

Nico VLOON  
*Lecturer and researcher*  
School of Business, Building & Technology  
Saxion University of Applied Sciences  
n.g.j.vloon@saxion.nl  
+31 53 537 6890

Matthijs HAMMER  
*Senior lecturer*  
School of Business, Building & Technology  
Saxion University of Applied Sciences  
*PhD Researcher*  
Faculty of Industrial Design Engineering  
Delft University of Technology

Nathalie BRAHIMI  
*Lecturer and international coordinator*  
Department of management and foreign trade  
Lycée Ozenne

## **Towards an entrepreneurial curriculum design – Abstract**

*Entrepreneurship and entrepreneurship education is generally viewed upon as being important for economic growth in the 21<sup>st</sup> century. Teaching entrepreneurship however seems to need another approach to fulfill the changing needs. In this perspective active learning and constructivism is generally seen as essential. Other elements that are influencing the teaching process are attention for competences, culture, the needs of the student and the curriculum. So 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. Based on practical experiences in the last decades in the Region of Twente, elements for an entrepreneurial curriculum are elaborated in this article.*

## **Introduction**

Entrepreneurship is often seen as an important factor of economic growth (Thurik & 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, & 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 & 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, & Hakkert, 2013). Despite, or due to the extensive variety of research, it is 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 he had learned 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 especially information remained scarce. 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. Transistors 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. 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 drown in it. It also means that we must be aware of the global social and economic developments:

- 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?

Trying to answer those questions we need to distinguish two different types of professions:

- 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 by a falcon, continuously looking for new opportunities and flying solo from its nest (strong responsibility for self-development and wellbeing).

### **Characteristics of Entrepreneurship Education**

Acquisition of entrepreneurial competences through a traditional teacher focused educational approach is not possible (Gibb, 1993). Students need to feel and experience. Identified characteristics of entrepreneurship education are (Rasmussen, Mosey, & 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 would 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 & Meer van der, 2013).

For an optimal effect the design of education programs and the teaching style have to be congruent with the students learning style (Kolb & 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 and Kolb (2005) in figure 1 the characteristics of the entrepreneurial programs are shown.

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

Figure 1, characteristics of the entrepreneurial programs

## Educational Concept

At Saxion University of Applied Sciences in the Netherlands, we offer our students project based learning, in addition to regular classes. The main reason we use this approach is because 80% of their future work content will consist of project management issues, but we are mindful that most the knowledge gained during their studies will be outdated soon, especially in technical fields. As a project manager or enterprising manager knowledge is not enough, one also needs to develop project management and entrepreneurial skills (Hammer, 2012). These skills cannot be acquired by attending lectures alone. Therefore, we teach our students concepts such as Life Long Learning (LLL), 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.

Referring to Maslow (1943), every man strives for the feeling of wellbeing. However, the circumstances in which a person feels happy, differs from person to person. Wellbeing has material but also predominantly intangible sides. In order to be able to experience the feeling of well-being, it is necessary for most people that they work and be healthy. When your work inspires you, gives you energy, supports your ambition and excites you, then it could even keep you healthy in mind and body, instead of being a burden (Vloon & Hammer, 2009).

## Skills Ranking

For future-proof young professionals, it is an obligation to show and share their value to stakeholders. The developments in ICT and global connectivity need improved ways of showing the available talents. The entrepreneurial learning process can be viewed as a process in which different phases are sequentially passed. 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 (Vloon & Hammer, 2009). 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 an 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. It is about what students know but also and arguably even more important, what they can do (Vloon & Hammer, 2009). For example, we tell students; "Do not directly answer questions asked, but solve problems". In the two cases below, we want to emphasize the difference of these approaches.

### 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.*

Besides the Apps, education should be also about the personality of the young professionals: are they stimulated to be enterprising? Therefore our conviction is: “*EAT to succeed*”. Entrepreneurial success starts with Inspiration, Experience and Drive, those can be externally focused factors, but what is really necessary are intrinsically motivating factors such as **Endurance**, **Ambition**, **Talent** to combine with **Effort**, **Affection** and **Time** (you will have to invest).

## Remarks for 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 would be outdated before their graduation. This is why emphasize that only teaching knowledge cannot be sufficient. The 21<sup>st</sup> 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, we teach them concepts such as Life Long Learning (LLL), and problem solving. By using this concept, students may develop Applicable Approved Competences. We 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.

We 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 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.

## Creditability

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## References

- Baron, R. A. (2008). The Role of Affect in the Entrepreneurial Process. *The Academy of Management Review*(33, 02), 328 - 340.
- Dewey, J. (1938). *Experience and education*: Simon and Schuster.
- Gibb, A. A. (1993). Enterprise Culture and Education: Understanding Enterprise Education and Its Links with Small Business, Entrepreneurship and Wider Educational Goals. *International Small Business Journal*, 11(3), 11-34. doi: 10.1177/026624269301100301
- Gibcus, P., Overweel, M., Tan, S., & Winnubst, M. (2010). *Onderwijs en ondernemerschap*: Zoetermeer: EIM.
- Hammer, M., H.M., & Meer van der, J. D. (2013). *Using Pull Strategy for Curricula Design on Entrepreneurship Education*. Paper presented at the 3E Conference - Inaugural ECSB Entrepreneurship Education Conference, Aarhus, Denmark.
- Hammer, M. H. M. (2012). *How Business Management benefit from Entrepreneurship*. Paper presented at the Management, Enterprise and Benchmarking, Budapest. [http://www.kgk.uni-obuda.hu/sites/default/files/12\\_Matthijs%20Hammer.pdf](http://www.kgk.uni-obuda.hu/sites/default/files/12_Matthijs%20Hammer.pdf)
- Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of management learning & education*, 4(2), 193-212.
- Koopman, R., G.M., Hammer, M., H.M., & Hakkert, A. (2013). *Teaching teachers in effectual entrepreneurship*. Paper presented at the 2nd Effectuation conference, Lyon, France.
- Maslov, A. H. (1943). A Theory of Human Motivation. *Psychological Review* 50, 370-396.
- Rasmussen, E., Mosey, S., & Wright, M. (2011). The evolution of entrepreneurial competencies: A longitudinal study of university spin-off venture emergence. *Journal of Management Studies*, 48(6), 1314-1345.
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of management review*, 25(1), 217-226.
- Thurik, R., & Wennekers, S. (2004). Entrepreneurship, small business and economic growth. *Journal of Small Business and Enterprise Development*, 11(1), 140-149. doi: 10.1108/14626000410519173
- Vloon, N. J. (2013). *WHY Performing Projects is an Effective way of Studying and LLL*. Toulouse, France: Université Toulouse III - Paul Sabatier.
- Vloon, N. J., & Hammer, M. H. M. (2009). *Het CompetentCV*. Hengelo: V&H Uitgevers.
- Zull, J. E. (2002). *The art of changing the brain: Enriching teaching by exploring the biology of learning*: Stylus Publishing, LLC.