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SUPPORTING GRADUATE ENTREPRENEURSHIP IN THE CULTURE AND CREATIVE INDUSTRIES:

A Review of entrepreneurship education and university start-up support in Leipzig-Halle

Final Report

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This report was prepared by the LEED (Local Economic and Employment Development) Division of the OECD (Organisation for Economic Co-operation and Development) with expert input from Thomas Cooney, Norris Krueger and Tonis Mets.

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The context of the study

Universities are increasingly expected to fulfil a "third" mission which anticipates impacts on society such as contributing to employment creation and economic growth. One way in which universities can make contributions in this regard is through support for entrepreneurship and business creation. . If universities are to fulfil their potential in this respect they must recognise entrepreneurship promotion as a strategic objective and develop appropriate activities for entrepreneurship education and start-up support. Public policies must also provide the appropriate incentives and supporting institutions and programmes.

The Federal Ministry of Interior asked the OECD to examine potential levers for economic development in eastern Germany, focussing on endogenous development and entrepreneurship in particular. The OECD's work programme on supporting graduate entrepreneurship over the last 7 years has highlighted the potential to promote entrepreneurship through graduates through business creation and the development of mind-sets, which contributes to economic and employment growth.

The purpose of this study is to assist universities and policymakers to fulfil the potential by identifying options and priorities for strengthening graduate entrepreneurship support in universities in Halle and Leipzig based on an analysis of their current practices and environments in comparison with best practices in other countries. Across the globe, universities are assuming new responsibilities as drivers of economic development. They are increasingly involved in teaching strategic and functional skills for entrepreneurship and in providing complementary coaching, mentoring, incubation and finance. Many have established entrepreneurship courses and entrepreneurship centres that stimulate entrepreneurial intentions among students and help increase the success rate of those ready to start a business. There is rapid development and change in this field internationally, with rapidly evolving structures and pedagogies, and there is much to be learned at this time.

This study assesses three universities -- Martin Luther University Halle-Wittenberg, the Burg Giebichenstein University of Art and Design and the University of Leipzig -- in terms of their strategies for graduate entrepreneurship, their approaches to entrepreneurship education and their approaches to start-up support and provides recommendations for strengthening the graduate entrepreneurship support system within Halle and Leipzig. A particular emphasis was placed on supporting graduate entrepreneurs in creative industries given the growing significance of these industries to the region. This study also provides international learning model examples that illustrate how universities and governments in other countries have addressed similar issues.

The review is based on an assessment university practices relative to the OECD's international good practice criteria, surveys of university leaders, staff and students in the three universities, a stock-taking report on university activities in Halle and Leipzig, a series of interviews with stakeholders from government, universities and economic development organisations and workshop discussions with actors in the world of graduate entrepreneurship support.

Major findings

Strengths

Entrepreneurship education and start-up support is widely supported at the three universities, although each has taken a very different approach to how this education and support is delivered. Formal for-credit entrepreneurship courses are offered at Martin Luther University Halle-Wittenberg and at the Burg Giebichenstein University of Art and Design, while the University of Leipzig aims to develop an "entrepreneurial spirit" within students through its extra-curricular SMILE programme. In parallel to these offerings, the universities have developed partnerships with local government agencies and external training and start-up support organisations to provide students with a range of options to acquire entrepreneurship skills and receive assistance in starting a business.

There are many positive features of the entrepreneurship education offered. In particular, the focus of the entrepreneurship learning is often explicitly focused on the creative industries to meet the specific needs of these students. Moreover, some advanced pedagogies and tools are being used and learning is not only focused on developing entrepreneurship skills, but also on developing an entrepreneurial mind-set.

In addition, entrepreneurship learning activities are integrated with many of the start-up support services that are available. Strong elements of the business start-up support system include the numerous business competitions for students and the availability of start-up financing. Many of these offerings are geared towards helping students in creative fields.

Challenges

While many positive entrepreneurship activities were observed at the three universities, there are opportunities to strengthen entrepreneurship education and start-up support offerings to make an even greater impact on the local economy. For example, while there is extensive support for pre-business start-up, the skills that students need to grow their business and survive over the long-term so that they can contribute to local job creation are largely neglected.

Additionally, one of the biggest trends in entrepreneurship education is the rise of successful, effective shorter-term programmes that are independent of normal academic channels. While take-up of these methods is underway in Halle and Leipzig, not all universities are implementing these methods. The linkages between the universities and industry can be strengthened to provide students valuable experiential learning opportunities and to help them build their networks.

Students and faculty are insufficiently aware of the entrepreneurship learning opportunities that are offered by the universities and how valuable this programming can be. The universities should continue to increase the visibility of their entrepreneurship activities because exposure to entrepreneurship can be beneficial to students regardless of whether they start a business. Entrepreneurship for creative industries also can be a niche that the universities can exploit to attract students, faculty and resources.

Conclusions and recommendations

Entrepreneurship education and start-up support has developed differently in each of the three universities. Many good learning and start-up support activities are offered and each programme is at or near its capacity to deliver education and start-up support to students. Therefore, it is an appropriate time to consider how the different programmes can continue their development and growth. The

development of a formal long-term strategy is needed to facilitate a dialog on the role of the universities in supporting entrepreneurship in the creative industries and to define objectives to set a path for moving forward. The strategy should include external stakeholders to ensure that the entire start-up support system is effective and well-coordinated. One key issue that the universities should address in the long-term strategy is funding as the universities rely heavily on public funding which may not be sustainable.

Entrepreneurship support needs to be broadened to put more emphasis on helping graduate entrepreneurs develop and grow their businesses after start-up. The study confirms that there is potential for entrepreneurship in creative industries in Leipzig and Halle, among other industries, and to better support this potential, governments are looking to promote entrepreneurship in order to create jobs and growth. There is strong potential for this among students, if appropriate policies are put in place to encourage start-ups and entrepreneurial mind-sets. More emphasis is needed on skills for growth such as strategic planning and risk management.

There is a need to improve the quality of entrepreneurship teaching at Martin Luther University, Burg Giebichenstein University and the non-university training centres to maximize its potential impact. While some leading-edge pedagogies were observed, many of the formal courses provided by the universities and some of the partner organizations use traditional learning methods that need to be updated to reflect current pedagogies. Increasing the use of "live" learning models would greatly improve the learning experience of students because it offers them an opportunity to learn-by-doing.

Increasing awareness of, and exposure to, entrepreneurship education and start-up support within the student body and the community is important to grow the entrepreneurial culture in the universities and the region. While increasing the number of students that receive entrepreneurship education may not lead to more successful business start-ups, students will benefit from entrepreneurship education because they will also learn skills that make them more employable such as the ability to identify opportunities and risk management. Increasing the visibility of entrepreneurship on campus can be achieved by offering for-credit courses, such as the approach taken by Martin Luther University, which may appeal to many students because it offers a reward for participating in entrepreneurship courses. Alternatively, entrepreneurship can be further embedded in other courses and extracurricular activities such as start-up weekends can be given a higher profile. One approach taken by many universities is to encourage staff and faculty members to be involved in supporting entrepreneurship education by developing incentive and reward schemes. Another approach is to have strong outreach to the community and to involve alumni in teaching entrepreneurship and in entrepreneurship events.

Inspiring practices

The study has identified a number of good practices in support to graduate entrepreneurship both within Leipzig and Halle, and in other countries which can provide inspiration for all those institutions searching to strengthen their approaches. These examples are relevant for both universities and policy makers.. Relevant initiatives outlined in the report include:

- Coventry University in the United Kingdom, which provides a model of how to embed enterprise into teaching, research and people. It was selected winner of the "Entrepreneurial University of the Year" at the Times Higher Education Awards 2011.

- The Institute for Creative and Cultural Entrepreneurship at Goldsmiths College at the University of London, which delivers enterprise, cultural management and policy education to the creative and cultural sectors, and supports research into new approaches to business, financial models and management in the Creative Economy.

- Creative + Practice is an online course, which is an example of a low-cost method of delivering entrepreneurship training to students in creative fields.

- Formation Interdisiplinaire en Création d'Entreprise at the Université Catholique de Louvain in Belgium is an example of how to build linkages across the university with inter-disciplinary team projects.

- Immersion Experiences are project-based and problem-based learning approaches that can be delivered at a low-cost. Several examples of successful programmes are provided and they help build links between the university and industry.

- "Students Are Our Secret Weapon" is a learning tool that connects students, faculty and universities to the business community.

- Virtual Incubators/Accelerators get students actively involved in early stage business development. This tool is particularly helpful at teaching students in creative industries how to demonstrate proof of concept to secure external financing.

- Entrepreneurship Home for Young People at the Viljandi Culture Academy at the University of Tartu, Estonia, which is a problem-based learning model to help students learn about business start-ups through practice.

- Outcomes model of entrepreneurial curricula for non-economic specialities which supports start-ups by students through for-credit courses.

- The Master Programme in Entrepreneurship and Technology Management at the University of Tartu in Estonia provides targeted education and start-up support for technology companies to develop an entrepreneurship culture and to support local industry.

In addition, inspiring practices were observed in eastern Germany, including:

- Designhaus Halle at Burg Giebichenstein University of Art and Design, which links design and commerce, art and market, teaching and profession, to assist students transition from learning and studying design to working and living with and from design. It offers a wide range of training and skills development workshops related to self-employment in the creative industries.

- Univations Gründerservice at Martin Luther University Halle-Wittenberg is a start-up support programme that provides practice-oriented courses and seminars in entrepreneurship and supports innovative start-ups.

- SMILE at the University of Leipzig arranges seminars, workshops and one-off events in which participants are given the opportunity to find out about, to develop and to fulfil themselves. The focus of the programme's activities is on the personality and goals of the individual, who are encouraged and prepared for a life of self-employment and lifelong learning.

INTRODUCTION

1.1 Entrepreneurship Education

Higher education institutions (HEIs) can play a critical role in supporting the economic and social changes that are required to address the challenges of helping university graduates transition into the labour market and building a dynamic base of growth-oriented businesses. If HEIs are to fulfil their potential in this respect they must recognise entrepreneurship promotion as a strategic objective and develop appropriate activities for entrepreneurship education and start-up support. Public policies must also provide appropriate incentives and support for institutions and programmes.

Recent data from the international survey research project GUESSS (Global University Entrepreneurial Spirit Students' Survey) show that fewer than 5% of all students worldwide aim to start up their own business following their studies. Most students indicate that they prefer to seek paid employment and more than two-thirds intend to seek employment in a large firm, the public service or academia. Few students indicate that they would prefer to work in an SME for their first labour market experience; however, surveys conducted five years after graduation reveal a change in attitude as more than 20% of graduates are thinking of starting their own company.

Many inputs and circumstances contribute to entrepreneurial success. Having the right skills and competences to identify and realise opportunities, to anticipate and recognise challenges, and to respond to failures are an important determinant of success. Education can play a crucial role in developing these skills and a positive attitude towards entrepreneurship.

In particular, universities provide unique learning environments for nascent entrepreneurs. The combination of multi-disciplinary knowledge generation and application and wide range of learning opportunities can motivate and prepare students to become successful entrepreneurs. Increasingly universities match their entrepreneurship education activities with hands-on start-up support, for example, by facilitating access to finance or offering individuals or teams physical space for rent. Both education and start-up support are new tasks for universities and successful implementation requires not only closer links between the research and education missions of a university, but also partnerships with entrepreneurship support providers and sources of financing.

In promoting entrepreneurship, universities themselves need to be entrepreneurial and innovative. Although public policy has an important role in supporting universities in pursuing their "third mission" and in building synergies between research and teaching, universities themselves have to pro-actively engage if promoting entrepreneurship is to be well integrated with teaching and research – the two core missions of higher education. The following issues are crucial for this:

- Entrepreneurship education requires something different to textbooks and "talk and chalk" style lectures. Information about the entrepreneurship support activities (in and outside the university) needs to be easily accessible. The internal and external communication of a university with regard to entrepreneurship therefore matters.

- A balance is required between a minimum long-term financing for staff costs and overheads from university budget or public sources, and openness to private sector involvement in the financing of entrepreneurship chairs and incubation facilities.

- Existing human resources need to be reinforced and developed and new staff employed. Working with entrepreneurs, chief executives, bankers, venture capitalists and business angels provides access to the "world of business."

- Networking and incentives for clear referral systems increase the effectiveness and efficiency of start-up support and reduce duplication, confusion and waste of resources. They help universities to find their place in existing (local) tart-up and entrepreneurship support systems.

1.2 Halle-Leipzig context

The economy in Halle and Leipzig has undergone fundamental structural changes since the reunification of Germany. The traditional industrial strengths in manufacturing and construction have declined while the service sector has grown and as part of this shift, the media and creative industries are emerging as a regional strength. The concept of creative industries was defined by the German Federal Ministry of Economics and Technology (2009):

> *"The culture and creative industries comprise of all cultural and creative enterprises that are mainly market-oriented and deal with the creation, production, distribution and/or dissemination through the media of cultural/creative goods and services. The economic field of the culture and creative industries comprises of the following eleven core branches or market segments: music industry, book market, art market, film industry, broadcasting industry, performing arts market, design industry, architectural market, press market, advertising market, and the software and games industry."*

The creative industries are important to the region because they are driving innovation and playing an increasing role in local job creation. In Leipzig, the cultural and creative industry has approximately 3 500 companies that employ nearly 26 000 people and in Halle, the industry is comprised of approximately 600 companies with 11 000 employees.

Despite the emergence of this dynamic sector, unemployment continues to be an issue in both Halle and Leipzig. In 2011, the unemployment rates in Halle (12.9%) and in Leipzig (12.6%) are slightly higher than the average rate in East Germany (11.6%) and significantly higher than the national average (7.2%).

The general entrepreneurship climate in Halle is less dynamic on average than in other German districts according to the regional NUI Ranking (New Entrepreneurial Initiative) published by the Institute of SME Research (IfM) Bonn. Halle has moved up in the ranking, from the 357th (out of 413) in 2009 to the 344th place in 2010. Leipzig ranked considerably better at 59th in 2010, up from 93rd in 2009.

1.3 The OECD review

This review seeks to contribute to the continuing development of entrepreneurship education and start-up support in universities in Halle and Leipzig. It explores how entrepreneurship can be promoted and support through traditional university functions, teaching and research, as well as how entrepreneurship can support the so-called "third mission". The third mission is well-established in the United States and is increasingly accepted by European universities as policy makers are increasingly looking to universities to support socio-economic development of society. This requires strengthening the linkages between universities and the rest of society and the business

sector in particular by opening up universities and by increasing the tendency of the business sector to use universities' research infrastructure for their R&D objectives.

This OECD review study focuses on three universities, Martin Luther University Halle-Wittenberg, the Burg Giebichenstein University of Art and Design and the University of Leipzig. It also covers other key stakeholders in the local region such as business support service providers and entrepreneurship training centres.

Given the emergence of creative industries, one particular focus of this project was to concentrate on the role that university entrepreneurship education and start-up support plays in supporting the creative industries in the region. The analysis focused on the following core questions:

- What are current strategies and practices in university entrepreneurship support? What are the strengths and weaknesses?

- How well is the university entrepreneurship support integrated into the wider local entrepreneurship support system?

- What are the implications for public policy development?

To answer these questions, the OECD LEED Programme used a framework based on best practices learned in previous international case study work on university entrepreneurship support and from the theoretical debate of the role of universities in generating entrepreneurial motivations, intentions, and competences. This framework underpins this review and more information on the framework can be found in Annex A.

The main information sources used for this report were:

1. A background report prepared by on the three universities, the cities of Halle and Leipzig and the significance of the creative industries in the region. This report was prepared by Manuela Wehrle.

2. Interviews with university administration, entrepreneurship education teachers, staff working in university entrepreneurship support centres and students that have participated in entrepreneurship courses or support. In addition, interviews were held with other key stakeholders in the local business support organisations and representatives in relevant local government. The interviews were conducted by a team of three international experts and two members of the OECD Secretariat.

3. A workshop that was attended by staff from participating universities and local stakeholders. Preliminary results were presented and discussed and the universities had an opportunity to provide feedback. This feedback was considered in the preparation of this draft report.

The OECD LEED Programme has undertaken this project with the support of the Federal Ministry of the Interior.

CHAPTER 2. DEVELOPING AN ENTREPRENEURIAL STRATEGY IN UNIVERSITIES

2.1. Key Issues

Given university activities in research, education and knowledge transfer, they provide a unique environment to foster and support entrepreneurship. They offer opportunities to engage young people with energy and ideas in entrepreneurship and to bring together people across disciplines with different risk perceptions and ideas in entrepreneurial processes. They also offer spaces and environments for teaching entrepreneurship and for providing start-up support. . Promoting entrepreneurship requires linkages between these different roles and in order to accomplish this, universities should have a strategy that defines, guides and promotes their role in entrepreneurship education and support.

An important consideration for the development of an entrepreneurship strategy in the three universities is the extent to which they can to contribute to fostering creative industries in the region and defining a leadership role for themselves. While the region's universities excel in many fields, there is an opportunity for the universities to work together to build a comparative advantage and build a multi-disciplinary entrepreneurship "brand" for the region.

While any university will face a wide range of challenges when seeking to develop and strengthen cross-faculty entrepreneurship education programmes, a number of challenges are particular to Halle and Leipzig. The principal challenges to fully developing university strategies to support entrepreneurship education and start-up support are:

- A complex policy environment in which funding is short-term, fragile and often focused on projects/events rather than on long-term capacity building and educator development;
- Varying degrees of "embedding" entrepreneurship education across institutions;
- Evidence of reliance on short-term initiative funding and reliance on the enthusiasm of individuals – both result in this activity being inherently fragile;
- Varying levels of engagement from business schools; and,
- Varying extent to which formal objectives have been set for entrepreneurship education and evaluation methods established.

