

Teaching Teachers in Effectual Entrepreneurship.

RUUD KOOPMAN, MATTHIJS HAMMER, ARJAN HAKKERT

Abstract

Entrepreneurship and entrepreneurship education is seen by all kind of people to be important for economic growth. Teaching entrepreneurship needs another approach. Active learning and the constructivism is mostly seen as essential. Other elements that are influencing the teaching process are the competences, the culture and the teacher. So the teacher must be capable of using other methods and theory as he is used to. Effectuation, constructivism and andragogy are the key elements for the training of entrepreneurial teachers. From that perspective there has been made an education program that will start in September 2013 for teachers at universities of applied science. Until that time there are being held some minor experiments on parts of the program.

Background

Entrepreneurship is often seen as an important factor of economic growth. (Minniti & Lévesque, 2010; Thurik & Wennekers, 2004; Zalan & Lewis, 2010). Policy makers are consequently interested in this field. There is also an important link between entrepreneurial education and entrepreneurial activity (Raposo & do Paco, 2011). Apparently there seems to be consensus among policymakers, academics, researchers and economists that Entrepreneurship Education is probably the way to contribute to economic growth (Gibcus, Overweel, Tan, & Winnubst, 2010; Khan, 2011). Educating entrepreneurs needs different methods as the 'conventional' way of education, as demonstrated by Allen Gibb (1996) and Alain Fayolle (2006). In figure 1 the main differences between both learning methods are shown.

Figure 1. Conventional and enterprising teaching approaches

| Conventional approach | Enterprising approach |
|--|---|
| Major focus on content | Major focus on process delivery |
| Led and dominated by teacher | Ownership of learning by participant |
| Expert hands-down knowledge | Teacher as fellow learner/facilitator |
| Emphasis upon 'know what' | Emphasis upon 'know how' and 'know who' |
| Participants passively receiving knowledge | Participants generating knowledge |
| Sessions heavily programmed | Sessions flexible and responsive to needs |
| Learning objectives imposed | Learning objectives negotiated |
| Mistakes looked down upon | Mistakes to be learned from |
| Emphasis upon theory | Emphasis upon practice |
| Subject/functional focus | Problem/multidisciplinary focus |

(Gibb, 1996)

To establish an education process first there must be set a goal to reach. To reach that goal you have to know what situation you are in. That is the situation of the student, but also the culture he is living in. After that choices have to be made about setting up a teaching process which consists of the curriculum, methods, education activities and education tools. That teaching process is influenced by the teacher.

After the teaching process there should be an evaluation about the reached goals (Berghe et al., 1973; Gelder, Peters, Oudkerk Pool, & Sixma, 1972).

Walter and Dohse (2012) indicate that education methods (active modes) are (positive) influencing the entrepreneurial education. This is also supported by Neck & Green (2011) as they conclude that the education structure requires a new approach based on action and practice. Whereas Mathews (2007) argues that constructivism lends to learning that is action-based where learners construe or make interpretations of their world through interactions in the real-world. Walter and Dohse (2012) also conclude that regional context (culture) moderates the entrepreneurship education.

It is also argued that entrepreneurship needs other skills or competences (Binks, Starkey, & Mahon, 2006; Groen, Weerd-Nederhof, Kerssens-van Drongelen, Badoux, & Olthuis, 2002; Kutzhanova, Lyons, & Lichtenstein, 2009; Leitch, Hazlett, & Pittaway, 2012). Based on this, figure 2 is made, where the influences on the entrepreneurial teaching process are shown.

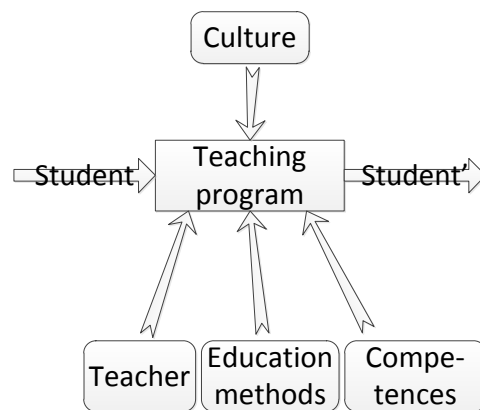


Figure 2. Influence on the entrepreneurial teaching process

As argued above teaching entrepreneurship needs a different teaching process. These differences are most influenced by the teacher, the education methods, the needed competences and by the culture of the society. As teachers are very important to the way students learn about entrepreneurship we focus in this program on the teacher. Because of the change in the education process of students, teachers need to change with it. This 'changing process' of teachers has the same structure as the education process of students. This leads to the model in Figure 3.

