

Are We Meeting the Needs of our Potential Entrepreneurs? Regional Differences in Entrepreneurship Education

Gründungsforschung

Since the late 1990s there has been a tremendous growth in formal teaching of entrepreneurship at research universities and universities of applied sciences (Fachhochschulen) throughout Germany. From a situation where there were no professors at all in this field, there are currently over 50 such positions created by a combination of state, federal and private funding. However, there has been very little research into how effectively these investments in higher education resources have been used and whether or not they are addressing the needs of students. In this paper, we empirically investigate several important issues related to the activities and perception of entrepreneurship education focusing on the demand side of entrepreneurship education.

The existence of entrepreneurship professors and the involvement of different regional actors fostering start-ups out of universities have been set up within the last decade. Education and training is now offered for students of different faculties. For an evaluation of education and training methods, the study focuses on students. The key research questions addressed are:

- ▼ Do attitudes of students towards self-employment differ between regions, or even between faculties?
- ▼ Do regional differences in education structures affect different needs and preferences concerning content?
- ▼ Which activities are perceived as most important?

First, we describe the status and best practice of university entrepreneurship education in Germany including which possible target groups to address. The target groups for entrepreneurship programs and training in Germany are not only those who intend to start up a business or who are already nascent entrepreneurs, but also include students who must enrol in such courses to fulfil academic requirements. Students could also be interested in the topic of entrepreneurship but plan to work at a larger company. Second, we outline the selected research areas and the research design of the study. Third, we present the results divided into three sections:

1. students' entrepreneurial orientation,
2. faculty perceptions of entrepreneurship, and
3. motivation to take courses, and course-related results. We end with a brief discussion and set of conclusions.

The Status of Entrepreneurship Education in Germany

At the end of the 1990s, there were more than 200 academic positions devoted to entrepreneurship and about 1400 courses offered in the USA. While entrepreneurship has developed rapidly as an academic field of research and teaching in the US since the first entrepreneurship activities at Harvard Business School in 1947, the situation in Germany is quite different. Initial sporadic entrepreneurship education was started at the University of Stuttgart and the University of Cologne in the mid '70s when courses for entrepreneurship were offered. The University of Dortmund created an Institute for Entrepreneurship and Organization Research (bifego) which began offering courses in the mid '80s, but it was unsuccessful in establishing a Chaired Professorship in Entrepreneurship.

However, this situation changed dramatically in the '90s with the creation of many chairs of entrepreneurship (*Gründungslehrstühle*), starting in 1998. In 2005, the »Förderkreis Gründungs-Forschung e.V.« (www.g-forum.de) recorded over 50 entrepreneurship professorships at both universities and universities of applied sciences (*Fachhochschulen*) in Germany, and a further nine positions which had not yet been filled.

Faculty provide several types of courses focusing on entrepreneurship, not only at chairs of entrepreneurship but also within other sub-fields of traditional business administration, such as innovation and technology management or marketing. In order to increase the visibility and quality of activities at universities, the German Federal Ministry of Education and Research established the EXIST program in 1998 with an investment of 50 million Euro for five German regions, to be spent by 2005. The program provided support for establishing cooperative relationships between regional actors and for stimulating entrepreneurship (www.exist.de).

Regional characteristics and supporting network structures of faculty and outside consultants may influence students' educational needs, and therefore specific regional conditions and structures must also be taken into account. In regard to regional characteristics, important variables are the size of the regional network and the number of partners involved. Different networks focus on actors involved in universities, such as academics, instructors, and those responsible for technology transfer, but also include actors outside universities, such as lawyers, organizers of business plan competitions, regional support offices, banks or regional private

equity funds, science parks or associations within the regional environment. An important determinant for an efficient network is the degree of regional collaboration between university actors and other actors. Financial support from the government may also influence and enhance the performance and establishment of regional entrepreneurship education and support. The research areas and research design of this empirical study will be described in the following.

The Empirical Study

The selected research areas have undergone distinctive paths of development in terms of entrepreneurship education and support and are represented as follows:

▼ The state-supported (EXIST) region *GET UP* in Thuringia was financially supported by the federal state until 2005; the highly organized network consisted at that time of the universities of Jena (University, and University of Applied Sciences), Ilmenau (Technical University), Schmalkalden (University of Applied Sciences), and Weimar (University) and had around 60 associated network members.

▼ Regensburg, located in East Bavaria, includes the University of Regensburg ¹ and the Regensburg University of Applied Sciences, and can be characterized by several network actors, but has no coordinated network structure.