2.2. Entrepreneurship in Universities

Significant advances have been made in recent years towards demystifying the role of cognition in entrepreneurship, particularly with respect to identifying key cognitive traits of individuals who embody an "entrepreneurial mind-set" (e.g. Ardichvilli, Cardozo, and Ray, 2003; Baron, 1998; Busenitz and Barney, 1997; Corbett, 2005, 2007; Shane 2000; Shapero 1984; Venkataraman 1997; Ward 2004). A recent explosion of research on cognition and entrepreneurship is generally rooted in psychology literature on individual cognition. For example, Mitchell et al (2002) built a theory that linked specific mental processes with entrepreneurial behaviours, arguing that entrepreneurial cognitions are the knowledge structures that people use to make assessments, judgments, or decisions involving opportunity evaluation, venture creation, and growth.

Recent cognitive research in entrepreneurship draws upon literature from social cognition to describe the entrepreneur as a "motivated tactician," who can be characterized as a "fully engaged thinker who has multiple cognitive strategies available" (Haynie et al., 2010), and the ability to shift and choose rapidly from among them based on specific goals, motives, needs and circumstances, leading to the ability to act (or not) in response to perceived entrepreneurial opportunities (Fiske and Taylor, 1991; McMullen and Shepherd, 2006). This research is significant, because it explains in part the cognitive skills that help entrepreneurs engage in so-called "adaptable decision-making," or the ability to shift rapidly from one mode of thinking and analysis to another in making decisions under unpredictable and rapidly changing circumstances (Schraw and Dennison, 1994).

Increasingly it is being recognised that teaching entrepreneurship should be interactive and include case studies, games, projects, simulations, real-life actions, internships with start-ups and other hands-on activities that involve interaction with entrepreneurs. Entrepreneurs and professionals can act as role models, as well as coaches and mentors, thus fostering an entrepreneurial spirit in the university and providing a link with the local community. Using active learning methods requires skill and trust in involving students more in the learning process, fostering creativity and learning from success and failure needs to be encouraged.

Experiential learning theory offers the foundation for an approach to education and learning as a lifelong process that is based on intellectual traditions of social psychology, philosophy and cognitive psychology. The experiential learning model pursues a framework for examining and strengthening the critical linkages between education, work and personal development. It offers a system of competencies for describing job demands and corresponding educational objectives and emphasises the critical linkages that can be developed between the classroom and the "real world" with experiential learning methods. It also pictures the workplace as a learning environment that can enhance and supplement formal education and can foster personal development through meaningful work and career development opportunities. It stresses the role of formal education in lifelong learning and the development of individuals to their full potential as citizens, family members and human beings. According to Jones (2011) "the use of learner-centred teaching and learning pedagogies that incorporate criterion-based assessment will advance student learning outcomes."

Following the research of Löbler (2006), the Association for Experiential Education (2010) identified the following as key principles of experiential education in practice:

- Experiential learning occurs when carefully chosen experiences are supported by reflection, critical analysis and synthesis;

- Experiences are structured to require the learner to take initiative, make decisions and be accountable for results;

- Throughout the experiential learning process, the learner is actively engaged in posing questions, investigating, experimenting, being curious, solving problems, assuming responsibility, being creative, and constructing meaning;

- Learners are engaged intellectually, emotionally, socially, soulfully and/or physically. This involvement produces a perception that the learning task is authentic;

- The results of the learning are personal and form the basis for future learning;

- Relationships are developed and nurtured: learner to self, learner to others and learner to the world at large;

- The educator and learner may experience success, failure, adventure, risk-taking and uncertainty, because the outcomes of experience cannot totally be predicted;

- Opportunities are nurtured for learners and educators to explore and examine their own values;

- The educator's primary roles include setting suitable experiences, posing problems, setting boundaries, supporting learners, insuring physical and emotional safety, and facilitating the learning process;

- The educator recognizes and encourages spontaneous opportunities for learning;

- Educators strive to be aware of their biases, judgments and pre-conceptions, and how these influence the learner; and,

- The design of the learning experience includes the possibility to learn from natural consequences, mistakes and successes.

Despite the advantages of experiential learning, it has been criticised for having a lack of direction (Beard and Wilson, 2002). Other critics note that experiential learning is not being capable of delivering the proposed learning outcomes (Reynolds and Vince, 2007) and its subjectivity may limit the application of the learning experience (Wildemeersch, 1989; Beard and Wilson, 2002).

2.3. Presentation of Findings

Using the OECD criteria for good practice for entrepreneurship support in universities (see Annex A), the three universities in Halle and Leipzig were reviewed on their overall strategy and approach to supporting entrepreneurship relative to good practices in entrepreneurial universities. These good practice criteria examine three components of the framework (see Annex A for the full framework).

The overall university strategy with respect to entrepreneurship was reviewed. Entrepreneurial universities have a broad understanding that entrepreneurship is a strategic objective of the university and have top-down support for it. These broad objectives should include both entrepreneurship education and start-up support, both of which should aim to generate entrepreneurial attitudes, behaviour and skills, as well as enhancing growth entrepreneurship (both high-tech and low-tech). This strategy should include clear incentives and rewards for entrepreneurship educators, professors and researchers who actively support graduate entrepreneurship through teaching, mentoring and more. The recruitment and career development of academic staff should take into account entrepreneurial attitudes, behaviour and experiences and entrepreneurship support activities.

It is important for universities to commit resources to entrepreneurship education and start-up support activities. A minimum long-term financing of staff costs and overheads for graduate entrepreneurship should be agreed as part of the university's budget. The goal of university internal entrepreneurship support should be self-sufficiency. Moreover, there should be human resource development for entrepreneurship educators and staff involved in entrepreneurship start-up support.

Entrepreneurial universities should undertake regular stock-taking and performance checking of entrepreneurship activities. This process should be formal and include immediate (post-course), mid-term (graduation) and long-term (alumni and post-start-up) monitoring of the impact.

Strengths

There is broad support for entrepreneurship

All three universities in the region recognise the importance of entrepreneurship and provide support for entrepreneurship education and start-up support. This support can be found at the administrative levels of the three universities, within specialised entrepreneurship programmes and throughout the local entrepreneurship ecosystems. Moreover, there was wide recognition of the importance of creative industries to the region and many of the university support initiatives aim to stimulate and support entrepreneurship in the creative industries. This support was found to varying degrees in high-level documents within the three universities.

The University of Leipzig supports entrepreneurship through SMILE and has thus far taken an "arm's length" approach to SMILE, allowing it to expand in an autonomous fashion. The University's mission statement indicates the aim to "foster the development of its students into critical and tolerant individuals with a sense of initiative and responsibility" and to "train leaders for its own needs as well as for the needs of others," including both scholars and future leaders in public and private enterprises. This lends broad support to the activities of SMILE and the University has made a more explicit acknowledgement of the significance of the SMILE by including it as part of the University Development Plan. This is important because it shows support for the programme and suggests on-going security in its place at the University.

Moreover, SMILE itself has formal objectives and a mission statement. The approach taken by SMILE is unique among entrepreneurship support programmes in that it aims to develop the "entrepreneurial spirit" within participants. As a result, the focus is broader than start-up education and support and it aims to develop broader skills for personal development. The benefit of this approach is that it not only develops entrepreneurial skills but also other personal skills and attributes which increase the employability of individuals. This approach is particularly important for supporting entrepreneurship within the creative industries where students need these broad skills since many will likely work as freelancers on short-term projects with different teams of people.

Martin Luther University Halle-Wittenberg supports entrepreneurship through various projects, such as the Univations Gründerservice. Furthermore, the Univations GmbH, which is an affiliated institute of the university, coordinates a number of other projects with a clear focus on the growth of young businesses. These projects include, for example, Investforum Saxony-Anhalt and Kreativmotor. Kreativmotor provides consulting for young businesses in the creative industries that have a business potential and focuses clearly on the exploitation of growth potentials. The aim of Univations Gründerservice is to sensitise students and researchers for entrepreneurial thinking and behaviour, develop practice-oriented frameworks for entrepreneurship learning and help discover, develop and exploit innovation potential throughout the university. This common approach of the university and Univations GmbH appears to be successful as their strategy has won an award in the national programme EXIST IV "Gründungskultuer – Die Gründerhochschule" and will receive public funds. Kreativmotor

Moreover, formal entrepreneurship education is growing at Martin Luther University Halle-Wittenberg and the number of courses offered in the curriculum is increasing. This helps increase the number of students that are exposed to entrepreneurship and although this may not result in more

business start-ups or job creation, students will benefit because many entrepreneurship skills can be applied in paid employment. Receiving entrepreneurship training will make them more attractive and valuable to employers.

Entrepreneurship support at Burg Giebichenstein University is delivered through the Transfer Centre and Designhaus Halle. The Transfer Centre is situated within Designhaus Halle and is responsible for many of the entrepreneurship support activities on campus. Entrepreneurship is embedded in the curricula and special seminars and workshops are provided through Designhaus Halle. Entrepreneurship support at Burg Giebichenstein University is very much targeted at students in art and design.

There are strong ties to the community

Each of the three universities is well connected with the local entrepreneurship ecosystem and provides support that is targeted to creative industries. These linkages are vital for students in the creative industries to not only provide them with exposure to the local market, but also to help them start building networks. These networks will be important to ensure success for those who pursue a career as a freelancer because freelance work often relies on networks to find new projects and markets, as well as partners and teams for larger projects.

SMILE maintains links with the other universities in the region, notably through the career centres. For example, it organises "Creative Day" with other universities. It also has ties with student organisations and various support organisations and financing institutions. SMILE maintains a close relationship with futureSAX, which is a business plan competition, and staff from SMILE and futureSAX also work closely together to organise other networking events and workshops.

Univations maintains many links to the community, particularly through Investforum which is an event on seed, early stage and growth stage financing. It links capital-seeking entrepreneurs from the region and international venture capitalists and angel and bank investors. Univations also uses links with regional investment companies and banks, the Saxony Anhalt Business Angel Network, High-Tech Gründerfonds, and the crowd financing portal "vision bakery" to facilitate to introduce graduate entrepreneurs to potential financers.

The support activities provided by Burg Giebichenstein University through the Designhaus Halle include organising and hosting networking events. These events provide students in creative industries with an opportunity to interact with industry professionals. In addition, Designhaus Halle is linked to the University Start-Up Network and Kreativmotor, which allows students from Burg Giebichenstein University to interact and work with students from other universities.

Entrepreneurship projects are driven by dedicated staff

The professors and staff involved in entrepreneurship education and start-up support at all three universities display a great deal of commitment to their work. In particular, the education and start-up support activities appear to be driven by a small number of individuals. At the University of Leipzig, SMILE is operated by 2 directors who are central to the operation of this programme. They work with 6 staff members and also have a 6-member advisory board that is comprised of 3 members from private industry and 3 from institutions (city, local savings bank and a foundation).

At Martin Luther University Halle-Wittenberg, 25 staff members work in the thematic field of entrepreneurship. The 4 staff members of the Kreativmotor team are specializing in consulting for businesses in the creative industries that have a great business potential. Univations has an advisory board which guides the entrepreneurship strategy and activities at the University. Board seats are held by a number of high-ranking university administrators and other key individuals in the entrepreneurship ecosystem, including the Chancellor, the Vice Rector for Structure and Finance, the Vice Rector for Education and Studies, the Vice Rector for Research and Young Academics, the appointed entrepreneurship officer of Martin Luther University; a CEO of the local technology park as infrastructure partner; a serial entrepreneur and Angel investor; and the CEO of Univations.

Entrepreneurship activities at Burg Giebichenstein University are coordinated through the Transfer Centre, which is operated by four university employees. There is one director (full-time job), an expert for the career service (75% job), an expert for advanced training and qualification (75% job) and an expert for postgraduate scholarships, research funding and capacity calculation (a full-time job although only 50% is dedicated to the centre).

Challenges

Broad university support does not appear in formal university documents

While broad support was found for entrepreneurship at the three universities, support for entrepreneurship in general and for the specific support projects is largely absent from high-level university documents such as the mission statement and strategic plans. With the exception of the University Develop Plan at the University of Leipzig, the university mission statements did not explicitly acknowledge that entrepreneurship was a strategic objective of the university. (Martin Luther University Halle-Wittenberg plans to make entrepreneurship central to its mission statement).

The three universities are key players in the local entrepreneurship ecosystems and they can play an even greater role in shaping the strategic direction for entrepreneurship support in the region. This is important in helping the creative industries grow in the region. Including entrepreneurship in high-level university documents can be an important signal of the importance of entrepreneurship within each institution, to students, to other local stakeholders and to different levels of government that fund many of these programmes.

The Martin Luther University Halle-Wittenberg and Univations GmbH pursue a common holistic and sustainable entrepreneurship strategy which was awarded in the national funding programme EXIST IV “Gründungskultuer – Die Gründerhochschule” by the Federal Ministry of Economics and Technology and will receive public funds. Neither of the other two universities had an entrepreneurship strategy that broadly covered all activities at the university. This is a missed opportunity to signal to all stakeholders that the university considers entrepreneurship education to be a critical element of its overall activities, and that it views the development of the entrepreneurial capabilities of its students as an important element of the experience and learning that a student gains during their time at university.

Monitoring of education and start-up support could be improved

Monitoring, evaluation and reporting of entrepreneurship education and start-up support activities are undertaken with various levels of sophistication and regularity within the universities. All entrepreneurship support projects regularly complete basic monitoring as required by public funding.

For example, Univations receives funding for several projects and initiatives (e.g. Kreativmotor) and therefore has to submit regular reports to the responsible Ministries. These reports usually contain hard facts like the number of participants in workshops and the number of newly formed businesses. In addition to this type of reporting, many of the programmes also conduct participant surveys to monitor the support activities (e.g. SMILE, Univations).

However, there is room to expand and exploit these activities further. One particular area that could be improved is tracking students after graduation. This could be a starting point to improve linkages with alumni who can be used a resource in delivering entrepreneurship education and start-up support, and for developing networks for students, which is particularly important in creative industries where many students work as freelancers and will rely on networks to find partners and customers.

While many projects do a good job of monitoring their activities and outcomes, this is not consistent across the region. Improving on-going monitoring, particularly among support organisations, will permit a more complete understanding of the impact of the entrepreneurship support programmes. This would further inform about the strengths and weakness of start-up support and could provide further evidence to help strengthen applications for future funding.

Capacity constraints limit potential for growth

The current capacity of the entrepreneurship education and support systems in the three universities meet the current demand from students. The education and support programmes offered have been (in most cases) operating for many years and have achieved a certain level of success. This presents an opportunity to scale-up these initiatives to make an even greater contribution to the creative industries in the region.

The majority of entrepreneurship-related activities are funded almost exclusively by government sources, including funding from the European Commission. While it is evident that the funding will be place for another 3 to 4 years, consideration is needed for the future sustainability of the various entrepreneurship education and start-up support projects. It would be financially prudent for all three universities to do more towards building financial sustainability by identifying potential revenue generating activities, increasing internal university funding to the various initiatives, and identifying potential corporate sponsors who could provide support with in-kind contributions and funding for entrepreneurship activities. Given the strong reputation of some of these initiatives, it is an opportune time to start building for future financial security.

There are also untapped resources, such as alumni, that are available to the universities but are not being fully utilised. For example, while alumni are somewhat involved in the education and support services, they could be incorporated further and used more extensively in start-up support services such as mentoring. None of the universities appears to be proactively growing its alumni network, particularly for the purposes of utilising their entrepreneurial experiences to support teaching with coaching and mentoring.

2.4. Recommendations

The three universities offer entrepreneurship learning and start-up support in different ways and many of these activities are provided through external organisations, either directly or through partnerships. To improve coordination across the support system and for universities to become more entrepreneurial themselves, it is recommended that universities undertake the following:

1. **Include entrepreneurship education and start-up support within university mission statements and high-level strategy documents.** University mission statements can be used to signal what entrepreneurship means to the university by defining how the university supports entrepreneurship. This can be important for demonstrating to funders the commitment that the university has to entrepreneurship. It can also act as guide for shaping the development of entrepreneurship support activities, including the development of staff and faculty and financial priorities and decisions.

   It is also important that the strategic documents at the university and faculty levels reflect the university's commitment to entrepreneurship education. The commitment needs to be holistic but can be delivered through one of a number of different models. See Learning Models 1 and 2 for different approaches to formalising university support for entrepreneurship education.

2. **Incorporate other stakeholders (e.g. local business community, alumni) within the university's strategy.** University strategies and mission statements can help define how they interact with the local community and can help shape how the community supports entrepreneurship education and support. For example, the Mission Statement by *Coventry University* includes the line "We aim to work in sustained partnership with external organisations and we encourage collaboration across international boundaries" and this is very effectively demonstrated through its Institute for Creative Enterprise (see Learning Model 1).

3.

4. **Track alumni**. The universities can do more to track those graduates who received entrepreneurship education and start-up support to better understand the outcomes achieved, to provide appropriate follow-up support across the range of support offerings and to use student entrepreneurs as a resource to support university entrepreneurship activities.

5. **Ensure that any new initiative is supported by dedicated university funding and seek to ensure the sustainability of existing programmes outside of state or EU funding mechanisms.** Some of the current initiatives currently being provided are very exciting but there is little evidence to demonstrate how they will be sustained in the medium-term. In developing strategies for embedding entrepreneurship education into the university consideration must be given regarding how this development will be funded on an on-going basis.

6. **Explore low cost ways of increasing capacity**. The universities can all expand their interaction with alumni and can further exploit this resource in teaching, mentoring and coaching. Other options for overcoming funding constraints include increased use of online resources and teaching. See Learning Model 3 for an example of online teaching for creative industries.

Learning Model 1 – Coventry University

a) Description of the Approach

At Coventry University, enterprise is an important part of their education philosophy and is embedded into their teaching, research and people with the University selected as winner of the category "Entrepreneurial University of the Year" at the Times Higher Education Awards 2011. Every year they engage with more than 3 000 students and graduates, and currently support over 9 000 small to medium-sized enterprises (SME's) and over 500 larger companies. The University offers the following:

Institute of Applied Entrepreneurship

The University has a dedicated Institute of Applied Entrepreneurship, which supports students in a variety of ways such as enterprise skills development, networking, workshop events, ideas and planning, venture creation and business start-up.