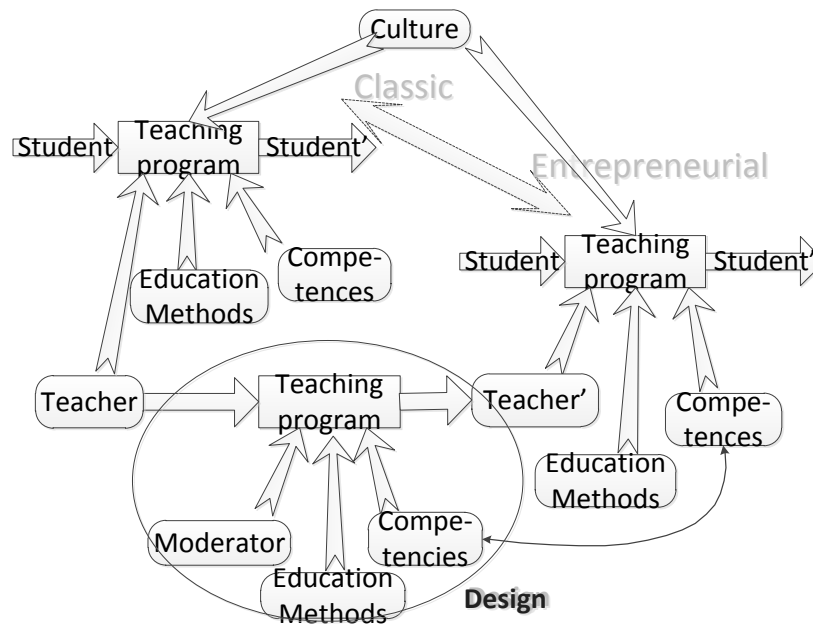


Figure 3. Change from Classical- to Entrepreneurial Education

In this figure is shown that the education process of students changes from classical to entrepreneurial teaching. This indicates a change for the teacher to be capable of teaching in that new situation. The authors place the teacher itself as a subject for change. This teaching program is the focus of the design in this paper. This leads to the following goal for the design:

***Design an education model that educates teachers to change
from a conventional approach to an entrepreneurial approach.***

For this design we define some preconditions which are considered as design requirements. For methodology we choose effectuation (Sarasvathy, 2009) which is accepted as a typical approach for an entrepreneurial attitude. That's why effectuation is the leading principle for this design. This doesn't mean that this is the only way. Most of the teachers were educated with traditional methods of venture creation. As this program is designed to add something to the 'classical teacher' we focus on effectuation. Another focus is that on entrepreneurial thinking (Koch-Polagnoli, 2010). Focusing on this means that the choice between entrepreneurial self-employment and professional self-employment has not been made. That makes the teaching program suitable for almost all kind of teachers and therefor useful for all kind of education processes. The program should fit into 6 days of training. The same amount of time can be used for preparation. The way the education is implemented in schools is open and should not be bound or limited by other programs.

Because the program is not realized at the time of submission, the authors present the design. The design is delivered as the design process, design of the program self and the realization design.

Process design

To come to the design of the program, a design team was formed with teacher educators, a curricula designer and a specialist of the effectuation methodology. The team sequences a five step process (figure 4) after which the realization design was decided.

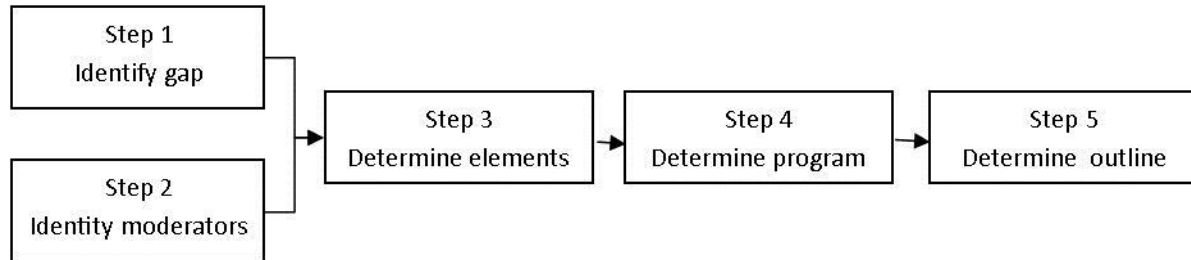


Figure 4, design process

In the first step, the team indicated the gap between the normal teacher and the entrepreneurial teacher (Teacher'). Considered that the normal teacher is known, the configuration of the entrepreneurial teacher is investigated as is the proposed result of the designed program. For this purpose semi structured interviews are conducted with experienced teachers of entrepreneurial teaching programs and entrepreneurial teachers. Both in programs based on the methodology of effectuation as one of the design requirements. Focuses in these interviews are the moderators of the teaching process: culture, knowledge, instructor and teaching methods. In the second step recent literature is studied to identify the latest insights of the moderators of the teaching process: the competences and educational methods. From there the competences and methods are chosen. In the third step the design team indicated the appropriate teaching elements and assembled them to individual program elements. In a design meeting several creative techniques are used for this purpose. In the fourth step, on another day, the individual elements are being put together to a program for teachers by linking the individual program elements. From this framework, the course outline was made in the fifth and final step. The result of this process is presented in the object design paragraph below.

