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TOWARDS A 21ST CENTURY READY CURRICULUM

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ABSTRACT

Entrepreneurship and entrepreneurship education is generally viewed upon as being important for economic growth in the 21st century. Teaching entrepreneurship however seems to need another approach than regular education to fulfill the professional and ever changing needs. In this perspective active learning and constructivism is generally seen as essential. Other elements that are influencing the teaching process are focus on competences, culture, the needs of the student and the curriculum. This emphasizes the design of the curriculum must address these changing demands of society. Effectuation, constructivism and andragogy are the key elements for the curriculum to meet the criteria for delivering sustainable and flexible professionals to society. Derived from the latest insights on Entrepreneurial Education, practical implications for higher education programs are designed and tested in a specific entrepreneurial region.

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INTRODUCTION

Entrepreneurship is often seen as an important factor of economic growth (Thurik and Wennekers, 2004). Consequently, policy makers are interested in this field. There is also a strong relation between entrepreneurial education and entrepreneurial activity. Apparently there seems to be consensus among policymakers, academics, researchers and economists that Entrepreneurship Education is probably the most effective way to contribute to economic growth (Gibcus, Overweel, Tan and Winnubst, 2010), as long as these entrepreneurs stay in the region or country. Many scholars and educational professionals have designed programs for supporting the entrepreneurial spirit or education of new, young entrepreneurs. Different approaches for supporting entrepreneurship and entrepreneurship education can be identified. First of all there is the positivistic approach, which is dominant in the traditional sciences. This approach of entrepreneurship led to the development of models, concepts and classifications for entrepreneurship. Most of them are however limited to a specific field of application.

In a second approach, derived from social sciences, most attention is on entrepreneurship as a cognitive development of an individual (Baron, 2008). Others take a perspective of a process model for entrepreneurship and describe an entrepreneur as someone moving along the entrepreneurial process of value creation (Shane and Venkataraman, 2000). And as a fourth approach, Zull (2002) gives a biological perspective to an entrepreneur and describes the neurological processes associated with entrepreneurial activities. It is argued broadly among scholars that entrepreneurship need other skills, methodologies and teachers (Koopman, Hammer, and Hakkert, 2013). Despite, or due to the extensive variety of research, it is still difficult for educators and curricula designers to make an effective program based on it. In this article the foundational theory of Dewey (1938) is used as a methodological framework, and therefore it has a design approach. Based on theories, practices and experience, some practical elements for entrepreneurial curriculum design are described and elaborated upon.

The fast changing society

Throughout history, our development and understanding of the world around us has been progressive but slow. Mankind could survive and function well with the knowledge learned

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from his parents and grandparents. We lived in small communities where everybody knew each other and everybody needed one another. Most of the history of mankind has been like this. Since the scientific and industrial revolution the world became more complex, but in essence information remained scarce and was the privilege of the rich and educated. Yet, in our current world now connected to internet, with virtually unlimited access to information, our development has shifted rapidly from evolution to revolution. It seems apparent that the technology running our world today has been developed during just one life time. Since 1995 fiber optic has been linking our continents together and giving us access to internet, a huge source of information with no limit. Transmitters and powerful small batteries were the major innovations which made this happen. In former times, just one generation ago in Europe, access to knowledge was exclusive to people who worked in government, councils, churches and schools. It gave them status, power and responsibility. They could use this power for good and for bad. Nowadays anybody connected to the internet has access to data from all around the world. This virtually limitless access to information comes with responsibility: People need to be educated and trained to interpret data, in order to distinguish facts from fake and to make their own well based decisions. Developments in social, moral and economic spheres are moving faster than ever before. There is no longer a shortage of information, but instead an overkill of information. People can be drown in it. It also means that we must be aware of the global social and economic developments like:

- No job for life.
- International competition.
- Education needs to prepare students for jobs that don't exist yet.
- Students need to be prepared to solve problems we don't know to be problems yet.
- So many and also fast technical innovations that when following a technical education at the university of applied science, facts learned during the second class, will be outdated before graduation.
- The amount of information worldwide doubles every two years: Facts become outdated quickly.
- Shortening Time to Market of inventions.