Teaching

Support is provided for any student or recent graduate who is thinking of becoming self-employed, starting a business themselves or joining a micro business. A student can take a BA (Hons.) Enterprise and Entrepreneurship course that helps them to set up and run their own company in parallel to their academic studies or they can just take a couple of entrepreneurship modules as part of the Add+vantage scheme. In 2011, 535 students took these modules.

Practical advice, space and funding

The University offers pre-incubator space and professional advice for students in the early stages of setting up a business. Students will receive mentoring through the local Institute of Directors and can apply for small grants to fund start-up costs. There is the opportunity to bid for larger sums from the Coventry University panel of investors chaired by their Chancellor, Sir John Egan. At any one time the University will have approximately 80 students trading through their own companies.

Protecting Business Ideas

The University can help students protect their designs or models through patents and also negotiate licence agreements on their behalf with companies who wish to commercialise their ideas (intellectual property).

Graduation and beyond

The entrepreneurial help is also available to all graduates of the University. The University can advise on relevant funding packages, give access to advisors and even office space. For example, graduates in art or performance can join as freelancers the university companies that the University has set up to promote their work.

Institute for Creative Enterprise

The Institute of Creative Enterprise (ICE) is a building which brings together researchers, graduates, businesses and enterprise support professionals to collaborate, share ideas and to help grow the region's cultural and creative sectors. Creative Enterprise is a new project aimed at supporting both

emerging creative talent and existing businesses in the region. ICE offers a range of free services, including:

- Business advice, guidance and mentoring
- Business development training and workshops
- Mentoring from a professional in your field
- Consultancy and access to specialist research and knowledge
- Hot-desking space and computing services
- Events and networking opportunities
- Creative Enterprise is aimed at graduates, new start-ups and existing creative enterprises from across the West Midlands
- Add+vantage Modules

Entrepreneurial skills are important to all graduates, whether they work in a large or small organisation. New ventures are being created constantly inside big companies, in public bodies, in the not-for-profit sector and by business start-ups. The Entrepreneurial Graduate suite of modules has been specifically designed to support, and give academic credit, to those students who wish to begin the process of setting up their own venture. The modules include 'Business Idea Development' for students who have not yet developed their business idea though to IPR and funding opportunities for those whose business is further developed. The concepts and skills are equally applicable to business and social enterprises.

The Entrepreneurial Learner > The Entrepreneurial Graduate

If a student aspires to (i) work for themselves and potentially employ others, (ii) work within an organisation and work their way up extremely quickly by using their entrepreneurial skills, (iii) using their enterprising aspirations within 'not-for-profit' organisations, the creative industries or smaller-sized enterprises, then they can take one of the many Entrepreneurial Modules and see if any of these can inspire him or her to give them the 'Add+vantage'. The courses available to students include:

- Level 1
  - An Introduction to Entrepreneurship
  - Social Networking for Business
  - Creative Thinking for Business
  - Social Enterprise & the 'Big Society'
  - Working at the Students Design Agency

- Level 2
  - Be Your Own Boss
  - Women in Business
  - Make Money Online
  - Into the Dragons Den - Making a Pitch 2
  - Working at the Students Design Agency

- Level 3
  - Getting a Job - What employers want from you
  - Doing Business Internationally
  - Business Start-up
  - The Ethical Apprentice - Business Start-up with added ethics

– Working at the Students Design Agency

b) Rationale for the intervention

The work of entrepreneurship education within the University was deliberately taken outside of any specific faculty and an independent unit was created that serves all of its stakeholders so that the modules could be delivered across all faculties without any one faculty appearing to "own" the courses. Staff members within the Unit were selectively employed for a particular expertise that they could bring to the team and together they now deliver wide-ranging services to existing students, former students and local businesses. The unit is strongly supported by the University in terms of funding, strategic position within the activities of the university, staff development, and business development. It is an approach and commitment that is relatively unique in terms of its holistic approach.

c) Relevance to Saxony & Saxony-Anhalt

This year, Coventry University has risen 30 places to 53rd overall in the Sunday Times University Guide 2012, making it the second highest climbing university in the UK. While this remarkable achievement cannot be solely attributed to its entrepreneurship-related activity, there is no doubt that winning the "Entrepreneurial University of the Year" at the Times Higher Education Awards 2011 was a significant contributory factor. It is arguable this strategy is potentially replicable by any university and so Higher Educational Institutions in eastern Germany (particularly Martin Luther University Halle-Wittenberg) could learn and benefit from what has been achieved by Coventry University.

d) Reasons for success

There are three keywords to Coventry's activities - employability, enterprise and entrepreneurship. Coventry is an evolving and innovative university with a growing reputation for excellence in education. Independent surveys show that they provide a caring and supportive environment, enriched by a unique blend of academic expertise and practical experience. By seeking to enhance the strong vocational emphasis of their courses and bolstering their links with the very best industry organisations, they are firmly focussed on preparing students for successful entrepreneurial futures.

e) Obstacles faced

The most challenging obstacles faced by the organisation were internal where many staff members were resistant to change. This was partly why the University choose to locate the entrepreneurship activities outside of any particular faculty and thereby create a new set of working practices. As with all organisations, generating funds continues to be a struggle but its recent success in winning "Entrepreneurial University of the Year" and improved rankings have aided this activity.

f) Consideration for successful adoption in Saxony & Saxony-Anhalt

As with any example of good practice, context plays an important part of the story. Coventry University comes from a Polytechnic background which tended to gives its courses a more applied philosophy than is likely to be found within traditional universities. Another important contextual matter is that there is a strong history of entrepreneurial activity in the region and so it is somewhat easier to garner industry support for its entrepreneurship programmes.

g) Contact details

http://wwwm.coventry.ac.uk/researchnet/enterprise/Pages/Home.aspx

Dr Gideon Maas (Director)

Email: gmaas@cad.coventry.ac.uk

Tel: +44 7974984434

Learning Model 2 – Institute for Creative and Cultural Entrepreneurship (ICCE)

a) Description of the Approach

The Institute for Creative and Cultural Entrepreneurship is part of Goldsmiths College at the University of London. ICCE delivers enterprise, cultural management and policy education to the creative and cultural sectors, and supports research into new approaches to business, financial models and management in the Creative Economy. It delivers a range of academic programmes and presents activities and events to promote an environment in which creative and cultural entrepreneurship can flourish. Their approach is to integrate entrepreneurship within the development of creative practices, and to take a creative approach to the development of new businesses and the infrastructure that supports them. ICCE offers the following programmes:

- Postgraduate taught and research degrees
- MA Arts Administration and Cultural Policy
- MA Creative and Cultural Entrepreneurship
- MA Social Entrepreneurship
- MPhil/ PhD Programmes
- Training for people who are developing businesses around a creative practice
- Training for local or national policy makers who want to understand how to create the infrastructure needed to support an environment of creative entrepreneurship
- Engagement activities which enable students and academics to work with industry partners to develop and explore new enterprises
- Events to encourage debate and networking between all involved in the sector

ICCE also offers a wide range of support activities which include:

The SYNAPSE Programme

This programme offers training for people who are developing businesses around a creative practice or area of expertise, or training for local or national policy makers who want to understand how to create the infrastructure needed to support an environment of creative entrepreneurship. It also offers engagement activities which enable students and academics to work with industry partners to develop and explore new enterprises and events to encourage debate and networking between all involved in the sector. ICCE also supports and promotes programmes and activities in other departments and centres at Goldsmiths.

Creative Industries Short Courses – for media professionals

People who work in the creative industries and need to develop new knowledge and skills at Master's level now have the opportunity to enhance their employability and value to their company through a range of short courses specifically tailored towards their industry, “Build Your Own MA.” A person can tailor their own programme of study to suit their specific personal and career needs, and stand out and succeed in a competitive field with higher-level skills and specialist knowledge – whether a person completes the full MA, or selects just one course.

b) Rationale for the intervention

For arts and cultural organisations ICCE encourages students to critically analyse current management and policy practice at both micro and macro levels, and to recognise their potential to

create new models and practice for both. ICCE takes the view that Entrepreneurship is the creation of value, and this value could be social, aesthetic or financial, and that when entrepreneurial activity is strong the three strands are interwoven.

c) Relevance to Saxony & Saxony-Anhalt

This model is quite different to that offered by Coventry University which sought to make entrepreneurship available to all of its students (regardless of degree courses being followed). If a university in eastern Germany wished to follow a niche-market approach focusing on the creative industries then the model pursued by Goldsmiths, University of London would have more relevance. This approach might be particularly relevant for Martin Luther University who have already targeted the creative industries for directed support.

d) Reasons for success

The courses are designed to work as stand-alone enhancements to a person's professional CV and personal knowledge and expertise. No commitments for future modules are required as a participant can do as many or as few as they choose. Each course is worth a certain number of credits. A person can choose to build up their credits to achieve a Postgraduate Certificate, Diploma or the following Master's programme.

e) Consideration for successful adoption in Saxony & Saxony-Anhalt

The approach of ICCE within Goldsmith College highlights the way in which a University can build a dedicated centre that provides expertise in a flexible fashion to people operating in the Creative Industries.

f) Contact details

http://www.gold.ac.uk/icce/

Gerald Lidstone (Director)

Email: g.lidstone@gold.ac.uk

Tel: +44 207 078 5318

Learning Model 3 - Creative + Practice (The Secret to Success as a Creative Entrepreneur)

a) Description of the Approach

Creative + Practice is an 8-week Online Workshop with Lisa Sonora Beam, author of "The Creative Entrepreneur." The course takes place entirely online once per week for 8 weeks, the participant will get a new lesson delivered via email. Each lesson builds on the next, giving each participant a foundation for starting a business or learning skills that will improve their employability. Each email includes lessons with prompts and creative challenges for the participant to use to develop your own Creative Practice. Since this is a visual, creative process, each email will include a link to a video of the author broadcasting from her studio. The videos will show Creative Practice techniques and provide additional ideas and information to ponder. To participate, people simply need:

- An Internet connection and email account to receive the emails.
- The ability to view videos online in your web browser.
- A blank journal or sketchbook to do the Creative Practice.

There are some simple art materials required if a participant wants to try all of the techniques. No prior art or writing experience is required. Absolute beginners and those who feel they are "not creative" are especially encouraged to attend.

b) Rationale for the intervention

According to the author of the course (based on her book), most courses / books on developing a successful business focus on a selection of tactics that address outer solutions (such as: setting goals, how to write a business plan, set aside time for marketing, or how to hire a rep). What they do not address are the underlying internal issues unique to creative types and how to practically address them. These internal issues manifest as emotional/psychological blockages, faulty thinking about their work and ideas, and lack of practical knowledge regarding how to make the business side of their life work. Without addressing the underlying issues that cause artists to remain business-challenged, no amount of goal setting or knowledge of savvy business tactics will help. Once these inner aspects are addressed, participants / readers are introduced to a unique combination powerful business and leadership tools (some little known or used except by the most skilled managers) presented in a visual and engaging way that appeals to the way creative types think, learn and process information.

c) Relevance to Saxony & Saxony-Anhalt

This approach could be a useful method for the universities to employ if they are looking for cost effective ways of delivering tailored entrepreneurship programmes to students or indeed to participants outside of its official study programmes. For example, online entrepreneurship courses have been very successfully provided across all faculties at the University of Ulster (Northern Ireland), although these are of a general nature rather specific to the needs of creative industries. Online courses can be graded through online quiz type exercises which can ascertain certain levels of knowledge, although would not be appropriate on their own for higher levels of educational certification. Online programmes could be developed by each of the universities (or perhaps collaboratively) that would enable a much broader reach to be achieved.

d) Consideration for successful adoption in Saxony & Saxony-Anhalt

The use of online courses by universities has increased in recent years. According to the Sloan Foundation reports, there has been an increase of approximately 12% per year on average in

enrolments for fully online learning over the five years 2004–2009 in the US post-secondary system, compared with an average of approximately 2% increase per year in enrolments overall. Allen and Seaman (2009) claim that almost a quarter of all students in post-secondary education were taking fully online courses in 2008, and a report by Ambient Insight Research (2009) suggested that in 2009, 44% of post-secondary students in the USA were taking some or all of their courses online, and projected that this figure would rise to 81% by 2014. Many people within the target market of the creative industries are not taking formal education but are computer literate and could benefit from online tailored entrepreneurship training.

e) Contact details

http://www.thecreativeentrepreneur.biz/creative-practice.html

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CHAPTER 3. DIVING DEEPER: ENTRPRENEURIAL IMMERSION

3.1. Key Issues

There is a revolution sweeping the world of entrepreneurship and entrepreneurship education is very much at its centre. Key to this change is the growing understanding that entrepreneurial education is less about entrepreneurship teaching than it is about entrepreneurial learning. The emphasis has shifted from teaching about entrepreneurship to helping people learn to think like entrepreneurs – in short, from knowledge and skills to mind-set. Developing a genuine entrepreneurial mind-set is important and advancing the knowledge and skills needed for entrepreneurship without developing the entrepreneurial mind-set will result in a short-lived revolution in entrepreneurial learning. All this requires deep transformative learning – which, in turn, requires very different teaching methods. This is a particularly useful perspective in helping prospective entrepreneurs in creative industries who may be daunted by their current lack of exposure to the business world.

Another key aspect that is necessary to this entrepreneurial revolution is facilitating transformative learning by deeply immersing potential entrepreneurs in the entrepreneurial community, blurring the lines between university campuses and their communities. This deep cognitive change requires equally deep transformative learning by not only changing what we know, but also how we structure that knowledge. This cognitive change is even more effective if the immersion works both ways so that the lines are blurred between learner and ecosystem. Better still, the more that potential entrepreneurs and the entrepreneurial ecosystem are co-immersed, the stronger and more resilient the ecosystem itself will grow.

If one examines the best programmes globally at nurturing a truly entrepreneurial mind-set, it is hard to find a programme that is not focused on deep experiential learning. It can also be seen from these programmes that deep immersion in the entrepreneurial mind-set is best facilitated where there is also deep immersion by learners in the entrepreneurial ecosystem.

This change is important for students in creative industries because it allows the learning experience to become part of the creative process. This addresses one of the challenges that entrepreneurship education traditionally had in reaching students in creative industries because traditional business education methods were not attractive to these students who are typically more focussed on the process of creation and on their output rather than the market for their products and services.

3.2. Trends in Entrepreneurship Learning

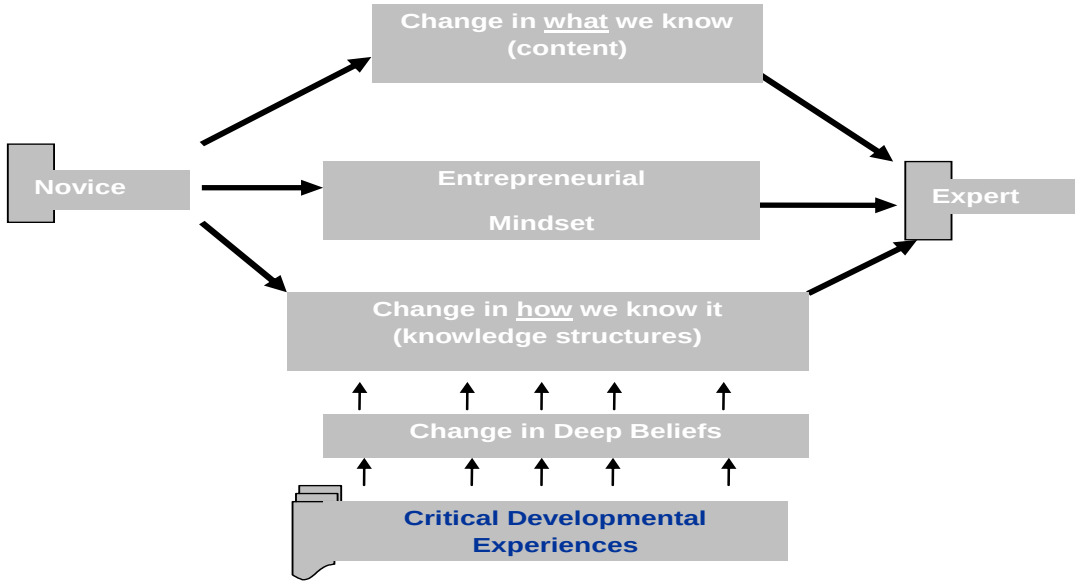
Training a person to be more entrepreneurial involves more than increasing their intentions, it requires nurturing a well-informed intent. Human intentions tend to be closely associated with perceptions that the behaviour is desirable and that it is feasible. Traditional classes, even self-teaching can help learners identify venture opportunities that are desirable and they can facilitate the acquisition of skills and knowledge that make opportunities more feasible. However, for potential to become action requires the building of an entrepreneurial mind-set. This, in turn, requires deeply experiential learning.

Growing the Entrepreneurial Mind-set

The research and popular literature (see for example, Malcolm Gladwell's *Outliers*) suggest that the tangible difference between an expert and a novice is 10 000 to 20 000 hours of deliberate practice (without any guarantee of achieving expert status). While experts usually know more and have more skills, in many cases what they know is not only greater, but also different. What really changes is not so much knowledge content but knowledge structure.

Consider Figure 1. For learners to move from novice toward expert typically requires a series of critical developmental experiences that change deep assumptions about how things work that anchor their knowledge structures (Krueger 2007). Deep entrepreneurial learning thus typically requires the involvement of multiple mentors with the expert entrepreneurial mind-set (or a very strong understanding of it). This process is equally applicable in creative industries. The best way to achieve this is to have instructors with that mind-set and deep immersion in the entrepreneurial ecosystem (where learners are exposed to multiple facets of the expert mind-set). Immersing learners in the entrepreneurial ecosystem is a powerful way to immerse learners in the entrepreneurial mind-set.

Figure 1: The Entrepreneurial Mind-set



Source: Krueger 2007, 2009.

Growing the Entrepreneurial Ecosystem

It is increasingly salient that the entrepreneurial mind-set or at least a deep understanding and appreciation of it should also pervade the community, broadly and deeply. But it is not enough for entrepreneurs to have a strong entrepreneurial mind-set, so too must support organizations, service providers, key institutions, the media and the general public. That changes the social and cultural norms in entrepreneur- and creativity-supportive directions, necessary to grow a broad, deep, highly-interconnected entrepreneurial ecosystem. In turn, a strong ecosystem also serves to foster supportive norms, yielding a virtuous cycle.