Object design

The teaching process for teachers is designed in such a way that teachers learn how to educate students in an entrepreneurial way. This is been done in groups of teachers, which is also called a community of learners (Duffy & Cunningham, 1996), that has been formed around the topic of entrepreneurial teaching.

The design team has indicated the appropriate program elements. These are a variation of knowledge and skills. The following elements are derived during the third step.

- Effectuation knowledge
- Effectuation skills
- Constructivism knowledge
- Constructivism skills
- Andragogy knowledge

The teaching method consists of active learning. This means that besides the 6 meetings there is also a large amount of time needed for preparation and practicing what is learned. The preparation is focusing on the individual situation of the participants. The trainings are held every 2 weeks so in between there is some time to practice with what is learned during the training. There is also some time then to prepare the next training. It is very important that each participant takes some time to exercise and prepare the training to make it most effective.

Course design

The change to entrepreneurial teaching, as shown in figure 3 means that teachers need to know about theory and how it is used. After the knowledge about what effectuation is, all principles of effectuation are being used in individual assignments. In figure 5 this is shown in a scheme. As constructivism is the main teaching method, there is also quite some focus on that. Before they get to know about the theory of constructivism they first are going to work with it. This fits to the teaching method of constructivism (Mathews, 2007). Then after some theory, constructivism is being trained further. Also some knowledge about Andragogy is useful, these skills are incorporated in effectuation and constructivism. After each theory lecture the next session this theory is being tested. And at the end all the skills are examined.

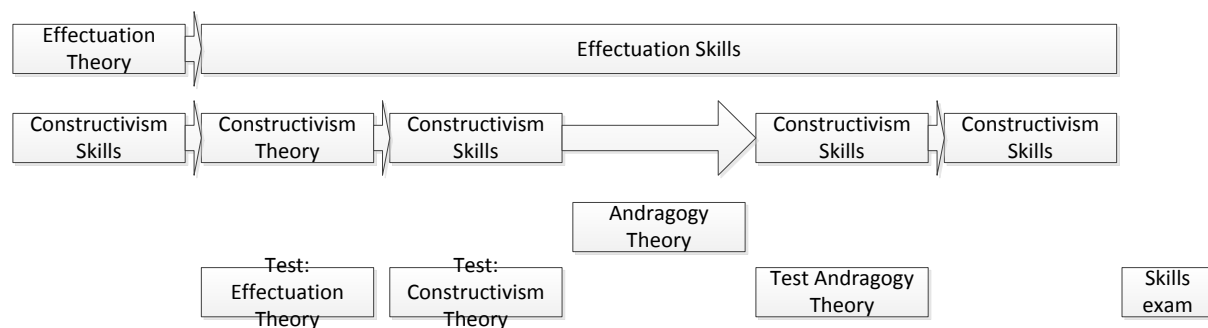


Figure 5 Course scheme

Course outline

This is the further elaboration of the course design. Here we schedule the headlines of the teaching program. In figure 6 is this shown in a schedule.

The program starts with a preparation of a constructivism based lecture without any lecture on this item. Then the first session is being used to explain the theory of effectuation. This theory consists of the (research) history of effectuation, the 5 principles of effectuation and the influence of effectuation on entrepreneurship. The second part of this session goes about prepared lecture and what the effects of those are on the learning methods. Also the knowledge of the participants of constructivism are being discussed.

The second session starts with a preparation focusing on the bird in hand principle. Each participant should think about his (her) skills. During the training there is a multiple choice test about the theory of effectuation. Then there is a lecture about the theory of constructivism. The background, the characteristics and the applications of constructivism are being lectured. Then some exercise of

effectuation with the focus on the bird in hand, about their expertise and what they can learn other teachers about entrepreneurial education.

The third session starts with a preparation of focusing on the crazy quilt principle. What is the value of your network and can it be used in this program? During the training there is again a multiple choice test; this time about the theory of constructivism. And then a workshop about creating a lecture according constructivism. The third part is about how the network can be used to bring in entrepreneurial experience in this program. The fifth and sixth session have some time available for this.

The fourth session needs a preparation for the affordable loss principle; where the participants look for implementation they can do without changes outside their classroom for entrepreneurial education on their school. This time during the training there is a lecture about andragogy. This theory is focusing specially on the differences between young adults and children. What can be taught at what age? Then again a workshop about the issues that teachers see to implement an entrepreneurial lecture in their school and what can be changed to start such an education without a lot of investment; also focusing on the affordable loss principle.