Through the development of global competition, the standards expected of young people are changing, providing both opportunities and threats for the individual. The conclusion of the ideas above may very well be that the "learning ability" for individuals and industry is the core competence to achieve sustainable competitive advantage and therefore survival. It invites everyone to adapt Life Long Learning as a way of life. Creativity as problem solving mechanism will also become more and more relevant. The development leads to questions like:

- Does education keep-up with the needs and the revolution of time-shift? And how?
- Which qualities should young people have in order to be able to survive in our rapidly evolving modern society?

Before designing a curriculum toward a more entrepreneurial, the dynamics of the profession must be taken into account of.

This leads to determine whether the students' future is into a steady or explorative dynamic. Two types can be determined (QAA, 2012):

- Professions in which merely recapturing skills are needed;
- Professions in which merely creative and entrepreneurial skills are needed.

For example, a doctor needs to know the right procedures and practice them in case someone needs instant help. An entrepreneur or project leader however often has to improvise and make decisions based on limited data. Compare the doctor's skill training with raising little ducks against training students for modern life: it is better to be raised like a falcon, continuously looking for new opportunities and flying solo from its nest (strong responsibility for self-development and wellbeing).

Characteristics of Entrepreneurship Education

From a literature review deduced on the characteristics, many specified elements are suggested and researched (Koopman and Hammer, 2014). Acquisition of entrepreneurial competences through a traditional teacher focused educational approach is not possible (A. A. Gibb, 1993). Students need to feel and experience. Identified characteristics of entrepreneurship education are (Rasmussen, Mosey, and Wright, 2011):

- Emotional involvement of students / pupils.
- Use of contests, competitions and games.
- Importance of Ideas : they should lead to concepts.
- Informal and flexible conceived learning sessions.
- Substantive focus on the : "Why", "how" and "who" more than "what".
- Interactivity among students, with teacher and coach.
- Teacher as coach and facilitator.
- Learning by working under pressure.
- Learning by doing, making mistakes and discovering.
- Learning from several people (teachers, peers, etcetera).
- Problem-oriented and multidisciplinary approach.
- Students generate self-knowledge through exchange of ideas, discussions.
- Work towards achieving a goal.
- Working in groups.
- Becoming a direct contributor of entrepreneurs.

It is to be expected that the learning style of an entrepreneur and anybody in practice who sets goals for himself can be characterized as having high Self-Discipline. An effective way to teach or guide that person would be the coaching manner. The learner mandatory has to take self-responsibility (Koopman *et al.*, 2013). Another important aspect is that the curriculum design need to have a 'pull approach' to focus more on the applicability of the program for the purposed field of profession (Hammer and van der Meer, 2013). For an optimal effect the design of education programs and the teaching style have to be congruent with the students learning style (Kolb and Kolb, 2005). A maximized effect will be achieved by congruency in the educational style, -system, the programs, the teacher's style, student learning style and goals

to be met. Based on Kolb (2005) in table 1 the characteristics of the entrepreneurial programs are shown.

Table 1. Characteristics of an entrepreneurial program

TEACHING FOCUSED PROGRAM	STUDENT LEARNING FOCUSED PROGRAM
Lectures	to acquire knowledge
teacher focused	student focused
static and firm	dynamic and flexible learning goals
teaching goals	individual
uniform	
fosters passiveness	fosters students activity, creativity, serendipity
students are guided	students discover
learning routes prescribed	learning routes facultative offered
teachers provide the answers	teachers pose questions
teachers are leading	teachers guiding and coaching
	opportunity for learning is important
teaching is important	testing is important
lectures / lessons are important	library and study facilities are important
rooms / classrooms are important	ability to ask questions is important
supply is important	regardless of location
	time independent
location scheduled	individual study
time defined	variable sequence
uniform study progress	variable content
fixed order	scope for development of student specialization
fixed content, facts based	Applicable for development of entrepreneurial skills, Life Long Learning, on-the-job self-supporting attitude, and creativity skills.
training protocols to develop	
recapturing skills	
Applicable for management and technical skills	
to study languages, mathematics,	