▼ Würzburg, located in North Bavaria, consists of the University of Würzburg and the University of Applied Sciences, and only has a few actors at the universities with sporadic offerings of entrepreneurship education.

Every region has a specific network structure and different numbers of network actors, meaning that different types of entrepreneurship courses are offered at the universities. Population and sample data are given in figure ².

The data in this study were collected in surveys of two different groups focusing on the perceptions of entrepreneurship education and activities.

▼ The first survey was conducted with participants of entrepreneurship courses at the different universities in order to identify students' entrepreneurial intentions and motivations to take entrepreneurship courses.

▼ A second survey was conducted by means of oral interviews with students from the same universities where the first participant survey was held, and provides a representative random sample of the general student population of each university selected.

Results are expected to be different by group – while the participant group is already sensitized to the subject, the other group is less aware of the topic. Interviewers were advised seek interview partners from different locations all over the campus (e.g. libraries, cafeterias, etc.) to reach students from a variety of degree programs. Results by faculty could then be compared and differences detected.

The selected entrepreneurship courses were the only ones offered in the winter semester 2003/2004 at each university. The courses in Jena, Regensburg and Würzburg were located in the faculties of Economics and Business Administration, while



the course in Weimar was offered by the Media Faculty. All students attending these entrepreneurship courses at their university participated in the survey (full survey), which took the form of a written questionnaire. The survey was conducted at the beginning of the course.

The smallest group of participants in the sample was the seminar held at the University of Würz-

Number of Students at Surveyed Universities				
	Number of students enrolled ¹	Sample size ²	Sample size without teacher candidates	Sample of total number
Regensburg	17 216	1775	(1204)	10.3 %
Würzburg	18 219	1705	(1269)	9.4 %
Weimar	4 637	407	(389)	8.8 %
Jena	19 231	948	(807)	5.0 %

Number of Participants at Surveyed Courses		
Number of participants ³	Course form	
Würzburg	15	Seminar
Weimar	34	Seminar
Regensburg	87	Lecture with seminar
Jena	43	Seminar
total	179	

burg, where 15 students responded ³. In Weimar, 34 students were surveyed, with students coming from Media (24 out of 34) and Architecture (8). A total of 43 questionnaires were collected in Jena and the largest group of 87 participating students was from Regensburg. This set of courses covered a total of 179 students.

Results: Students' Entrepreneurial Attitudes

Due to the above-mentioned differences in career objectives, there may be a wide range of target groups at different stages of the entrepreneurial process. A differentiation can be made between those who considered entrepreneurship as a professional alternative to those who already intend to start

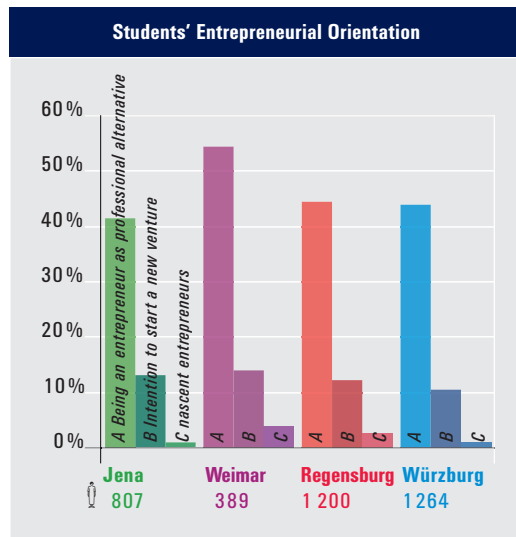
¹ *Entrepreneurship-Veranstaltung an der Universität Regensburg.*

² *Anzahl und Anteile der Befragten aus verschiedenen Fächern (in Klammern: Anzahl ohne Lehramtskandidaten) im Vergleich zur Gesamtzahl der Studierenden an den Universitäten Regensburg, Würzburg, Weimar und Jena.*

³ *Zahl der befragten Kursteilnehmer des Faches Entrepreneurship an der jeweiligen Universität.*