Discussions of "entrepreneurial ecosystem" or "industry cluster" tend to centre around discussion on the infrastructure needed for an entrepreneurial economy. However, the discussion also tends to focus on the tangible infrastructure that, while important, does not appear to be an effective prediction of sustained growth in entrepreneurial activity. Flora and Flora (1993) proposed that an innovation- and creativity-friendly entrepreneurial social infrastructure was the key ingredient for a successful local economy. That is, social norms and institutions are perceived as supporting innovation, creativity and entrepreneurship. Building on that, Krueger (2000; Krueger and Brazeal 1994) argued for an entrepreneur-friendly cognitive infrastructure where entrepreneurial thinking is encouraged and supported and opportunities are expected to emerge.

Most important, though, is recognizing that a strong ecosystem helps to grow the expert entrepreneurial mind-set and that, in turn, growing a broader, deeper understanding of the expert entrepreneurial mind-set helps grow the a healthy entrepreneurial ecosystem.

3.3. Entrepreneurship Education for Creative Industries

Research into entrepreneurial development in creative industries is limited, however there are a number of differences in key considerations for entrepreneurship education for those in creative industries. First, creative people often lack basic business skills and have little business experience. This can put them at a disadvantage when starting a business because they lack some of the technical skills and competences needed to operate a business. But at the same time, this can also be an advantage because they can be more flexible to adapting their business to changing circumstances.

Second, the mind-set of many creative people may present barriers to envisioning themselves as engaged in commercial activities. Those who work or study in creative industries have an artistic tendency to focus on their creation to the exclusion of any consideration of any external stakeholder or customers.

Third, there appears to be global evidence that entrepreneurs in creative industries are less likely to produce high-growth ventures. Some of this reflects the non-scalability of any artistic activities, but some of this also reflects differences in their mind-sets. To grow an enterprise, three ingredients are needed:

1. The entrepreneur must know how to grow a venture,
2. The entrepreneur must know how to identify market potential to support growth, and
3. The entrepreneur has to <u>want</u> to grow the venture.

The first is a skill set that can be taught, the second can be developed in with experience, but the third reflects something deeper. Helping to develop the entrepreneurial mind-set will be critical for helping graduate entrepreneurs in creative industries grow.

Fourth, self-efficacy is more than perceived competence and learning something is not enough. Entrepreneurs must believe in their capability enough to actually use the new skill or knowledge. Self-efficacy is a strong predictor of intent, including entrepreneurial intentions (e.g., Krueger 2000; Krueger and Brazeal 1994) and in any career represents a critical lever for both intent and action (Mauer, Neergaard and Kirketerp 2009). The same is particularly true for entrepreneurship in creative industries. In a recent study of entrepreneurial learning in creative industries, self-efficacy is a strong predictor of entrepreneurial experimentation in nascent ventures. That is, if self-efficacy is low the entrepreneurs tend to simply model someone else's behaviour (and business model) but if self-efficacy

is high, entrepreneurs tend to have the confidence that they can experiment until they develop a viable, sustainable business model and moving them toward a stronger customer focus (Markowska and Wiklund 2012).

All of this can add up to the potential creative entrepreneur to simply not seeing themselves as an entrepreneur. They see themselves, first and foremost, as creative people. Entrepreneurs from creative industries need to be shown that entrepreneurship has a lot in common with the creative industries. It is not about making money but rather making new things happen.

3.4. Presentation of Findings

OECD research shows that entrepreneurial universities progressively integrate entrepreneurship education into the curricula and use of entrepreneurial pedagogies across all faculties. The entrepreneurship education offer should be widely communicated, and measures are undertaken to increase the rate and capacity of take-up. A suite of courses should exist, that use creative teaching methods and is tailored to the needs of undergraduate, graduate and post-graduate students. The suite of courses should have a differentiated offer that covers the pre-start-up phase, the start-up phase and the growth phase. For certain courses, the university should practice active recruitment. Outreach to alumni, business support organisations and firms are a key component of entrepreneurship education. Results of entrepreneurship research are integrated into entrepreneurship education messages.

Strengths

There is an explicit focus on creative industries

Creative industries have an important role in the local economy and this is visible in the university entrepreneurship education. The most visible example of the focus on creative industries is Kreativmotor, which is part of the Univations project at Martin Luther University. It supports young companies in creative industries with growth potential. Although it does not provide traditional teaching, it offers learning opportunities through business advice and consultancy that are tailored to individual participant needs.

Another example of entrepreneurship education for creative industries is the Business Arte course offered by Hoffman and Partners (see Box 3.1). Business Arte aims to help university graduates who plan start businesses in the cultural and creative industries with training and coaching and assistance with the development of the business concept.

Box 3.1. Hoffmann and Partner

Hoffmann and Partner is an entrepreneurship support organization in Halle, Germany. It is driven by two managing partners, Dr. Lothar Lotze and Dr. Kathrin Quade, who are supported by a team of business professionals. The organization provides entrepreneurship training and business consultation services focused on preparing for business start-up. Since its establishment in 2005, it has supported more than 3000 start-ups.

One of the core offerings of Hoffmann and Partner is Business Arte, which provides preparatory training, individual coaching and support for the development of business concepts and plans. It also aims to improve market access and the sustainability of new businesses by providing coaching and networking support.

Business Arte is delivered as two components, one for business start-up and one for supporting business development post-start-up. The preparatory Business Arte course is 8 weeks long – 4 weeks full time and 4 weeks part-time (two days per week). Requirements for participation in the preparatory course are a degree (less than 2 years old) from a university in Saxony-Anhalt, residency in Saxony-Anhalt and the location of the planned

start-up to be in Saxony-Anhalt. Participants are eligible to receive a financial grant that amounts to EUR 700.

The second component of Business Arte is a full year course, during which the participants meet at one day per week. Requirements for participation in this course are the official registration of a new business. Participants are eligible to receive financial grants of up to EUR 4800.

Entrepreneurship teaching at Burg Giebichenstein University is provided in different ways and is explicitly focused on creative industries. Business and marketing training are provided within subject courses such as industrial design, fashion design and interior architecture. In addition, lectures, seminars and workshops are offered through Designhaus Halle on various topics such as tax returns and funding opportunities. Burg Giebichenstein University also offers three specific entrepreneurship courses:

- "inside design business" which is for young entrepreneurs from the creative industry;
- "designdate" which uses case studies and good practices to teach about operating a design company;
- "Art and market" (*"Kunst und Markt"*) which teaches about the art market, including the roles of galleries, collecting agents and art associations.

Entrepreneurial learning at the University of Leipzig is provided through SMILE. While SMILE does not focus explicitly on helping students start businesses in the creative industries, the flexible approach taken to inspire and help students learn about entrepreneurship fits well with the needs of creative industries. Students in creative fields typically reject traditional business education and vocabulary because they are more connected to their products than to markets. The approach of SMILE can reach these students because it helps students discover and apply entrepreneurship to their own context.

There is a focus on developing an entrepreneurial mind-set

One of the strengths of several of the entrepreneurship education programmes in the three universities is that the objective goes beyond skill development and focuses on the development of an entrepreneurial mind-set.

The best example of this type of learning is SMILE (see Box 3.2.). SMILE offers participants a learning environment that puts them in control. Students decide what they want to learn, how and when. SMILE represents a strong step toward growing the entrepreneurial economy in the region with growing impact on creative industries, not just in Leipzig. SMILE has developed champions in other faculties across the university, which is a good step in broadening its reach.

Box 3.2. SMILE, University of Leipzig

SMILE (the Self Management Initiative LEipzig) is an initiative that provides comprehensive support for personal and professional development including self-employment and entrepreneurship. It offers participants a learning environment that puts them in a position to decide for themselves how and what they want to learn. The focus is on the personality and individual needs of each participant and the aim is to strengthen and develop and

prepare them for lifelong learning.

The activities organised by SMILE are based on a social-constructionist approach. Various learning principles are developed out of this approach, and these form the basis of all the activities:

- The basic orientation is more towards the idea of a piano teacher than of a preacher; SMILE helps the learners to develop their capacities into skills.
- Participants develop their own (learning) goals and SMILE supports them.
- SMILE builds the content from the problems identified by the participants.
- SMILE ensures that information flows freely between everybody involved in the activity; the flow of information is neither controlled nor monitored.
- Information can be used in many ways. Participants are encouraged to consider various possibilities and are given access to all forms of information. Access is not limited to a specific field or area.
- Activities are designed so that they require interaction and objective argument.
- SMILE does not show how a problem can be solved, nor does it say whether an answer is right or wrong.
- SMILE does not test the participants in the traditional sense.
- Autonomy, ethical thinking and behaviour are supported.
- SMILE fans the flames of the desire to learn and think that want to keep burning in the participants.

SMILE offers different activities, seminars and workshops in three modules Participants can chose when to attend which module and most of the activities and workshops require no prior knowledge so they can be joined at any time.

1. The first module helps participants discover their entrepreneurial potential and capabilities.
2. Participants expand and develop their potential and capabilities.
3. In the third module, participants apply their potential and capabilities to projects.

SMILE results:

- 200 start-up companies in 5 years, averaging 40 per year
- EUR 450 000 costs per year, currently 25% own funds, 75% subsidies
- 4000 participants in 5 years, 800 per year
- 6 staff members

A similar approach is visible at Martin Luther University Halle-Wittenberg, which offers entrepreneurship education through ASQ ("general key skills") courses. These general courses are for-credit and are open to students in all faculties and are complemented by specialised for-credit entrepreneurship courses for students in business, communication sciences and pharmaceutical technology. One clear objective of all entrepreneurship-related courses offered at Martin Luther University Halle-Wittenberg is to establish the type of entrepreneurial mind-set and spirit among students. This can also be seen in Kreativmotor, where one of the explicit objectives is to develop an entrepreneurial spirit.

Support organizations connect students with the local entrepreneurial ecosystem

A number of entrepreneurship support organisations have a key role in supporting and complementing the learning that occurs within the curricula at the universities. Some of these projects and organisations are quasi-independent from the university (e.g. SMILE) while others are more strongly linked (e.g. Univations and Kreativmotor). These university projects centre around the most significant trend in entrepreneurship education, which is the move away from traditional, linear business planning to more iterative, student-centric learning. These learning tools afford multiple opportunities to connect learners with the entrepreneurial ecosystem.

A second important approach to connecting students with the community is through business competitions that use local entrepreneurs and industry as promoters, jury members, sponsors and audience. For example, the project ego.-BUSINESS which was initiated by the federal state of Saxony-Anhalt and is managed by the Investment Bank Saxony-Anhalt combines the state-wide competition and the network of business angels with the objective to bring together the production of ideas with the supply of financial resources by business angels. This project includes a special field for "Creative Business", which is the second biggest field. Also, Martin Luther University Halle-Wittenberg and Univations established an annual business model contest called "Scidea" in 2008 for university staff and students. Other examples of such competitions include ego-BUSINESS network's annual business plan competition and SMILE's innovative idea competition, "LIFE."

These programmes and projects blur the lines between "student" and "community" are important for the learning process. They provide students learning and also help raise awareness about entrepreneurship in university and across the community.

Challenges

Immersion of students in the local ecosystem is growing but missing opportunities

One of the biggest trends in entrepreneurship education is the rise of successful, effective shorter-term programmes that are independent of normal academic channels. For example, a number of short-term projects such as Start-up Weekend, Lean Start-up Machine and Code Camps, have been developed and successfully implemented in a number of different contexts. Other EXIST universities have supported Start-up Weekends (e.g. Start-up Weekend Munich) and there is an immense potential to increase collaboration between universities for multi-school projects.

While take-up of these methods is underway in the region, not all universities are implementing these methods. Martin Luther University Halle-Wittenberg has launched a number of short-term

project-based learning experiences, including Univations Gründerakademie (three-day start-up academy) and Univations Startertage (aimed at freshmen). Furthermore, SMILE at the University of Leipzig makes use of short-term projects. However, collaboration across the universities could be increased and external education organisations could be more involved as they do not use short-term projects to the same extent as the universities.

One key resource that is under-utilised in all three universities is alumni. All three of the universities are using alumni as guest lecturers and speakers, but there is room to grow this. This would start to increase links between the university and the community because it brings industry onto the campus to interact with students.

Lack of awareness about the entrepreneurship offerings

Students (and faculty, even administrators) are insufficiently aware of the entrepreneurship learning opportunities that are being offered and how valuable this programming can be. One approach to reaching more students is to embed entrepreneurship teaching into the curriculum and provide credit for these courses. Martin Luther University Halle-Wittenberg is taking this approach and is increasing the amount for for-credit entrepreneurship courses that are available.

Another approach to increase awareness among students is to increase the involvement of faculty and staff. One method to accomplish this is for the university to support academic research projects to increase academic credibility, which will make it easier to attract faculty and staff. While the institutions reviewed are not focused on "A" journal-type research, publishing impactful research goes a long way to cementing one's credibility in Academe. For example, assessing the impacts of entrepreneurship or of entrepreneurial training would be very publishable and is already sought after. To improve the high-level ("A") academic research it might make sense to add a Chair of Entrepreneurship (especially if on level of Humboldt Professorship) to ensure academic credibility. Alternatively, the university could provide more incentives and rewards for faculty and staff involved in entrepreneurship education.

Some teaching methods are dated

Many examples of outdated pedagogy were observed in the region, particularly in external partner organisations. Great pedagogical tools have been developed, such as the deeply experiential learning exercises that are used in leading entrepreneurship education programmes, and these could have a significant impact for teaching entrepreneurship for people looking to operate in creative industries because careers as freelancers often rely on short-term projects involving interdisciplinary teams.

In addition, the universities in Halle and Leipzig could offer more training and development opportunities for their faculty and staff to ensure that they are aware of current pedagogies. For example, there are "train-the-entrepreneurship-trainer" events held in the region that the universities could participate in. The EXIST schools in the Essen region recently held and event at Duisburg-Essen and Wuppertal. However, the three universities did not appear to be aware of these events.

3.5. Recommendations

The faculty leaders at all three schools clearly embrace a campus-wide approach to supporting entrepreneurship learning. Entrepreneurship education is supported and there are offerings available to the students. However, the education activities were not consistently using up-to-date pedagogies and students were not always aware of the full range of education opportunities available to them. It is therefore recommended that the three universities undertake the following:

1. **Cross-campus entrepreneurship programming:** In the short-term, it is recommended that the institutions strive to raise the visibility of the on-going entrepreneurship education activities to increase awareness among students, which could include introducing a for-credit course. Many schools have used this "trojan-horse" model to recruit across campus and beyond using courses such as "Skills for Our Entrepreneurial Society" or "Sustainable Entrepreneurship." There are a remarkable number of examples of this practice in the United States. For example, under a major initiative of the Ewing Marion Kauffman Foundation to foster cross-campus entrepreneurship education, the University of Illinois created "entrepreneurial fellows" in a dozen different departments all across campus. More recently, the University of North Carolina's Greensboro campus created entrepreneurial courses such as described above in over 30 departments. Both of these programmes did this in little more than a year with essentially one entrepreneurship professor. See Learning Model 4 for another approach that has proven successful.

2. **Use more constructivistic pedagogies:** While progress has been made with the introduction of pedagogies that allow students to shape and apply learning activities to their own context, the institutions need to continue to move towards their wide-spread use and adoption. If courses fail to immerse the learners in growing a more entrepreneurial mind-set and fail to connect them with the local entrepreneurial ecosystem, the traction gained will be lost. External partners and stakeholders are attempting to help in this regard but it is unclear from their stated programming if they themselves have moved much past the traditional approaches to entrepreneurship education.

3. **Use proven, adoptable immersion experiences:** The biggest trend seen in entrepreneurship training is the rise of successful, effective shorter-term programmes that are independent of normal academic channels (e.g. Start-up Weekend, Lean Start Machine, Code Camps, etc.). While each of the universities has made progress towards adapting short-term learning, more can be done. This would give these three schools an opportunity to demonstrate leadership to the community and perhaps even farther across Germany and the EU. Other EXIST schools have supported Start-up Weekend (e.g. Start-up Weekend Munich) and the potential for multi-school collaboration is immense. Short-term projects are important learning tools for students in creative industries because it builds team building skills and can further grow personal and business networks. See Learning Models 5, 6 and 7 for examples of models of immersion experiences.

4. **Train-the-trainer:** Other EXIST schools have been working on programmes to bring in experts on these newer, more constructivistic approaches to entrepreneurial education. Rather than a boot camp for potential entrepreneurs, this might be a boot camp for entrepreneurship educators in the region. This would be particularly beneficial for delivering entrepreneurship training to students in creative industries who require a different approach given their likely career as a freelance worker.

5. **Academic research opportunities:** Even without a formal entrepreneurship faculty/chair, one vehicle for recruiting faculty and administrative allies is sharing the opportunities to perform and publish topflight research on entrepreneurship, not just in business or economics but across a wide range of disciplines. One area that has begun to grow quickly is in measuring the impact of entrepreneurship, something that Univations could support. A more formal academic presence would help build academic credibility across campus that also raises visibility of their entrepreneurship efforts across campus and across the community.

Learning Model 4: Formation Interdisiplinaire en Création d'Entreprise (CPME), Université Catholique de Louvain, Belgium

a) Description of the Approach

Initiated in 1997 by a university rector and a major bank CEO and equipped with substantial support from private companies, the innovative CPME programme is an interdisciplinary initiative where students from almost all schools at the comprehensive Université Catholique de Louvain are brought together in cross-disciplinary teams to create businesses.

The original aim of the CPME programme was to stimulate new business creation and entrepreneurship. This was later broadened to include entrepreneurial skills and activities in their widest sense, i.e. intrapreneurship, working as employees for SMEs, not-for-profit creation, spin-offs, business buyouts and related aspects.

