project seminar the theoretical concepts that are part of the seminar are rated by more than 90 % of the students as being able to be implemented into the practical parts of the seminar. Thus the integrative approach provided the students with a sound basis for decision-making.

Conclusion

Based on an empirical analysis of the annually held project seminar 'Business Plan Development' at the European Business School (ebs) in Germany the aim of this paper was to generate a better understanding of the effectiveness of integrative project-based learning approaches in entrepreneurship education. The major outcome of the study is that project-based learning approaches that are complemented by applicable theoretical modules are a promising approach to combine the two aspects of entrepreneurship education, science and art elements. The results of this study also show that, by using action-oriented methods relevant, but non-teachable soft skills as teamwork, problem solving, creativity and decision-making can be conveyed to the students. As already assumed by Read and Sarmiento in 2005 the integrative approach of project seminars, that motivate the students for independent initiative, but provide them also the necessary support and theoretical background, proved quite successful. In addition to that, it is shown that students value these more innovative educational approaches and are motivated by the highly realistic learning environment. Furthermore, it can be assumed from the empirical findings of the study that the participation in the project seminar raised the entrepreneurial awareness of the students that lead to above average entrepreneurial activities.

Furthermore the partnering of students with scientists that provide a technological invention or business idea enables the setting-up of a realistic working environment, actively motivating the students to show a high commitment. This commitment can indirectly be measured by the quality of the business plans and analyses that were created. According to the good performance of the actually founded companies, the written business plans were of sound quality. Therefore not only the participating students benefit from interdisciplinary integrative project-based learning approaches, but also their scientific counterparts.

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