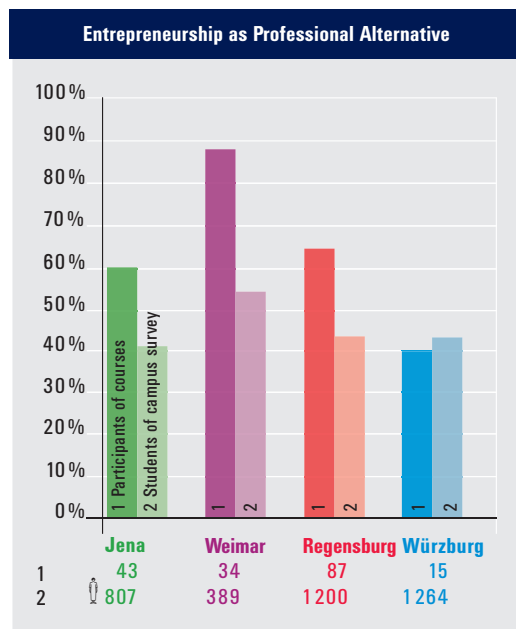
4 Gründungsorientierung der Studierenden im regionalen Vergleich. Identifizierung der Befragten (ohne Lehramtskandidaten) in Prozent als:

- A potenzielle Gründer
- B potenzielle Gründer mit konkreter Gründungsabsicht
- C werdende Gründer



5 Anteile der potenziellen Gründer im Vergleich.

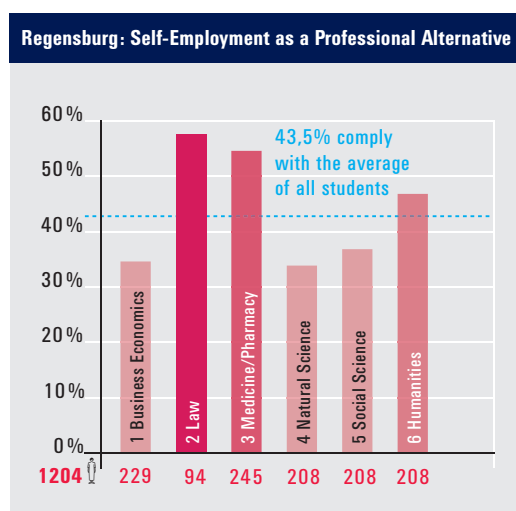
- 1 Kursteilnehmer
- 2 Studierende aller Fächer (ohne Lehramtskandidaten)



6 Selbständigkeit als berufliche Alternative für Studierende verschiedener Fächer (ohne Lehramtskandidaten) an der Universität Regensburg.

a new venture, and those who are already entrepreneurs or are about to embark on this activity (nascent entrepreneurs). The results of this study of students' attitudes towards self-employment show clear differences between regions as well as between participants in courses and campus students as shown in figures 4 and 5.

7 Selbständigkeit als berufliche Alternative für Studierende verschiedener Fächer (ohne Lehramtskandidaten) an der Universität Jena.



- 1 Wirtschaftswissenschaften
- 2 Rechtswissenschaften
- 3 Medizin/Pharmazie
- 4 Naturwissenschaften
- 5 Sozialwissenschaften
- 6 Geisteswissenschaften
- 7 sonstige

In regard to regional differences, Weimar stands out with its high rates for every group and is significantly different from the other universities. Bauhaus University Weimar emphasizes arts and technology, and produces quite a low rate of people studying to be teachers (4% of sample). Therefore, it stands to reason that students of highly knowledge-intensive and technology-intensive subjects with an added creative bias may show a higher disposition toward entrepreneurship than at traditional universities. The occupational focus of Weimar's degree programs (e.g. architecture, design, etc.) is also more related to professional self-employment than others.

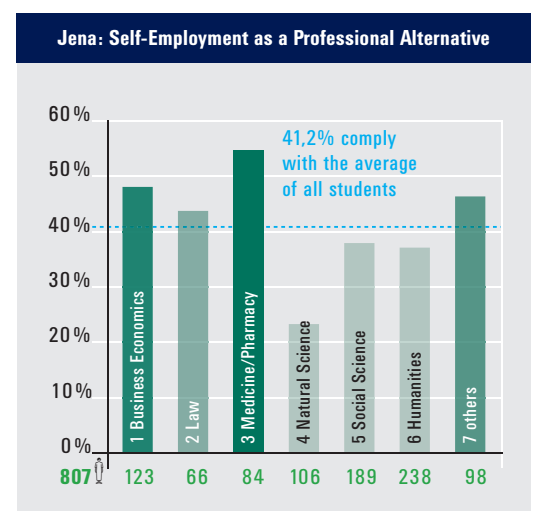
In contrast to Weimar, it is also remarkable that the rates of students' entrepreneurial orientation at 'traditional' universities are quite similar and do not differ greatly between regions. In terms of participants in Würzburg, a direct comparison with other regions is difficult because of the small sample size (rates in parentheses in the figures above).