The programme is not in itself a separate master degree but consists of a set of dedicated elective courses that are integrated into the corresponding master degrees from the 8 different schools at Université Catholique de Louvain (UCL). The CPME programme is managed in close collaborations with the faculty managing the parent degrees, and is spread across the last two years of its parent degrees, where the second year master thesis project revolves around creating a new business based on students' own or external business idea.

The most important partners are the different schools at UCL, allowing the interdisciplinary nature of the programme. Other important partners include UCL's technology transfer office LLTTO, incubators, the student entrepreneurship club Crealouv and the Federation of Enterprises in Belgium (FEB). The stock listed investment company Brederode supports the programme financially. A network of entrepreneurs, bankers, capitalists and programme alumni also supports the programme through various interventions in the programme.

Approximately 30 students are admitted each year, and the classes are given in the evening. The programme has a dedicated building and students have 24-hour access to these facilities, including computers, team rooms and other facilities. This creates a bonding effect among students, promoting knowledge exchange and collaboration across cohorts and disciplinary affiliations.

Around 350 students have graduated from the programme. A survey shows that 11% of the students who graduated between 2000 and 2005 have created a firm, and that 64% of former students think that the CPME programme has had an impact on their entrepreneurial intention.

b) Rationale for the intervention

In 1996, the Fortis Bank CEO teamed up with the rector of UCL to launch the idea of the CPME programme. The aim was to remedy the lack in Belgium of entrepreneurship programmes outside business schools and to counter poor entrepreneurial spirit of the southern region of Belgium. This top level initiative was able to secure substantial financial support, and also managed to bypass the existing academic structures needed in order to create a visionary, interdisciplinary and truly action-based programme structure. The core team consisted of faculty from the law, engineering and business schools of UCL, and included the current programme director Frank Janssen. The first cohort started in 1997. In 2007 the programme was shortened from three to two years according to the Bologna process. It was also opened to all of the ten schools at UCL, welcoming students from agronomy, psychology, physiotherapy, sciences, theology, etc.

c) Relevance to Saxony & Saxony-Anhalt

The programme supports team projects which are an important learning tool, particularly for students in creative industries. Teams consist of students coming from three different disciplines, i.e. business, law, engineering, physiotherapy, psychology, sciences, agronomy and liberal arts. Business ideas are supplied by students themselves and from university research.

d) Obstacles faced

Key challenges have been convincing colleagues, adhering to varying assessment regulations and complying with the Bologna reform.

Challenges are mainly related to the interdisciplinary nature of the programme, such as convincing colleagues in different schools at UCL of the importance of entrepreneurship and adhering to the varying assessment rules of each disciplinary framework. Difficulties in accepting a master thesis in the form of a business plan is an example issue within assessment. Other challenges include the limited track record in terms of number of directly created ventures, and the Bologna reform forcing a shortening of the programme from three to two years.

e) Consideration for successful adoption in Saxony & Saxony-Anhalt

Substantial financial resources were raised upon creation of the programme from various private companies, such as Belgian glass manufacturer Glaverbel. So far financials have not restricted the operation of the programme. The student ventures do not receive any funding from UCL, except if they arise from university research. Implementing a programme such as this in Halle and Leipzig would likely require funding as there is little private capital in the region that could fund this type of programme.

f) Contact details

Frank Janssen, programme manager

frank.janssen@uclouvain.be

Website: www.uclouvain.be/cpme

Learning Model 5: Immersion Experiences

Constructivistic: This learning model emphasizes a thoroughly constructivistic set of pedagogies, including project-based and problem-based learning to maximize deep transformational learning. Immersion (and where possible co-immersion) is key.

Proven, Open Source: These are proven models with many resources available inexpensively (if not gratis) with multiple contacts who can assist schools with adoption.

a) Description of the Approach

Take full advantage of proliferating programmes available to learners anywhere that immerse learners in activities to nurture a more entrepreneurial mind-set – beyond acquisition of skills and knowledge, these approaches focus on deep cognitive changes. This could include, for example:

Global Entrepreneurship Week: Not pedagogy *per se*, but mechanism to connect learners and educators alike to the best practices globally. This approach is easy and provides an easy, free entry point to other activities and partners.

Start-up Weekend: This is a 2.5 day immersion experience for participants (motto: "No Talk, All Action") that provides powerful learning via task urgency, peer support, expert mentoring and connections to the local entrepreneurial ecosystem. This type of experience typically has a low cost.

"Lean Start-up" Model: Posits that start-ups are vehicles for proving a viable, sustainable and scalable business model, via rigorous testing of key assumptions. Offered in various formats, most notably Lean Start-up Machine (weekend immersion, low cost) and the new Lean Launch Pad (LLP) developed by Steve Blank (5 days) and now used by the US National Science Foundation to assist top innovators to commercialize their technologies. LLP is available online.

Invention to Venture [I2V]: Developed by the US-based NCIIA, I2V is a proven format for an entrepreneurial boot camp that maximizes learner retention.

Design School Bootcamp: Stanford's D School offers pedagogy that could be added to the curriculum, attracting students, faculty and community members alike.

These programmes all assume that most, if not all of the participants are growth-oriented. All can be presented with explicit focus on creative industries. They provide enormous opportunities to connect across campus and the community, to student, faculty and community member alike.

b) Rationale for the intervention

As noted earlier, the schools in this region are already moving toward a more constructivistic teaching model, led by Leipzig's SMILE which uses that model almost exclusively. These programmes build on that and reinforce the trend. They are inexpensive, yet powerful and have proven to be successful in many locales under widely differing circumstances (e.g. Start-up Weekend Cairo was held only 6 weeks after the regime change.) Moreover, they are attractive to sponsors, both government and private sector, and afford great opportunities for publicity.

These programmes also present opportunities for schools to collaborate and partner actively. Start-up Weekend Munich was supported by all four EXIST schools in Munich and Leipzig/Halle can do the same.

c) Relevance to Saxony & Saxony-Anhalt

This learning model is relevant to the region because it connects learners and schools across region, Germany, the EU, and across the world. Connecting the schools in the region and the entrepreneurial support organizations would seem long overdue, despite the barriers. However, these programmes also serve to connect the students and their schools (and their communities) to the broader entrepreneurial world.

1. **Independent Entrepreneurial Support Organizations:** Given how SMILE, Univations and Kreativmotor already blur the lines between university and community, these support organisations are ideal to deliver these programmes.

2. **Programmes That Leverage Existing Resources and People:** Given the scarcity of resources, especially human, these are all straightforward ways to extend the impact of existing programmes, especially by broadening participation by learners and by the entrepreneurial ecosystem.

3. **Applicable to Growth Entrepreneurship; Applicable to Creative Industries:** The region has placed a special emphasis on creative industries and to job creation (hence growth entrepreneurship). As noted, these programmes are especially supportive of growth and easily tailored for creative people. Consider again the programmes at Stanford and now Aalto where the lines between creative industries and others are increasingly blurred: Both the representative of Leipzig's Mayor and our hosts at the creative incubator pointed out, even a "non-creative" venture needs creative talent.

d) Reasons for success

These programmes are successful simply because they provide transformative learning opportunities by increasing the occurrence of deep cognitive changes toward the entrepreneurial mind-set by maximizing the immersion of learners in optimal learning situations (action/problem-based, peer support, expert mentoring, connections to ecosystem). These programmes have proven to be successful in different environments and with a wide range of participants.

In addition, these programmes do an excellent job of eliciting expertise from across the community and in most cases, institutions and student participants have access to global networks of experts.

e) Obstacles faced

Human resources are already stretched thin and there is simply little time available to scale up activities. The extracurricular nature of these programmes allows for students to take leadership (or community members) but at some point, one must compete for resources or at least attention of administrators. Another challenge is that partnering across schools is limited and it is therefore expected that uptake would be fairly slow.

f) Consideration for successful adoption in Saxony & Saxony-Anhalt

A great passion for entrepreneurship was observed across the region and the three schools. However, a formalized strategic intent was not. Championing from the top could be invaluable and this could be a way to develop explicit leadership.

g) Contact details

Global Entrepreneurship Week: Mark Marich mark@pfidc.org; www.UnleashingIdeas.org

Start-up Weekend: Franck Nouyrigat: Franck@startupweekend.org; www.startupweekend.org

Invention 2 Venture: www.invention2Venture.org

Lean Start-up Machine: Dr. Franziska Günzel (f.guenzel@googlemail.com) www.leanstartupmachine.com

Lean Launch Pad: www.SteveBlank.com (see also www.nsf.gov for "Innovation Corps")

Also *Lean SXSW*: Free LLP class on Udemy.com

Stanford's Educators Corner for exercises, videos and other curricular material [more resources at stvp.stanford.edu] plus the REE Europe conference. Tina Seelig (tseelig@stanford.edu) is also key contact for Stanford's Design School.

Learning Model 6: Students Are Our Secret Weapon

a) Description of the Approach

With autonomous student project teams, this model helps grow the ecosystem. This is not just about creating new businesses but is a good learning tool that is typically in a for-credit class. It is a powerful tool to connect students (and faculty and school itself) to the business community and the broader civic community. It is considered a best practice by many institutions (including funders) and can be implemented at little or no cost and they can be implemented in parallel with Learning Models 5 and 7.

b) Rationale for the intervention

The initiative provides a powerful constructivistic learning experience for students and provides them with an opportunity to demonstrate great value to ecosystem. The latter is also extremely important for the faculty and institution to help them build credibility for their work and programmes. In addition, this type of initiative is effective at building multilateral relationships among the partners and stakeholders in a local entrepreneurship ecosystem.

c) Relevance to Saxony & Saxony-Anhalt

This model is particularly useful for the region because it helps increase the visibility and credibility of the entrepreneurship programmes and builds better links between the institutions and the local ecosystem. It is also relevant because it can help take advantage of students in creative professions and can build links with creative industries. Moreover, the model can be used to support growth entrepreneurship.

d) Reasons for success

This learning model is successful because it provides valuable learning experience for students and the student projects have been largely successful at having a positive impact for clients. It is also effective at increasing visibility for institutions and entrepreneurship programmes within the community. This learning model is also successful because it can be implemented and scaled-up very quickly.

e) Obstacles faced

The region may face some obstacles in implementing this learning model. First, student teams and projects would be more easily organised through a formal, for-credit course because it provides a structure and incentives for student participation. Second, the model requires at least one instructor or facilitator with expertise in problem-based learning and extensive connections within the local entrepreneurship ecosystem and to local industry.

More broadly, this learning model faces some general obstacles. Consultants and other stakeholders in the local community may view student teams as unfair competitors and will lobby against student projects. On the contrary, the projects may be too successful and demand for student teams may exceed supply, creating challenges of project and student team allocation.

f) Consideration for successful adoption in Saxony & Saxony-Anhalt

To be successful in the region, this learning model would need support both from within the university and within the community. University administers and community leaders would need to agree to support these learning experiences and can play a key role by promotional role across campus and within the community and to help build the necessary links with entrepreneurship support organisations and other key stakeholders. Implementing this learning model would likely be easier if the institutions had an existing course mechanism to organise and structure the student projects.

g) Contact details

SBIDA: www.sbida.org **;**

ICSB/USASBE: www.icsb.org; www.usasbe.org

National University of Singapore is heavily engaged in Models 1 and 2; key contact there is programme director Poh Kam Wong and has ramped up their efforts in remarkably short time (including creative entrepreneurship). pohkam@nus.edu.sg

Learning Model 7: Ideas to Reality: Virtual Incubator/Accelerator

Taking the SBI (project) model to the next logical level, learners become actively involved in early stage venture development. For example, even undergraduate student teams have proven themselves as reliable in technology commercialization. Chalmers School of Entrepreneurship even uses the term "surrogate entrepreneurs." Regardless, this is a long-established learning model that simultaneously grows the entrepreneurial ecosystem.

a) Description of the Approach

Student teams are matched with early-stage ventures, even raw intellectual property, and support development of a proven business model and working prototypes. In other words, the students serve to demonstrate proof of concept sufficient for external financing. In some cases, the teams discover that proof of concept is not possible; in other cases, the ventures actually launch (and sometimes with the students as full co-founders).

Several critical success factors: (1) While students learn relevant knowledge and skills (often in a just-in-time format) they are coached and mentored explicitly to grow the entrepreneurial mind-set; (2) strong connections with the entrepreneurial community and the technology community; (3) prospective technologies (and inventors) are carefully vetted; (4) the technology assessment and business model development are carefully mentored by peers and experts. Three variations on this model to consider[1] are:

TechStars: Twice voted "best accelerator" in the world, these summer camps for start-ups work with prospective start-up teams then immerse them in developing their venture with expert (and peer) mentoring. There are a growing number of partner programmes, including Berlin.

Chalmers/Encubator: This is a two-year Masters programme in technology commercialization following the critical success factors above.(University of Texas has a similar programme, as do Babson College and other programmes, including a nascent programme at Aalto.)

Foundry: The University of Utah has a quasi-independent programme (arms-length from the school) that includes both students and community members. Foundry works with technologies drawn from across the community and seeks out participation by creative people. A Foundry spinoff has recently launched at the Turku School of Economics.

b) Rationale for the intervention

This learning model provides an unmatched learning experience for student entrepreneurs and improves ties between institutions and the community. More specifically, it addresses the need to improve technology transfer from universities and industry and increases the potential for job creation. Moreover, it supports existing strengths in the region such as the media centre in Halle and existing incubators.

[1] For two older versions, the appendix to chapter 4 of Gatewood and West (2009) describes two programmes from the USA, TEAMS (more technology assessment) and GAP (which pioneered the virtual accelerator model).

c) Relevance to Saxony & Saxony-Anhalt

The model is relevant to the region because there is untapped intellectual property at all three universities in the region and within large and medium-sized firms. Tapping into this would provide learning experiences for the entire entrepreneurship ecosystem and creates stronger links across the ecosystem. Moreover, there is an opportunity to build on and leverage existing programmes such as SMILE, Univations, or Kreativmotor.

d) Reasons for success

This model has proven success around the world and has thrived in all environments. It owes its success to the large number of experts that are available and interested in participating in these programmes. The model can be designed to meet local needs and to take advantage of existing skill-sets of students, faculty and local community members. Ventures developed within the initiatives feed directly into other support mechanisms (including incubators) and, for students, venture competitions.

e) Obstacles faced

The region faces a number of obstacles in implementing initiatives such as these. These initiatives all require a great deal of commitment from leaders within the university who are willing to support the initiatives and help them overcome opposition from within the community and the university itself. These leaders also need to be prepared to allocate human and financial resources to these initiatives, which will likely be a challenge in the region as human and financial resources are already stretched thinly. In addition, these initiatives need committed financial resources before any results are realized. A great deal of human resources will be needed to help organise events and this will require strong leadership.

f) Consideration for successful adoption in Saxony & Saxony-Anhalt

To be successful in the region, leadership from the university and from within the community is needed. This requires support from university administration and community leaders. It will also be important to ensure that the creative industries are appropriately engaged and they can be supportive by helping tailor initiatives to local needs and by supporting the programmes through active participation, which could include guest speakers and expert advice.

g) Contact details

Chalmers School of Entrepreneurship and Encubator: (http://www.entrepreneur.chalmers.se/home/technology-entrepreneurship/school-and-incubator-5391569 boo.edgar@gu.se ; mats.lundqvist@chalmers.se ; martin.lackeus@chalmers.se;

Foundry: http://business.utah.edu/node/1203/ http://business.utah.edu/foundry

usparkfoundry@gmail.com; rwuebker@business.utah.edu [plus Pekka.Stenholm@tse.fi for the new Turku programme]

TechStars: http://www.Techstars.org [Mr. David Cohen] or one of their European affiliate, e.g., Start-up Bootcamp Denmark [Mr. Alex Farcet] and currently Start-up Bootcamp Berlin which is just opening its doors for German start-ups. Saxony and Saxony-Anhalt could easily be next.

Aalto: Paula Kyro, head of entrepreneurship education paula.kyro@aalto.fi

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CHAPTER 4: COMPLEMENTING ENTREPRENEURSHIP EDUCATION WITH START-UP SUPPORT

4.1. Key issues

This chapter focuses on the start-up support services that are provided within the three universities reviewed. While a considerable amount of entrepreneurship education and business start-up support activities are provided in these universities, much of the start-up support is located outside of the universities through quasi-independent support organisations.

There are two key issues for the universities in Halle and Leipzig related to entrepreneurship support services. The first issue is whether the reliance on external entrepreneurship support organisations to deliver entrepreneurship education and business start-up support is an effective approach. It is challenging for bureaucratic organisations like universities to become deeply immersed in "outside" communities, but many of the most successful programmes at entrepreneurial development have faculty, staff and students that are broadly and deeply connected to the entrepreneurial ecosystem.

The second issue is whether entrepreneurs in creative industries require different support than traditional entrepreneurs. Given the needs of the creative industries, specialised support may be needed to help entrepreneurs start businesses and find markets for their goods and services. Entrepreneurs in creative industries may need different support and support may need to be delivered in a different way.

4.2. Business start-up support in universities

In the context of European Union Lisbon Strategy, universities have been considered the sources of new knowledge for building up knowledge society (Raivio, 2002). This creates new goals for universities, including increasing the role of the university in supporting entrepreneurship. This means supporting the acquisition of entrepreneurial skills and competences, as well as the development of an entrepreneurial mind-set among not only student, but professors, staff and the institution more generally.

Embedding entrepreneurship in universities requires linking the traditional roles of university, teaching and research to knowledge production and dissemination (Etzkowitz, 2004). It is therefore crucial for business start-up activities and support within universities to focus on building and improving linkages between the institution and society. This can occur through formal structures such as business incubators and technology parks, or through relationships built between staff, faculty, students and industry. These personal relationships are an important resource because they provide mentoring and coaching for student entrepreneurs, or facilitating access to networks and other business support services within the community.