MATERIALS AND METHODS

The actual research method of this paper is the design and validation of practical instruments to help students preparing for their future challenges. An explorative design was used to capture the empirical observations of senior lectures and curriculum designers. The research was conducted at the Saxion University of Applied Sciences in the Netherlands, at the undergraduate program of Small Business and Retail Management. In total 264 students of this program, distributed over two cohorts were involved in this study in the time period 2007 – 2014.

Data collection

The students were exposed to a broad variety of entrepreneurial learning components, as indicated in the literature. A team of senior lectures, study counselors and curriculum designers appointed the several instruments and interventions to the groups or individual students. During the study, it was compulsory for the students to hold their Individual Development Plan (IDP) up-to-date and discuss this with their study counselors. They also asked to hold a diary on a monthly basis. At the end of the study program, their IDP and achieved knowledge, skills and behaviours were assessed formally and summatively. Both, the IDP's and summative assignments were empirically scanned for common patterns using Content Analysis (General Accounting Office, 1989). With this data, concepts are designed by curriculum designers and tested in case studies.

RESULTS

At Saxion University we offered the two cohorts of students entrepreneurial learning, in addition to regular classes. The

main reason we use this approach is because 80% of their future work content will consist of creative and entrepreneurial issues as indicated by the QAA (2012). As it is claimed e.g. by Gibb (2007), knowledge gained during their studies will be outdated soon, especially in technical fields. As entrepreneurs or enterprising manager, knowledge therefore is not enough; project management and entrepreneurial skills need to be developed as well (Hammer, 2012). These skills cannot be acquired by attending lectures alone (Gibb, 2007).

Therefore, we taught our students concepts such as Life Long Learning (Longworth and Davies, 1996), and problem solving instead of reproducing facts and simply answering the questions asked. Using this concept, students may develop Applicable Approved competences. We encourage them to ask questions, seek for and find answers in theory and practice, assess the answers, conclude the findings. We are encouraging our students to choose and acquire their own projects; therefore they may develop their own unique and outstanding resume. Thus by the end of their Bachelor degree, students will be adequately prepared, competent and confident for the work they will be doing, thereby finding their key to success and sustainable happiness. From the assignments and IDP's collected and the content analysis procedures, it was found that students tend to rank their skills in a way on operationalized development can be obtained. Based on these findings, four levels of 'qualities of approved skills or competences were identified. The skills and competences can be shown at different levels:

1 to 4, Level A: Applicable

Awakening, Recognizing, Acknowledging, Knowledge are typical phases to pass in gaining a theoretical basis. Methods like attending classes, lectures, seminars, study in the library and research on the internet are all means to gain a theoretical basis.

5 to 8, Level AA: Applicability Approved

Theory used in practice. Students have reached levels like: Being capable, being able to apply and to perform. In practice, students have competence to select appropriate theories for the experienced situation and are able to interpret and apply these.

9-12, Level AAA (pronunciation: "triple A"): Advanced Applicability Approved

Multiple Practice Experienced Levels of overall reflection, competent, innovative and excelling are in reach when one successfully applies theory and practice in several different locations and of situations.