Differences between participants and campus students concerning the consideration of entrepreneurship as a professional alternative can be explained by the fact that participants have already dealt with the topic. Concerning ideas already generated or the intention to set up a business, the rates of campus students in Jena and Regensburg are lower than those of participants in entrepreneurship courses.

Differences in Attitudes According to Faculty

A university in Bavaria and one in Thuringia with comparable faculty structures, the Universities of Regensburg and Jena, were selected for a more detailed analysis per faculty of rates of students considering self-employment as a professional alternative.

The results showed both differences and similarities (figures 6 and 7). The high rates of students from the faculties of Medicine and Pharmacy considering self-employment as a professional alternative and the low rates within the Natural Science Faculty were similar for both universities. Not surprisingly for the Medicine and Pharmacy faculties, students expected to be self-employed as physicians or pharmacists.



Students of natural sciences from both universities were significantly below-average with regard to considering entrepreneurial careers (34% at Regensburg, 24% at Jena). The findings in regard to students of natural sciences can be seen as a result of unequally intensive activities of professors depending on the faculty. According to other studies, the rate of professors in law and economics who have engaged in entrepreneurial activities (such as consultants, associates, CEOs, on supervisory or advisory boards) is 59%. In the natural sciences, not even a third of the professors (30.2%) have been involved in such activities. The same applies for law students in Thuringia, where rates were only slightly above-average, while numbers in Regensburg showed clear above-average rates and obvious expectations of becoming self-employed lawyers after graduating.

Due to the fact that entrepreneurship education and activities occur mainly in the Faculty of Economics and Business, results were surprisingly low in Regensburg, while the rate for students in Jena who would prefer entrepreneurship as a professional alternative was above-average. These differences may lie in different activities and support structures of entrepreneurship education. These activities in Jena are highly organized and supported by the EXIST initiative, resulting in a high rate of students of business and economics considering an entrepreneurial career. Also, while faculties in Jena are located both on campus and dispersed throughout the city, the Faculty of Business and Economics in Regensburg is located directly on campus, where there is the most activity concerning promotion and local advertising with flyers, brochures, and contacts, etc.

Motivation to Take Courses

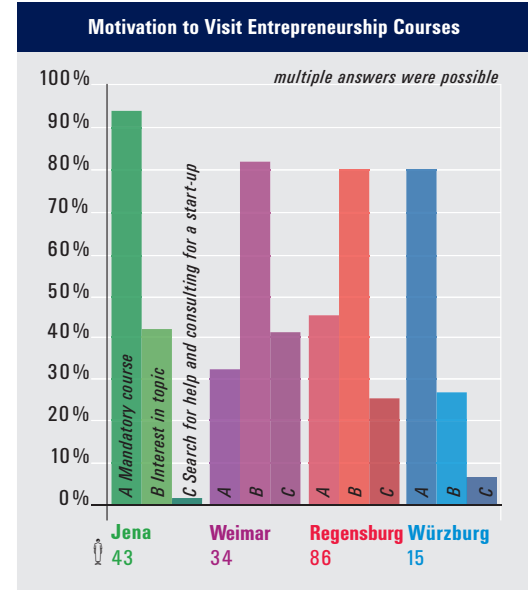
Figure 7 shows students' motivation to take the courses surveyed. One possible motivation was the fact that courses were mandatory as part of the curriculum. The second item was interest in the topic and the third motivation was for help and consulting for the student's own entrepreneurial activities. The results suggested extreme differences between the courses. While 93% of Jena's students chose entrepreneurship courses because they were part of the curriculum or even mandatory, only 32% in Weimar attended the course because it was mandatory. Almost none of Jena's students were looking for support (2%), compared to 41% of Weimar's students.

Weimar's exceptional position, with its emphasis on arts and technology and a high rate of nascent entrepreneurs, obviously shows a high need of entrepreneurship support in order to foster creative and knowledge-intensive ideas. A high rate of students in Würzburg whose intentions to attend a course were swayed by the mandatory nature of the course correlates with the fact that the number of people considering entrepreneurship as a professional alternative was very low.