A university's knowledge transfer function fulfils multiple roles (Mets, 2010b):

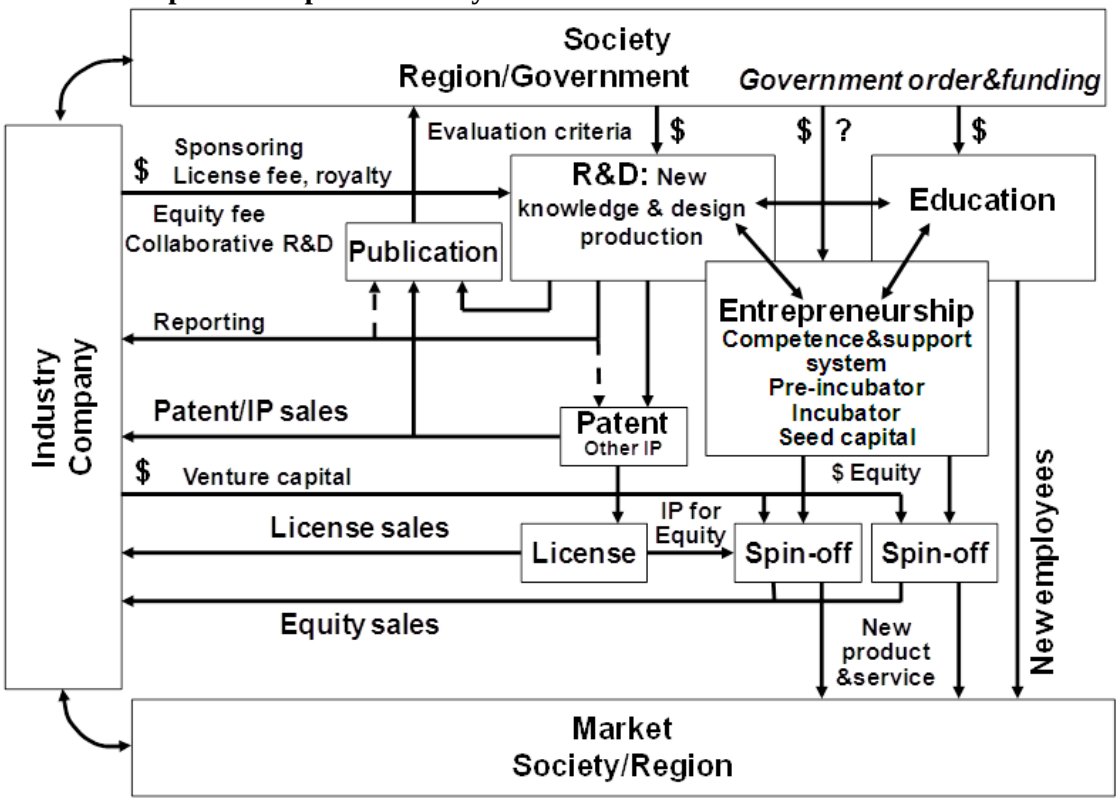
- Developing entrepreneurial attitudes amongst students, within region more generally, through education and outreach activities;
- Shaping entrepreneurial attitudes amongst university faculty and staff;

- Building links across different faculties and disciplines through an integrated knowledge and technology transfer system; and,

- Supporting and developing of university spin-off companies and student start-ups.

To fulfil the tasks noted above, universities can foster the creation of an entrepreneurial environment, which centres around building linkages within the university, implementing and connecting entrepreneurship between different domains and functions of the university, and externally through the universities roles in education, research, knowledge transfer and business start-up support. Key aspect of these relationships are illustrated in the Academia – Industry – Region (Government) (AIR) Framework illustrated in Figure 4.1.

Figure 4.1. Entrepreneurship in university AIR framework



Source: based on Mets 2010b

One critical issue in the AIR-relations model is the role of entrepreneurship has within a university and how it is integrated into education and support systems across all faculties. This can be accomplished broadly or in a targeted fashion that focuses on one element such as a research and development commercialization system. In the first case entrepreneurship becomes a part of education in most of the disciplines at university and has a key role in knowledge creation because it belongs to non-business and non-economic study programmes as an integral part of university education. In this case, entrepreneurship is not only academic study and research discipline, but a substantial backbone of the third mission of the university.

While the schema of university knowledge transfer system depicted in Figure 4.1 is based on a general understanding that the intellectual assets are transferred from university to society/industry are

largely related to results of applied research, this can be expanded to include the contributions that come from other university activities. This could include creative activities such as product development and design. This type of interdisciplinary collaboration creates new synergy effects not only on their own, but also as part of the research and education processes. For example, being a part of study process interdisciplinary student teams that work together with their supervisors and professors transfer new knowledge to each other.

This process of knowledge creation and transfer requires a specific infrastructure that supports and facilitates this type of collaboration and to feedback the outcomes into research and education processes. It is also critical that universities are capable of using and transferring this knowledge into local region to support its development.

One approach that universities use to accomplish this is through technology transfer offices. Having a technology transfer office provides universities with an opportunity to build direct links with industry and to generate revenue streams and income that can be used to support business start-ups through the licensing of intellectual property. Evidence from the United States indicates that American universities are able to cover approximately 3% of their R&D expenditures from revenue generated by licenses (Siegel et al, 2004).

Another approach is to improve links between industry and students through teaching and other learning relationships such as coaching and mentoring. These methods transfer knowledge in and out of the university and strengthen their links to the community.

Understanding the role of entrepreneurship in universities for the creative industries is less evident. As studies in art and creative industries are very practical, students need to acquire similar "real life" experience in speciality studies in business of their own field (Carey, Matlay, 2010). Participants at the Creative Enterprise Conference 2006 in the UK concluded that graduate entrepreneurs in creative industries would benefit more from enterprise education that is embedded throughout the studies rather than having an add-on programme (Carey and Naudin, 2006). Moreover, it was seen that the university role is to develop the "softer" side of entrepreneurship.

4.3. Presentation of Findings

Entrepreneurial universities should have a support infrastructure to facilitate entrepreneurship education and start-up support. This could include an entrepreneurship-dedicated structure within the university (e.g. chair, department, support centre), which coordinates and integrates internal entrepreneurship support and ensures viable cross-faculty collaboration. But other approaches have successfully externalised this infrastructure. Facilities for business incubation should either exist on the campus or assistance should be provided to help graduate entrepreneurs gain access to external facilities. There should also be close co-operation and referral between internal and external business start-up and entrepreneurship support organisations with clearly defined roles for each actor.

Entrepreneurial universities provide business start-up support for graduate entrepreneurs and these should be closely integrated with entrepreneurship education activities. Team building is facilitated by university staff and mentoring should be provided by professors and entrepreneurs. Access to private financing should be facilitated through networking and dedicated events, while entrepreneurship support in universities should be closely integrated into external business support partnerships and networks.

Strengths

Specialised start-up support is provided for creative industries

In the three universities visited in Halle and Leipzig, specialised support for the creative industries was visible. Univations (see Box 4.1) and Kreativmotor (see Box 4.2) are arms-length organisations from the academic structures at Martin Luther University. While Univations provides start-up support for all students, Kreativmotor focuses exclusively on supporting entrepreneurs that have already started their business in creative industries and have growth potential. The support provided by Kreativmotor includes consulting on strategic growth as well as the direct procurement of assignments, the provision of seminars and workshops on operational business skills that are tailored to the specific target groups, networking events and the facilitation of access to finance.

At Burg Giebichenstein University, Designhaus Halle (see Box 4.3) is a business incubator for the creative industries. It provides a special focus on design and serves as a communication and support platform for the design community in the region. The Designhaus Halle provides office and work space for creative start-ups and entrepreneurs in a co-working environment. It also provides networking events and networking events that help students connect with alumni and industry.

The region also has multiple support organisations that are fully independent of the universities that provide entrepreneurial learning opportunities and start-up support specifically for the creative industries. For example, Hoffmann and Partner (see Box 3.1 in Chapter 3 for more information) provide targeted supported for the creative industries with the Business Arte programme. Participants can receive grants of up to EUR 4800 and are also able to apply for a start-up loan of up to EUR 100 000. Another example is the Central German Multimedia Centre in Halle which provides premises to start-up in media industries.

This simultaneous loose-tight coupling is ideal for support organisations. If there is an iron law in designing an organization, it is that form must follow function. Bureaucratic entities often have rigid structures that cannot absorb or adapt to new functionalities. It is therefore an effective approach to use external organisations to facilitate the kind of deep cognitive change that is required to move toward an entrepreneurial mind-set, particularly when the goal is to support a specific activity such as the creative industries. External organisations are likely better placed to understand the particular challenges faced by graduate entrepreneurs in these industries and provide the necessary assistance.

Box 4.1. Univations, Martin Luther University Halle-Wittenberg

Description of the approach

Martin Luther University Halle-Wittenberg and the Univations GmbH Institut für Wissens- und Technologietransfer implement their strategy of providing holistic support for innovation and entrepreneurship at the university in the form of the Univations Gründerservice. The strategy received an award in the national EXIST IV "Gründungskultur – Die Gründerhochschule" (entrepreneurial culture - the entrepreneurial university) competition. The Univations Gründerservice sensitises students and researchers for entrepreneurial thinking and behaviour, develops practice-oriented frameworks for entrepreneurship learning and helps discover, develop and exploit innovation potential throughout the university. Start-ups are given intensive assistance to realise their goals and are actively supported in the search for start-up and growth finance. Potential entrepreneurs gain access to a national network of experts, mentors, investors and value adding partners. The University's senior management actively supports the activities; for example, all start-up related activities over the year are brought together as part of the University's theme year on start-ups and entrepreneurship, raising awareness and increasing acceptance amongst students and academics. The University also intends to incorporate business

start-ups and entrepreneurship as central elements in its mission statement.

The content provided by Univations Gründerservice is shaped by its mission to provide holistic and lifelong support to entrepreneurs, taking the specific stages in the personal life of the entrepreneur into account along with the development cycles of the enterprise. Integrating practitioners and companies into modules ensures that the programme is completely practice- and application-oriented. Subject- and industry-specific content is combined with interdisciplinary approaches. Academic start-ups' shortage of finance or lack of equity, particularly in this region, motivated an element in the practical support placing a focus on developing start-up and growth capital, particularly in the form of private and institutional venture capital.

Strategic areas of action:

- Raising awareness and communicating the importance of entrepreneurial spirit (in schools and universities).

- Practice-oriented teaching of entrepreneurial competences. Also interdisciplinary research on validating cause-and-effect relations in entrepreneurs' own approaches.

- Professional collection and differentiated evaluation of research results.

- Providing start-ups with practical support that is comprehensive, market-oriented and reflects their situation.

Rationale for the intervention

At the heart of the model is the concept of life-long learning, entailing different orientations towards different needs in different life phases (school, university and work) by means of early sensitisation, subject- and industry-specific support for start-ups, finance procurement and professional skills development. Despite Martin Luther University Halle-Wittenberg being known beyond the region as an entrepreneurial university promoting academic start-ups in Saxony-Anhalt, the concept has not yet fully permeated all the faculties, institutes and levels of administration at the University.

Relevance to the region

The structurally weak state of Saxony-Anhalt has suffered badly from a brain drain and a relatively low R&D ratio in the local economy, which generally consists of small companies. The model is intended to create a structural framework in which research-based start-ups can create high-value jobs and establish a healthy Mittelstand (medium-sized businesses).

Reasons for success

The model plugs into existing structures and contacts in the field of start-up promotion in Saxony-Anhalt and at Martin Luther University Halle-Wittenberg, using existing synergies and stakeholders. The combination of establishing a deep-rooted network at Martin Luther University Halle-Wittenberg and the model's market-oriented approach creates the ideal conditions for research-based start-ups to grow and position themselves in the economy. The modules offered are backed by a quality assurance system. The nationwide network of venture capital companies and Business Angels also offer finance and access to start-up and growth capital. The Univations GmbH Institut für Wissens- und Technologietransfer coordinates a range of projects and initiatives in such a way that synergies can be exploited, significantly raising the chances of long-term success for start-ups.

Obstacles faced

The challenge is to create a widespread, living culture of entrepreneurial thinking and behaviour among students and academics. Building on the existing elements of entrepreneurship education, more courses and content teaching entrepreneurial skills are to be anchored in regular teaching programmes as a compulsory elective subject. There are also plans to introduce a part-time master's degree course. The process is being supported and mediated by Martin Luther University Halle-Wittenberg's senior administration.

A further challenge is to set up a service point at the university for academics interested in marketing an

idea and/or setting up a company. One central task in this context is to establish incentive structures and a body of regulations to smoothen the path to market for the researchers. Last but not least, safeguarding the long-term viability of the strategy is also a challenge in view of the university's financial situation and the economic environment in the region. There is a need to develop business models which make the strategy more independent of public funding. In the Univations GmbH Institut für Wissens- und Technologietransfer, Martin Luther University Halle-Wittenberg has an expert partner for meeting these challenges.

Considerations for success in the region

The university's aim in following this strategy is to establish itself as the entrepreneurial university in the region and to project an image as a skilled and dependable partner in the development and support of research-based start-ups in the region.

To achieve this goal, the university can build on the marketing strategy that has been successfully implemented since 2004. The Univations brand has been established in the region with the help of funding from the Saxony-Anhalt Ministry for Science and Economic Affairs and co-financing from ESF, and stands for expertise in the field of start-ups and a nationwide network allowing contact with potential investors.

Contact details

Martin-Luther-University Halle-Wittenberg

Univations Gründerservice

Technologiepark Weinberg Campus

Weinbergweg 23

06120 Halle (Saale)

Germany

Contact persons:

Dr. Susanne Hübner

Coordination / Entrepreneurship education

E-Mail huebner@univations.de

Daniel Worch

Coordination / Finance and funding

E-Mail: worch@univations.de

www.gruendung.uni-halle.de

www.univations.de

Box 4.2. Kreativmotor, Martin Luther University Halle-Wittenberg

Description of the approach

Kreativmotor is a project supporting the growth of young high-potential companies throughout the creative industries in Saxony-Anhalt. The project is funded by the State of Saxony-Anhalt and the European Social Fund and has the goal of building on and expanding existing potential by developing entrepreneurial spirit, providing business advice and consulting, and by networking industry and academia. Since the project's establishment in June 2010, over 60 companies have been accepted into it and have received individual, problem-specific support. The project is also engaged in various events promoting the image of creative industries in the region and brings participants in different subsectors of an industry together in industry-specific round-table discussions.

The project was developed by the Univations GmbH Institut für Wissens- und Technologietransfer at Martin-Luther-University Halle-Wittenberg and continues to be coordinated by it as part of the long term strategy for promoting entrepreneurship in the region.

Rationale for the intervention

The creative industries are flourishing. More and more companies with businesses based on scalable revenue models are being established in this very important sector. Nonetheless, considerable potential remains and the creative sector is still characterized by unsteady employment, fluctuating demand, minimal wages and cut-throat competition. Among the reasons for this situation are the lack of professional marketing and growth strategies, and poor networking and lobby work.

Many of the young people interested in setting up a business do not think in terms of viable business models and complex market-relevant structures, and nor do many young companies. Instead, their strong creative drive tends to be much more of a motivator. In addition, the creative industries are extremely dynamic, and stakeholders in them are facing growing challenges:

- Radical economic and technological changes in many fields of creative work
- Constantly changing occupational fields and spheres of activity
- Intensifying international competition
- Increasing pressure to rationalise

Relevance to the region

On the internet platform www.kreativ-sachsen-anhalt.de run by Investitions- und Marketinggesellschaft Sachsen-Anhalt (IMG), the state of Saxony-Anhalt positions itself as "… a rising star among creative locations in Germany and Europe." The evidence is provided by the many international awards won by designers and film makers based in the state. The last concrete, state-wide surveys on earnings and employment and their development in the creative industries were carried out some time ago (see Kulturwirtschaftsbericht Sachsen-Anhalts 2006, Clusterpotentialanalyse 2008). However, studies on cultural and creative industries in the state are currently being carried out by the municipal economic development offices in Magdeburg and Halle (Saale).

Depending on educational emphasis, location policy and regional funding available, different specialisations and creative scenes have developed in each of the Saxony-Anhalt's 3 largest cities; Magdeburg, Halle and Dessau-Roßlau. Magdeburg is dominated by technology and science-oriented service providers centred on Otto-von-Guericke University and Magdeburg-Stendal University of Applied Sciences, who are setting standards beyond Saxony-Anhalt in areas such as usability and product, software and web development. Magdeburg, which has a rich industrial tradition of engineering, also offers many points of connection and overlap for the creative

industries, and these need to be activated more.

Halle (Saale) is the most important centre of broadcasting in central Germany and as such is seen as Saxony-Anhalt's media centre. The Mitteldeutsche Multimediazentrum (MMZ), MDR (regional broadcaster), Mitteldeutsche Druck- und Verlagshaus (publisher of Saxony-Anhalt's main daily newspaper) and other important film and broadcast production companies are based in Halle. A second important area is the IT industry. Around 75 percent of the approximately 190 IT/software companies in the city are active in the core branches of IT consulting, software development and digital media. The third pillar of the creative industries in Halle is formed by the design/advertising industries and the art market. Thanks to the courses at Burg Giebichenstein Kunsthochschule Halle, a large number of designers, graphic artists, photographers, interior designers, painters and sculptors enter the job market every year.

The creative industries overall in Saxony-Anhalt have developed into a significant economic factor in a structurally weak region, as they have in Germany as a whole. The structural changes that the state needs to undergo to become a service-oriented location have not yet been concluded and still need targeted support. The structural characteristics of the market in Saxony-Anhalt and factors affecting the individual creative industries, taken in combination with the economic significance of the industries together, mean that it is vital to implement dedicated approaches to supporting, advising and coaching high-potential enterprises. This is particularly true for companies in the immediate post-start-up phase, as it is then that decisions are made which can be of decisive importance for the growth of the company.

Reasons for success

Independent evaluation of the project has shown that participating creative enterprises see Kreativmotor as an important strategic partner in their growth process. The heterogeneous nature of creative industries means that support has to be as individual as possible; the very different business models found in the different industries cannot be addressed using standardised off-the-shelf advice and support concepts, and every participating company requires an individual approach. Another key to the project's success is its networking with the creative industries themselves, where the project is seen as an important element in the creative scene in Saxony-Anhalt. In addition, the project's proximity to Univations and to Martin Luther University Halle-Wittenberg facilitates access to industry and academia. The result is that Kreativmotor is in a position to act as impulse giver, moderator and mediator, opening distribution channels for the creative industries and increasing competitiveness of local companies by facilitating cooperation with academia.