For the description of the qualifications of young professionals, the concept of *Applicability Approval* (short: App) is used. An App can have multiple forms and can be gained when demonstrating a skill or competence in an appropriate context. Certificates collected may be helpful in demonstrating that a certain level is reached and therefore can be a valuable app (Vloon, 2013). App's can have multiple forms as certificate, newspaper article, price, formal

document, acknowledgement-letter, enquiry results, prototype-product, draft article, publications, described situations of professional achievement, etcetera. The collection of apps from a student is called the App-store, from which a résumé can be constructed for a specific goal. When applying for a job, it is clear that the resume is the most important document in selection process. Of course the level is determined by the grade of the diploma, but if the competition for a job is more or less between equals, the resume will define the conclusion. In the two cases below, the impact and usefulness of the App concept is demonstrated clearly.

Case 1

A student was asked; "Due to the production increase, by how many square meters should our stores expand their work floors?" Answer after students research: "Zero, but instead reorganize the production line". In his resume he wrote:

At company XX, I performed a logistic study concerning shop floor management. As a result the production flow was improved, resulting in a significant improvement in profitability.

Case 2

A student was asked to carry out an employee satisfaction research. The basis of the questionnaire was drawn up by the company itself. The result of his research was that the questionnaire drawn up by the company did not lead to reliable results. He designed a new survey. The Executive Board loved it and asked him to perform the survey (on a commercial basis) at all the branches in The Netherlands. The results will be used in redefining the Human Resource Management strategy. At his resume he wrote:

At company YY, I did a successful redesign of the employee satisfaction survey. This new survey has been implemented by the company in all its stores in the Netherlands and led to new insight for the Human Resource Management.

Based on the Apps, education can be also about the personality of the young professionals: they are stimulated to be enterprising. Therefore the conviction is: "EAT to succeed". Entrepreneurial success starts with Endurance, Ambition and Talent to combine with Effort, Affection and Time (to be invested).

DISCUSSION

The thoughts about "EAT to succeed" are not really new. They are based on Socratic principles. Nowadays, this learning principle is generally supported in neither schools or in universities. A cause of this might be because of the way schools and universities are evaluated. Inspections are focused on traditional ways of teaching, controlling and assessing, assuming that schools and teachers are totally in control (and therefore totally responsible) for the student learning process. Instead, in the 'EAT to Succeed' paradigm, a teacher could help students to find their own qualities and intrinsic motivations, but students themselves would have to do the job (EAT). The more we try to regulate the worse this effect could

be. It is generally agreed that traditional education, with lecturer centered education models are not effective to cope with the challenges of the exponential times we are living in. And we also know that this EAT-way of educating was not properly and successfully implemented.

Questions might be:

- What is more effective, more regulation and control or more belief in the professionalism of teachers?
- What do teachers and students really need to perform more effectively and efficiently? Same type of discussions is experienced in other professions as: craftsmen and healthcare.

Conclusion

Especially in technical fields, most of the knowledge gained by students during their studies will be outdated before their graduation. This is why emphasize that only teaching knowledge cannot be sufficient. The 21st century puts everyone under pressure, as things are evolving so quickly. Competences, Entrepreneurial skills need to be developed. This would help everyone to face changes and adapt accordingly. "Project Management" allows such professional skills to be developed. Therefore, instead of preparing students to reproduce facts and answer questions, teach them concepts as Life Long Learning, and problem solving. By using this concept, students may develop Applicable Approved Competences. Encourage them to be proactive, ask the right questions, seek for and find answers in theory but also in practice, assess the answers, conclude the findings and formulate coherent advice. Also encourage students to involve themselves in their education, choosing the projects they are going to work on.

This helps them to prepare their own unique and outstanding resume. By the end of their Bachelor degree, students thus will be adequately prepared, competent and confident for the work they will be assigned to, thereby finding their key to success and sustainable happiness. Maximum effect would be achieved by allowing congruence with the educational style, the programs, the teachers' style, student learning style and goals to be met. Moreover, the school's own learning strategy is a core part of the process. Managing the programs and giving adapted accreditation system allows educational systems to reach sustainable development. Success is achieved via high levels of motivation: "EAT" motivating factors such as Endurance, Ambition, and Talent, combined with Effort, Affection and Time willing to invest, are high effective motivators.

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