Contents of Courses

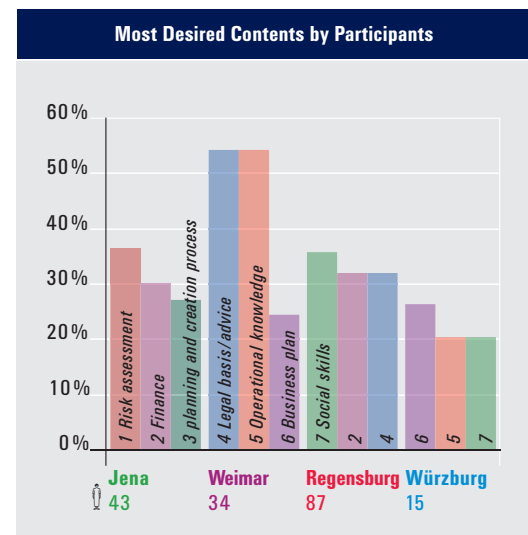
Course participants were asked about the content they would like to see in entrepreneurship courses.

The contents surveyed included all possible types, as listed in figure 8. First, regional differences can be seen according to the location of courses. While courses held in Jena, Regensburg and Würzburg are located in the Business Administration Faculty, the one in Weimar is offered by the Media Faculty. A differentiation according to university is also shown. While the need of course participants in Business Administration to learn about law or ope-



8 Motivation für den Besuch der Lehrveranstaltung im Fach Entrepreneurship. Mehrfachnennungen waren möglich.

- A Erbringung von Studienleistungen
- B allgemeines Interesse an der Thematik
- C erhoffte konkrete Hilfe und Anleitung für eigenes Gründungsprojekt



9 Meistgewünschte Inhalte in Lehrveranstaltungen.

- 1 Risikobewertung
- 2 Finanzierung
- 3 Planungs- und Gründungsprozess
- 4 Rechtsgrundlagen, -beratung
- 5 betriebswirtschaftliche Kenntnisse
- 6 Business-Plan
- 7 Soft Skills

rationally knowledge such as tax, marketing, etc. is quite low, more than half of the Weimar participants wished to learn more about the two topics operational knowledge and professional skills. A significant impact for Weimar's participants is the fact that the University of Weimar does not have a business faculty. In contrast, the need for the Weimar participants to qualify for social skills is comparatively low, which might also be due to the fact that Weimar's university is very small. The university environment might be more personal, where it is easier to establish contact with the right people in the network, and communication is less complicated.

The rather low response rate in Würzburg is also a result of the very low rates of entrepreneurial

motivation: most of the students participate because the courses are a mandatory part of the curriculum. The very few responses (there is no mention of risk assessment, attendance during entrepreneurial activity or personal motivation) are a sign of lack of awareness and a lack of interest with the subject of entrepreneurship.

Conclusions

Our study has shown that entrepreneurship education and activities may attract very different target groups with different intentions and orientations which differ by faculty, by motivation, or by career objective. Surprisingly, even if regional differences do exist, they cannot be attributed to the network structure of the region concerned. The Thuringia region was at the time of surveys conducted financially supported by the federal government and had a highly developed network structure. Nonetheless, the two universities in the region, Jena and Weimar, showed very different results concerning students' orientations. Findings from Jena were more similar to the results from Regensburg, with a loose network of actors without any coordination or specified responsibilities, than to those from Weimar, although Weimar and Jena belong to the same network. These results suggested that students' entrepreneurial orientation and intentions depend less on regional entrepreneurship organization structures. At best, such tendencies can be seen at smaller universities like Bauhaus University Weimar, where such activities may make an impact.

Students' orientation and intentions might be considerably affected by the faculty where courses are located, and also by the size of the university. Different study programs show different levels of entrepreneurial orientation. In Weimar, as an arts

and technology focused university, our findings documented a higher willingness by students of knowledge-intensive and technology-based subjects to learn about. In contrast, within the Natural Science Faculty, results showed a very low interest in entrepreneurship as a professional alternative. In conclusion, provided that students from disciplines other than business are aware of the topic and decide to participate in a course in order to deal with the subject, they have a greater intention to become entrepreneurs than business students.

It is not only intentions which are affected by different faculties and individual university structures but also needs and preferences concerning content. While participants from a university without a Business faculty (Weimar) show a notable demand for operational and legal basic knowledge, others ask for more social skills (Regensburg course participants) or risk assessment (Jena course participants). Additionally, especially for courses with a low rate of (nascent) entrepreneurs, participants are obviously not in a position to be able to evaluate contents necessary for setting up a new business.

Entrepreneurship should not only be an ordinary part of the educational program of Business or Economics students, but should also address target groups outside the Business Faculty. Curricula should not simply focus on the creation of entrepreneurs. Results confirm that (nascent) entrepreneurs only form a small percentage in courses, and instructors need to know their target groups before designing entrepreneurship programs or courses. Knowing this, a faculty can design programs and individual courses that are better suited to the educational needs of students from all faculties.

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