Considerations for success in the region

The project is active throughout the state of Saxony-Anhalt. In the first two years of its existence, the project was largely concentrated in the cities of Halle (Saale) and Magdeburg, each of which had a project office. The intention is to extend the project's presence to other centres throughout the state, and also to expand nationwide networks in industry, academia and the creative industries. The approach is essentially transferable to other regions in other states.

Obstacles faced

One of the central challenges facing the project is to make it more independent of external finance provided by public funding. The mid- to long-term goal is to ensure the sustainability of the project on the basis of a self-supporting business model.

Contact details

Univations GmbH

Institut für Wissens- und Technologietransfer Sachsen-Anhalt

Projekt Kreativmotor

Weinbergweg 23

06120 Halle (Saale)

Germany

Contact persons:

David Blunck (Project manager)

blunck@kreativmotor.de

Bert-Moren Arnicke (Project manager)

arnicke@kreativmotor.de

Anne-Janine Freund (Project manager)

freund@kreativmotor.de

Internet: www.kreativmotor.de

Box 4.3. Designhaus Halle, Burg Giebichenstein University

Description of the approach

Designhaus Halle is the start-up centre of Burg Giebichenstein Kunsthochschule Halle. It is a support centre for university spin-offs and other start-ups in different design-related industries, applied arts and other fields within the creative industries, and offers office space at affordable prices combined with optimal start-up conditions in the interdisciplinary environment of Campus Design.

Designhaus Halle brings together design and business, art and market, teaching and professional life. It helps students as they transfer from Burg Giebichenstein University to professional life.

The Designhaus Halle has a career service that provides advice for students and graduates to support start-ups or help them during their first career steps, whether as a freelancer or as an employee. It also offers professional key qualifications in workshops, seminars and lectures. Furthermore, it provides part-time, fee-based training for creative and idea industries, for SMEs in manufacturing industries and for the service sector in the framework of the national educational strategy on lifelong learning.

German and international experts act as mentors in an industry-specific programme which supports young designers as they position themselves in their market segment. Furthermore, Designhaus Halle helps graduates and students to find projects, obtain commissions and find jobs or internships.

As a forum for events and communication, Designhaus Halle aims to raise public awareness of design-

relevant topics and their needs. It stages lectures, exhibitions and company presentations, organises networking meetings and contact fairs, and hosts BurgAlmuni network events.

Designhaus Halle is part of Burg Giebichenstein University of Arts and Design and is managed by the University's Transferzentrum. The transfer centre helps graduates looking for jobs and also provides academic skills development for managers of SMEs in Saxony-Anhalt. Funding is provided by ESF and the state of Saxony-Anhalt and is safeguarded until the end of 2013 as part of the operational programme.

Rationale for the intervention

This model promotes and supports entry into and start-ups already in the creative industries, especially the design industry. It aims to strengthen the creative industries in Saxony-Anhalt through logistic support, career counselling, entrepreneurship education, training and networking.

By providing start-up support, Burg Giebichenstein wants to be seen as a career partner for its graduates even after graduation. In return, the graduates' skills and expertise can be kept accessible to the university.

Relevance to the Region

The model for a start-up centre for creative people is relevant since Saxony-Anhalt is concerned to hold on to its skilled workers. In order to strengthen Saxony-Anhalt as a business location, the development of the regional creative industries is high on the political agenda, with a special focus on start-ups and networking with other industries.

Reasons for success

A disproportionate ratio of artists and designers have the goal of working freelance after graduation and so the students/graduates have a need for support. The facilities offered by Designhaus Halle are unique because in addition to infrastructure (e.g. offices, meeting room and workshops), a wide range of services is also offered.

Obstacles faced

Problem of financing to ensure sustainability. The structural weakness of Saxony-Anhalt still means that demand and support from business is weak.

Considerations for success in the region

Raising awareness of design issues among business people, stronger networking and targeted support for start-ups in the design industry will increase the chances of success for the start-ups.

Contact details

Doris Sossenheimer

E-Mail: sossenheimer@burg-halle.de

www.designhaushalle.de

Students in creative industries in Leipzig and Halle also have access to specific business competitions for creative industries. For examples, the Saxon State Design Awards provide EUR 50 000 in three categories to support graduate entrepreneurs in creative industries: product design, communication design and young design. Start-ups that have already introduced products, services and communication design at the market can apply for the first two categories, while the young design category is for students and recent graduates.

This support is also reflected by the local government in Leipzig, which has established a contact point for the creative industries ("Kontaktstelle Kreativwirtschaft"). The role of this contact point is to strengthen the competitive position of creative companies in Leipzig by providing support that includes information provision on municipal, federal and national support, promoting networks and acting as an interface between business and government. This position is indicative of local government support for the creative industries.

Furthermore, Designers' Open is an international design festival that takes place in Leipzig. It was conceived and developed in a study by the City of Leipzig and the University of Leipzig, including SMILE, as a method to facilitate networking, marketing and procurement of design and design services in Leipzig. In addition to the festival, a website is maintained by a network of entrepreneurship coaches and business experts to promote young entrepreneurs, support institutions and other business competitions and events.

Entrepreneurship education activities are integrated with start-up support

The two classical universities, the University of Leipzig and Martin Luther University, each take a different approach to entrepreneurship education. The University of Leipzig uses SMILE to provide entrepreneurship learning and start-up support. Launched in 2006, SMILE is a collaborative project of the University of Leipzig, Leipzig Graduate School and the College of Engineering, Business and Culture in Leipzig, the Helmholtz Centre for Environmental Research (UFZ) and the AKAD University of Leipzig. The aim of SMILE is to support the personal development of the students and their entrepreneurship projects through the provision of entrepreneurship training that is based on an approach that allows students to construct their owning learning experiences and apply them to their own context. In this sense, the learning experience and start-up support are closely linked because the student is supported in learning through their own experience with the use of workshops and seminars, but relying heavily on coaching for an individual learning experience.

Martin Luther University takes a different approach. It provides formal, for-credit entrepreneurship courses and is increasingly embedding entrepreneurship education in the existing curricula. These courses are complemented by Univations which provides support services including technology transfer, entrepreneurship support, financing, research and training. Univations, along with Kreativmotor, also provides start-up support to students at Burg Giebichenstein University, complementing the university's other start-up support and knowledge transfer services.

At Burg Giebichenstein University, the entrepreneurship support infrastructure is primarily supported through the Technology Transfer Centre and Designhaus Halle. Workshops and seminars are offered through Designhaus Halle which also provides incubation and other start-up support. This dual function of Designhaus Halle is important because students in creative industries need support that is geared towards the needs of their products and markets, which can be very different for those in design fields.

Access to finance is facilitated

Facilitating access to finance for student entrepreneurs is a strong aspect of the available business start-up support in Halle and Leipzig. However, there appears to be a low take-up rate for the majority of these funding sources. This may be explained by the nature of entrepreneurs in creative industries and the type of work that they do. Often businesses in creative industries require little capital and

therefore there is not a significant need to seek external funding. Student interviews confirmed this but also revealed that there are students desperately seeking funding.

One source of funding for start-ups by graduate entrepreneurs is federal grants. Students can access the EXIST Business Start-Up Grant, which covers living expenses up to EUR 800 to 2500 per month for up to one year, as well as some other expenses such as up to EUR 10 000 for equipment. However, this grant does not appear to be widely used: between 2007 and 2011, 9 applications were made and there were 5 approvals.

An important source of finance is the Investforum Sachsen-Anhalt (Invest Forum Saxony-Anhalt) which has a close relationship with Univations. This initiative provides support for start-ups and entrepreneurs looking for capital, develops individual financing concepts and organises (matching) events to find suitable financing partners.

Other support organisations such as Kreativmotor also provide access to a pre-seed funding forum and creative entrepreneurs participating in courses at Hoffmann and Partners can receive grants of up to EUR 4 800.

There are relatively few direct capital providers in the Halle and Leipzig. However, there are a number of networking events that bring local funders together with students and financers from other regions are also often brought in. As one of the most active support organisations, SMILE organizes networks and events to facilitate start-up funding. One example is a business plan competition that is organised with the Entrepreneurship office of the city of Leipzig and Saving Bank in Leipzig and awards up to EUR 8500. In addition, SMILE also organises LIFE, which is an ideas competition for business start-ups.

Another source of funding for entrepreneurs in creative industries is the ERP Start-up Loan. This is available to entrepreneurs that have been on the market for less than three years and they can receive a loan of up to EUR 100 000. However, this source of funding also does not appear to be widely used.

Another business competition is futureSAX, which support innovative business start-ups with growth potential. The futureSAX competition is complemented seminars and workshops on the development of a business plan. It also acts a network for innovative businesses in Saxony. The network includes financers, entrepreneurs, universities and research institutions.

Larger loans are also available in the region, often intended for multimedia projects that require more funding. The loans are provided by IB ProMi and the MDM Programme. Larger amounts of funds can also be accessed through venture capital investments and business angel investors, which are facilitated and managed by futureSAX, ego.-BUSINESS, Univations and other regional development institutions.

Challenges

More emphasis on growth and sustainability

Nearly all of the start-up support services provided by the three universities focus on the early stages of business start-up. More attention is needed on business development and growth as nearly all of the start-up support ends at business start-up. Kreativmotor is the only entrepreneurship support organisation that explicitly aims to help businesses develop and grow.

Supporting the development and growth of graduate entrepreneurs in creative industries is challenging. Most graduate entrepreneurs end up working as self-employed freelancers and do not aspire to grow and hire employees. It is therefore important for start-up support services to foster and develop growth aspirations within these entrepreneurs and then follow this with targeted support to help them grow.

Encouraging business growth is important for the local economy as unemployment continues to be an issue. Providing more support services for businesses that seek to grow, such as strategic planning and human resource management, will help more businesses grow and hire employees. This should help retain young people in the region after graduation which is important for the development of the local economy.

Expand mentoring support

While some mentoring support is available from professors and entrepreneurs, this is not a strong element of the business start-up support provided by the universities and support organisations in the region. Mentoring is important for graduate entrepreneurs in creative industries because it provides targeted support from other professionals from creative fields who understand the particular challenges faced in these industries. For example, products are driven by the entrepreneur rather than the market in many creative industries and the challenge therefore lies in finding a market for the product. Mentors can help expand a young entrepreneur's network which can be important for finding partners and future customers.

Alumni are often used by entrepreneurial universities to mentor students but all three of the reviewed universities could do more to make better use of their alumni. Alumni are used in the teaching and coaching provided at Martin Luther University and SMILE but their involvement could be expanded. Burg Giebichenstein University is undertaking efforts to introduce a new system to maintain connections with alumni. Initial steps include a survey on their post-graduation activities and plans are to hold bi-annual meetings and alumni events. This will be an important resource that can support entrepreneurship education and start-up support.

At Martin Luther University Halle-Wittenberg, mentoring support is provided by a few key faculty members, delivered through Univations. This support is intended to help student entrepreneurs move from the classroom into industry and still developing. There are plans at Univations to increase the use of entrepreneurs to coach and mentor students.

SMILE has a team that includes professors, consultants and business coaches and students are able to access coaching and mentoring services if they attend training. While there is sufficient capacity to meet the current demand, there is scope to expand the mentoring offering by increasing links with alumni and other members of the creative industries. Professors involved in SMILE do so by their own account and do not receive any rewards for their participation in this initiative. An incentive system could encourage more engagement from other university staff, alumni, and professionals to work with SMILE to provide more mentoring.

Some mentoring is available from the faculty at Burg Giebichenstein University, but this offering is not yet well-developed. While the Technology Transfer Centre is a potential location for a mentoring programme, much of the support provided focuses on the very early stages of business development. The Transfer Centre is operated by four employees, but none of them specializes in

entrepreneurship (business) development. However, it is encouraging that the centre's plans include the development of mentoring and collaboration schemes that will incorporate alumni.

There were plans to launch a mentoring programme at Burg Giebichenstein University in May 2012. The programme "Mentoring for Artists and Designers" aims to bring students and experienced entrepreneurs together. Young artists and designers who intend to start a business or who have started a business will have the chance to work with and learn from experts and gain access to their networks. Regular meetings between mentors and mentees are intended to promote the mentees' professional careers, to develop their professional standing, to introduce them to the national and the international market and, eventually, to create jobs.

Facilitate more team building

Team building is an important entrepreneurship skill and is especially important for entrepreneurs in creative industries who will likely work as freelance workers on short-term project. Within the universities, team building and collaborative activities are based on joint projects with students but these opportunities are largely driven by individual students' initiative. Special efforts from faculty to facilitate and encourage interdisciplinary entrepreneurship projects and team building activities appeared to be rare at all three universities and this was confirmed through student interviews.

Similarly, many of the external support organisations in the region do not facilitate team building through project work or co-learning experiences. Most of the services delivered support targeted to individuals and specific projects.

The lack of support for team building at the universities and other support organisations is an obstacle to further development of entrepreneurship in support because this core entrepreneurship competency is largely unaddressed. Students would benefit greatly from increased project work to provide them with experience at building networks and developing human relationships that are important for maintain customer and supplier relations. This is important for graduate entrepreneurs in creative industries because they would benefit from experience working on multidisciplinary projects which can open them up to new opportunities for collaborative work in the marketplace. Team building projects are also a good start for building networks of partners, suppliers and customers that will be needed for those that pursue their creative projects as a freelancer.

4.4. Recommendations

The universities visited in Halle and Leipzig provide a great deal of start-up support, largely through their relationships with external support organisations. This appears to work effectively for those in creative industries because graduate entrepreneurs are able to receive targeted support from specialised organisations to help them overcome the challenges faced in their own niche within creative industries. At the same time, there is potential for the entire entrepreneurship ecosystem to go further in its support for graduate entrepreneurs in creative industries. It is now time for the universities to convert this potential into action and become a significant local driver of entrepreneurship and economic development. It is recommended that the universities:

1. **Create more interdisciplinary and trans-disciplinary projects and environments**. This will help build and strengthen links between students and academic staff from different faculties into interdisciplinary creative teams for more collaboration with industry and regional (and wider) community. See Learning Models 8 and 9 for examples of good practices.

2. **Increase the mentoring capacity.** This would help provide more students with an experiential learning experience and can help increase ties between the universities and industry. Capacity can be improved by providing incentives for faculty and staff to be more involved and can reward them for their efforts. In addition, the universities can improve networking programmes that create links amongst students entrepreneurs at their institutions, but also with industry.

3. **Widen entrepreneurship education amongst students at the graduate level.** Providing specialised entrepreneurship training at the graduate level will help attract more resources for entrepreneurship on campuses and within the community. This will help expand the existing support infrastructure by increasing the number of facilities available (e.g. pre-incubators) and by bringing more experts into the region because graduate students themselves can be an important resource. See Learning Model 10 for a good practice example.

4. **Expand existing start-up support.** The current support offers emphasise start-up and early stages of business development, but there are few offerings that aim to help graduate entrepreneurs overcome critical thresholds during business development and growth which contributes to ensuring longer term survival and business development. Graduate entrepreneurs who do not only face the usual liabilities of newness and smallness, but frequently bring less working experience and networks to their business, would benefit from support focused on coaching them not only during the immediate years following the business start, but also during situations where the business faces, for example, a growth-related crisis.

5. **Provide tailored support for high-potential graduate businesses**. Tailored support refers to offering support for high-potential graduate businesses in creative industries. For example, this includes, but is not limited to the software industry. This requires better links between research at HEI and entrepreneurship activities as well as the above recommended better integration of internal and external support offers. In order to enhance research-entrepreneurship links a service could be introduced within incubators to help students, graduates and teachers at HEIs to think about the commercialisation potential of their creative projects. This would promote the idea of high-potential, while external support providers could offer tailored training, coaching and mentoring support. High-potential graduate businesses would also need specific financial support and could include venture capital or business angels.

Learning Model 8. Entrepreneurship Home® for Young People

a) Description of the Approach

The philosophy and experience of the project "Entrepreneurship Home for Young People" is derived from the Intotalo Entrepreneurship Training Centre in Kajaani, Finland (http://www.intotalo.fi). During the project the vitality of the idea in the Estonian conditions was tested and the model of such kind of youth entrepreneurship training centre was adapted for Estonian conditions. The target group is (unemployed) 16-24 years old people, who had finished their studies but had not yet found a job.

The "Entrepreneurship Home for Young People" model of learning combines these theories and applies them to its own learning environment, where one goal is to help students grow into entrepreneurs and professionals of marketing. The learning process of the project contains mainly of three methods: Learning by doing, Kolb's learning cycle and Dialogue. Learning by doing method and Kolb's learning cycle are quite close to problem-based learning method, where pupils learn by applying the subject to be learnt to practical problems. After recognizing a problem, the students look for various kinds of solutions to it and then evaluate the effects to those solutions. While implementing projects, the students use textbooks and other sources, and previous experiences of their own, or those of other teams to find solutions to the challenges and problems they encounter.

The outcome of the one-year period of collaborative (and team) learning were more than five new businesses, and same number of students' projects in 2008-2009. The project was repeated in the three year period with similar results, Entrepreneurship Home® as teaching/learning method is implemented at regular courses at Viljandi Culture Academy of the University of Tartu, Estonia.

b) Rationale for the intervention

The "Entrepreneurship Home" (similar to Open Lab) model/approach creates positive attitudes towards working in interdisciplinary teams to solve "real life" problems. The approach uses a variety of learning methods, providing students with practical experience as well as theoretical knowledge. This will prepare them to be more self-confident to solve problems in a work environment by being entrepreneurial.

c) Relevance to Saxony & Saxony-Anhalt

The model of "Entrepreneurship Home" (EH) is applicable for interdisciplinary (students') teams from very different specialties/schools. The universities in Halle and Leipzig can do more to facilitate team work, particularly across different disciplines of study.

d) Reasons for success

The theoretical background of this method uses aspects of several theories (i.e. Social Constructive Learning concept, Humanistic Learning concept and Co-operative Learning) and complements this learning with practical applications.

e) Obstacles faced

This principal obstacle for this approach is rooted in the mono-disciplinary funding systems of universities that separate budgets for different academic units. It can therefore be difficult to achieve the level of co-operation needed across faculties.

f) Contact details

Mrs. Mervi Raudsaar, +372 737 6339, mervi.raudsaar@ut.ee

Narva Rd. 4, EE51009, Tartu, Estonia

Faculty of Economics and Business Administration, University of Tartu

Learning Model 9. Outcomes model of entrepreneurial curricula for non-economic specialities

a) Description of the Approach

The goal of entrepreneurial curricula is developing knowledge, practical skills and attitudes via entrepreneurial learning process based studies. The main method is an entrepreneurial process-based approach to training among non-economic specialties, known as "learning by doing" method (Mets, 2010a).

After the first level training (4-6 ECTS) Student is able to:

- Evaluate options as entrepreneur and/or employee;
- Find, create, analyse and communicate business and project idea;
- Analyse and plan own entrepreneurial process, its pre-qualifications and components, and ethically act as entrepreneur;
- Understand entrepreneurship environment, including legislation;
- Implement innovation processes in own specialty projects, incl. product/service development and protection of intellectual property (IP).

After advanced level training (4-6 ECTS) Student is able to:

- Analyse the role of own business/economic sector and linkages in societal value creation;
- Manage own (professional) start-up/SME (incl. investments, funds, ideas, IP, team, project) strategically, incl. in international environment;
- Compile and communicate own professional innovation and/or business project/plan.

The first level training is recommended for bachelor and advanced level for master programmes of non-economic specialties. In the applied higher education system combination of both study levels is suggested.

b) Rationale for the intervention

Implementation of this model in designing training programme for regular curricula creates clearer understanding how to develop entrepreneurial skills, experience and attitudes to work in teams with real life problems amongst young people. This increases individual's self-confidence and increases their ability to solve problems entrepreneurially.

c) Relevance to Saxony & Saxony-Anhalt

The model of curricula is applicable because formal for-credit courses in entrepreneurship in the regions of Halle and Leipzig, appearing only at Martin Luther University.

d) Consideration for successful adoption in Saxony & Saxony-Anhalt

The model can be used as example for designing regular learning/training courses for enterprise development among students.

f) Contact details

Prof. Tõnis Mets, +372 737 6369, tonis.mets@ut.ee

Narva Rd. 4, EE51009, Tartu, Estonia

Faculty of Economics and Business Administration, University of Tartu

Learning Model 10. Master programme in entrepreneurship and technology management

a) Description of the Approach

Master programme in entrepreneurship and technology management (ETM) was launched in 2002 as "open university" programme for MBA at the University of Tartu, Estonia (see also: Andrijevskaja, Mets, 2008). The need for the programme rose from the real life, as for that time quite many new high-tech companies were founded in Estonia: 25 in biotech and 350-400 in ICT sector. The managers of high-tech companies and other SMEs as well as employees of public sector responsible for regional development and entrepreneurship in Estonia were good target group for that specialization. Mission of the programme was formulated: "it aims at raising the entrepreneurial culture in the academic community" and to "contribute to the enlargement of the business platform in Estonia by breeding a new generation of entrepreneurs, founders of entrepreneurial growth company, as well as of intrapreneurs – that is, employees with an entrepreneurial mind-set" (University of Tartu, 2001). Launching the ETM programme was pioneering initiative in the Baltic States, but it was quite novel for other neighbouring countries also.

From the beginning, a wide range of international experts from the International Association of Science Parks were involved. Lecturers came from the Netherlands (Zernike Group), USA (Michigan University), and Estonia: Tallinn University of Technology and different faculties of home university. Later professors came also from Italy (University of Sannio) and Sweden (Jönköping University and University of Gothenburg). ETM has always been an interdisciplinary programme covering different entrepreneurship and innovation management and policy fields, marketing and product development, intellectual property rights (IPR), financing, internationalization of business, quality management, management of innovative teams, etc., and for electives – introductions into different modern technologies. Since 2008, two specializations branches for ETM were introduced: technology management and entrepreneurship pedagogy. The entrepreneurship pedagogy specialization was targeted on teachers of schools for entrepreneurship and enterprise development at education system generally.

b) Rationale for the intervention

Master programme ETM combines professional (frequently mono-disciplinary) competencies of students with entrepreneurial inter-disciplinary development linking students from technology and business with other fields, including art/design and law and pedagogy, etc. The programme meets the needs of society with less developed industry and prepares graduates better to meet conditions for knowledge-based (new) economy (society).

c) Relevance to Saxony & Saxony-Anhalt

The Halle and Leipzig regions, as result of deep economic restructuring in last 20 years, have no big industry with wide R&D functions. Therefore the focus of universities on SMEs and entrepreneurship especially is vital for the region. The ETM programme is targeted to creation/development of new SMEs on professional level.

d) Reasons for success

Formal education programmes can help attract resources for entrepreneurship. The international collaboration of this approach helped increase the knowledge in the region and was crucial in developing an entrepreneurial culture.

e) Obstacles faced

One obstacle could be absence of academic research programmes in entrepreneurship and academic units or research chairs in entrepreneurship in the three universities.

f) Consideration for successful adoption in Saxony & Saxony-Anhalt

Adopting this programme requires strong international linkages and may require the universities in Halle and Leipzig to develop new relationships. Martin Luther University Halle-Wittenberg is already preparing a master programme in the field meeting the needs of the region and combining competencies of different fields embedded already in the region.

g) Contact details

Mrs. Anne Reino, PhD, Programme manager, +372 737 6329, anne.reino@ut.ee.

Narva Rd. 4, EE51009, Tartu, Estonia

Faculty of Economics and Business Administration, University of Tartu

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CHAPTER 5: CONCLUSIONS

The three universities examined in this study, Martin Luther University Halle-Wittenberg, the Burg Giebichenstein University of Art and Design and the University of Leipzig, all contribute significantly to the local economies. All three institutions have embraced entrepreneurship and offer entrepreneurship education and start-up support activities, and many of these activities are undertaken in cooperation with other local support organisations. Moreover, there is an explicit aim to support graduate entrepreneurs in creative industries.

While some of the entrepreneurship education and start-up offerings are truly cutting edge, there is room for improvement across the entrepreneurship support system within the universities. It is recommended that the following four actions could be taken as part of an action plan going forward:

1. Develop a formal long-term strategy for entrepreneurship in creative industries

2. Broaden support offering to encourage and support growth

3. Take learning to the "next level"

4. Raise awareness of programmes across campuses and within the community

5.1. Develop a formal long-term strategy for entrepreneurship in creative industries in the region

Entrepreneurship education and start-up support has developed and evolved in each of the three universities in different ways. Many good learning and start-up support activities are offered and each programme is at or near its current capacity to deliver education and services to students. Therefore, it is an appropriate time to consider how the different programmes have evolved and how they can continue to grow and improve in the future to provide even more support to graduate entrepreneurs in the future.

Each university has taken a different approach to the provision of entrepreneurship education and these offering appear to be driven by the philosophical approaches of the key individuals involved. The advantage of this approach is that students can access a wide variety of learning experiences and support services through the universities and their partner organizations. Much success has been achieved to date but growing and improving these offerings will likely require additional university support, additional resources, more coordination between universities and organizations, and a more formal strategy to facilitate a dialog on what entrepreneurship means to the region and the roles of universities and other support organisations. A formal strategy should also define objectives for entrepreneurship education and start-up support and outline how the objectives will be reached. Such a strategy could be used to highlight the desire to support entrepreneurs in creative industries. This will give the universities some guiding principles as their entrepreneurship programmes evolve and signal a commitment to helping creative industries grow in Saxony and Saxony-Anhalt.

Developing a formal long-term strategy will also strengthen coordination of entrepreneurship education and start-up support activities within each university and between the universities as some of the support programmes serve the region rather than a specific institution. It will also be important to consider the role of external stakeholders and the university could use the process of developing a strategy to engage with all stakeholders and define roles for each and how they will interact and support graduate entrepreneurs. This coordination will improve stakeholder knowledge of each other and should lead to an improved referral system which will make the entire support system more effective.

One key element that the universities should address in the long-term strategy is funding. Each institution relies very heavily on public funding and while this provides short-term stability for all projects, there is an element of risk in the future. If funding were reduced or eliminated, it is likely that entrepreneurship education and start-up support in the three universities would be greatly impacted. A formal strategy for entrepreneurship education would be a good first step to begin a dialog about identifying and pursuing alternative funding streams. Moreover, formal written strategic documents would be useful evidence to demonstrate university plans and objectives to potential private sector funding streams.

An important first step in developing a formal high level strategy for entrepreneurship education and start-up support is to improve the knowledge and understanding of current offerings. While the majority of projects and programmes had a very good awareness of its activities, the impact of the education and support services in the medium and long-term is not well understood. Each university should improve the monitoring and evaluation of entrepreneurship education and start-up support activities. It particular, they should go beyond the collection of basic information on the number of participants and number of start-up to use more sophisticated tracking of student businesses, including record keeping after graduation and tracking growth of student businesses. This will provide more information on the strengths and weaknesses of current offerings which will be helpful in setting objectives in a long-term strategy.

5.2. Broaden support offering to encourage and support growth

Many of the entrepreneurship education and start-up supports provided by the three universities aim to develop an entrepreneurial mind-set and to deliver skills and competences needed for business start-up. Success has been achieved and it is now time to broaden the support offerings to increase the focus on business development and growth after start-up. Creative industries are growing in Halle and Leipzig and it will be important to keep graduates in the region to sustain the development of these industries and to create jobs for others.

While Kreativmotor is one example of a project that aims to help graduate entrepreneurs develop and grow their businesses to create jobs, much more support is needed in the region to promote growth. Shifting the focus to “growth entrepreneurship” starts with the development of an entrepreneurial mind-set through the education activities. Students in creative industries need to be more aware that as freelancers, their growth potential is not limited to self-employment and moreover, they can work together in teams on larger, short-term projects. Increasing the amount of support for growth-oriented businesses will require some additional resources. Alumni could be used as a free or low-cost option, but it is likely that universities will need to provide incentives for more staff to staff become involved. As already noted, successful approaches include reducing teaching responsibilities or providing additional workspace for project work. Another option could be for universities to provide sabbaticals for professors to pursue growth oriented businesses and pay them half of their salary while on leave. To be effective at promoting growth among students, a requirement would be needed for professors to work with student entrepreneurs as mentors during this sabbatical. This

approach would provide a strong incentive for professors to become involved and would also send a strong signal to the community that the university supports and encourages growth oriented entrepreneurship.

5.3. Take learning to the next level

Entrepreneurship learning activities in Halle and Leipzig varied greatly in their approaches and differences in quality were noticeable. Many of the formal courses provided by the universities and some of the partner organizations used traditional learning methods that need to be updated to reflect current pedagogies. While some skills and information can be imparted through lectures and text book learning, many of the core skills needed by entrepreneurs such as strategic thinking, the ability to deal with challenges and uncertainties and ability to co-operate for success with others are better learned through experience.

Increasing the use of "live" learning models and the constructivistic approaches used by SMILE would greatly improve the learning experience of students because it offers them an opportunity to learn by doing. A number of learning models of been provided in Chapter 3 as examples of initiatives that can be incorporated into existing training activities. Some of these modules are short-term projects that have proven to be successful, such as Start-up Weekends. Initiatives like this can be introduced and adapted to the needs of students in creative industries.

The adoption of these teaching methods can also help raise awareness of the entrepreneurship education and start-up support activities across within the student body and community. Moreover, these methods can improve collaboration and strengthen linkages with the private sector.

5.4. Raise awareness of programmes across campuses and within the community

While a considerable amount of entrepreneurship education and support activities occur with different faculties at the three universities, more can be done to raise awareness of these actions. There is a need to raise awareness both within the university and within the community.

Increasing awareness of, and exposure to, entrepreneurship education and start-up support within the student body is important to grow the entrepreneurial culture within the universities. While more students receiving entrepreneurship education may not lead to more successful business start-ups, students will benefit from entrepreneurship education because they will learn skills that make them more employable. Increasing the visibility of entrepreneurship in universities can be accomplished through offering for-credit courses in the curricula and this may appeal to many students because it offers a reward for participating in entrepreneurship courses. Reaching more students can also be achieved by further embedding entrepreneurship within other courses or by increasing the visibility of extracurricular activities such as start-up weekends which often offer rewards for participation (i.e. prize money).

While there is involvement from different faculties in the three universities, few staff are getting involved aside from the few critical figures. Encouraging staff and faculty to participate in entrepreneurship education and start-up support activities can be a challenge because these activities are often unrewarded. Therefore, universities should provide incentives and rewards for staff to become more involved. Approaches vary within entrepreneurial universities, but some success has been achieved using reductions in teaching requirements or increased workspace for academic and research work.

At the same time as raising awareness internally, universities should also work to increase awareness of their entrepreneurship education and start-up support within the community to contribute to the development of an entrepreneurial culture. More outreach is needed and a good place to start is with alumni. Relations with alumni can be improved at all three universities and setting up an alumni network is relatively easy and low cost. Alumni represent an important resource that can be used to bring students and industry closer together through teaching, coaching and mentoring activities. These activities provide a two-way information flow that is invaluable to students in creative industries who need support in building networks and experience working with other freelance people. It also helps educate the community on entrepreneurship activities at the universities because the mentors take the knowledge on university activities back to the private sector.

ANNEX A: LEED FRAMEWORK FOR REVIEWING SKILLS AND COMPETENCES FOR ENTREPRENEURSHIP IN HIGHER EDUCATION INSTITUTIONS

1. Strategy and top-management support	
A university needs a clear vision and strategy that responds to what is entrepreneurship, why does the university promote entrepreneurship, who are target groups, what does the support consists of, how it is delivered and by whom. Clear incentives and rewards are needed for professors, researchers and students to engage. The internal and external communication of a university with regard to entrepreneurship matters; information needs to be easily accessible.	
Criteria	• There is a clear vision and strategy behind the university provided entrepreneurship support. • Objectives of entrepreneurship education and start-up support include generating entrepreneurial attitudes, behaviour and competences, as well as enhancing growth entrepreneurship (both high-tech and low-tech). • There are clear incentives and rewards for entrepreneurship educators, professors and researchers, who actively support graduate entrepreneurship (mentoring, sharing of research results, etc.). • Recruitment and career development of academic staff takes into account entrepreneurial attitudes, behaviour, prior experience as well as current entrepreneurship support activities.
2a. Financial resources	
Public kick-off funding for entrepreneurship support infrastructure is common practice today. Yet, it is the balance between a minimum long-term financing for staff costs and overheads and the openness to private sector involvement in the financing of Entrepreneurship Chairs and incubation facilities which proves to be successful in an international comparison.	
Criteria	• A minimum long-term financing of staff costs and overheads for graduate entrepreneurship is agreed as part of the university's budget. • Self-sufficiency of university internal entrepreneurship support is a goal.
2b. Human resources	
Entrepreneurship support in universities, in particular entrepreneurship education, is demanding reinforcement and development of existing human resources and employing new staff. Working with entrepreneurs, chief executives, bankers, venture capitalists and business angels is important to link theory with practice.	
Criteria	• Regular, relevant training for staff involved in entrepreneurship education is in place. • Regular, relevant for staff involved in start-up support is in place.
3. Support infrastructure	
Moving towards greater cross-faculty collaboration in entrepreneurship support and greater connection between entrepreneurship education and start-up support provision will require a coordination unit. Universities will need to find their place in existing start-up and entrepreneurship support systems. Networking and incentives for clear referral systems are needed to increase the effectiveness of start-up support and reduce duplication, confusion and waste of resources.	
Criteria	• An entrepreneurship dedicated structure within the university (chair, department, support centre) is in place, which closely collaborates, coordinates and integrates faculty-internal entrepreneurship support and ensures viable cross-faculty collaboration. • Facilities for business incubation either exist on the campus or assistance is offered to gain access to external facilities. • There is close co-operation and referral between university-internal and external business start-up and entrepreneurship support organisations; roles are clearly defined.
4. Entrepreneurship education	
Ideally all students should have access to a wide range of entrepreneurial learning opportunities inside and outside their courses of study. Increasing take-up rates will require both expanding and tailoring the offer in entrepreneurship	

education. The goal is to generate entrepreneurial intentions and to develop competences for entrepreneurship. Progressively the offer in entrepreneurship education should be expanded and tailored to the different interests and needs of participants. Engaging in exchange of good practices in creative teaching methods at wider regional, local and international levels will facilitate improvement and innovation.	
Criteria	• Entrepreneurship education is progressively integrated into curricula and the use of entrepreneurial pedagogies is advocated across faculties. • The entrepreneurship education offer is widely communicated, and measures are undertaken to increase the rate and capacity of take-up. • A suite of courses exists, which uses creative teaching methods and is tailored to the needs of undergraduate, graduate and post-graduate students. • The suite of courses has a differentiated offer that covers the pre-start-up phase, the start-up phase and the growth phase. For certain courses active recruitment is practiced. • Out-reach to Alumni, business support organisations and firms is a key component of entrepreneurship education. • Results of entrepreneurship research are integrated into entrepreneurship education.
5. Start-up support	
Start-up support is providing a helping hand in business start-up without taking away the 'do it on your own'. It is all about making, entrepreneurship support systems accessible and attractive for future entrepreneurs, and about rectifying market and system failures in financing and premises. A key success factor lies in private sector collaboration. Universities can create a protected environment for nascent entrepreneurship. This can be an important stimulus for students and researchers to make a first step towards the creation of a venture. Yet, in order to avoid 'over protection', early exposure to market conditions is advisable.	
Criteria	• Entrepreneurship education activities and start-up support are closely integrated. • Team building is actively facilitated by university staff. • Access to public and private financing is facilitated through networking and dedicated events. • Mentoring by professors and entrepreneurs is facilitated. • University-internal business start-up support is closely integrated into external business support partnerships and networks, and maintains close relationships with firms and Alumni.