The fifth session starts with a preparation for the lemonade principle; where the participants look for threats and opportunities to implement entrepreneurial education in their school. During the training there is a multiple choice test on andragogy. Then the participants are testing their constructivism oriented lectures that where prepared in session three. Effectuation is this time focusing on the lemonade principle. This time the focus is on the problems they face in their school and how to make use of that in their advantage. The use of creative techniques are important this time.

The sixth session starts with the preparation for the pilot in the plane principle; where the participants take a look at the future of the entrepreneurial education in their school. During this last training discuss with each other the lectures they tested and how there school can start an entrepreneurial education program. The outcomes are being used for the final skills exam, where each participant makes a curriculum (content and method) for his situation.

Figure 6. Course outline

| Training | Preparation | Training Subject | Testing |
|----------|---|--|----------------------------|
| 1 | Preparing a constructivism based lecture | Discussion about constructivism lecture Effectuation theory | |
| 2 | Bird in hand; what are your skills | Constructivism theory Effectuation; bird in hand | Test Effectuation theory |
| 3 | Crazy quilt; use your network | Preparing a constructivism oriented lecture Effectuation; crazy quilt | Test Constructivism theory |
| 4 | Affordable loss; implementing in lectures | Andragogy theory Effectuation; affordable loss | |
| 5 | Lemonade; what are the opportunities. | Testing their constructivism oriented lecture. | Test Andragogy theory |

| | | | |
|---|-------------------------------------|---|-------------|
| | | Effectuation; lemonade | |
| 6 | Pilot in the plane; where to go to. | Constructivism and Effectuation; pilot in the plane | Skills exam |

Realization design

The authors are aware of the fact that for some teachers, a new world emerges. Thinking and acting in a new methodology needs time for relaxation. The program is designed to be executed in a two week sequence, preceded by two weeks of mental preparation. The group of learners should not exceed the number of 8 teachers, participating on a voluntary basis, generously facilitated in time. The facilitator of the course should be a practical expert on effectuation, constructivism and andragogy. For the meetings a spacious, non-traditional room is needed, with much light and fresh air, being unfamiliar to the learners and close to refreshments. A lesson should not exceed four hours of time. It is strongly recommended that after the course, progress and refreshment meetings are organized in a time frame of twice a year.

Questions

Questions are about how to organize an constructive education in a school, where most of the teachers still give lectures in a classic way. We already experience some problems when students are educated for some time by a constructivist method and at some other time by a classic way. Is it possible to let both methods coexist?

Another question is about what methods of evaluation would fit to this design?

Literature

- Berghe, A. F. M. v. d., Bos, W., Gelder, L. v., Peters, J. J., Oudkerk Pool, T., Sixma, J., & Vilsteren, C. v. (1973). *Didactische Analyse Werk- en studieboek 1* (2e druk ed.). Groningen: Wolters-Noordhoff.
- Binks, M., Starkey, K., & Mahon, C. L. (2006). Entrepreneurship education and the business school. *Technology Analysis & Strategic Management*, 18(1), 1-18. doi: 10.1080/09537320500520411
- Duffy, T. M., & Cunningham, D. J. (1996). Constructivism Implications for the Design and Delivery of Instruction. In D. H. Jonassen (Ed.), *Handbook of research on educational communications and technology* (pp. 170-198). New York: Scholastic.
- Fayolle, A. (2006). *Essay on the Nature of Entrepreneurship Education*. Paper presented at the International Conference Entrepreneurship in United Europe - Challenges and Opportunities, Sunny Beach, Bulgaria.
- Gelder, L. v., Peters, J. J., Oudkerk Pool, T., & Sixma, J. (1972). *Didactische Analyse, Reader 1* (3e druk ed. Vol. 3e Druk). Groningen, Netherlands: Wolters-Noordhoff.
- Gibb, A. A. (1996). Entrepreneurship and small business management- can we afford to neglect them. *British Journal of Management*, 7, 13.
- Gibcus, P., Overweel, M., Tan, S., & Winnubst, M. (2010). *Onderwijs en Ondernemerschap, Eenmeting-2010*. Zoetermeer: EIM.
- Groen, A. J., Weerd-Nederhof, C. d., Kerssens-van Drongelen, I. C., Badoux, R. A. J., & Olthuis, G. P. H. (2002). Creating and Justifying Research and Development Value: Scope, scale, skill an social networking of R&D. *Research and Development Value*, 11(1), 15.

- Khan, I. M. (2011). *Entrepreneurship Education: Emerging Trends and Issues in Developing Countries*. Paper presented at the Uluslararası Yükseköğretim Kongresi: Yeni Yönelişler ve Sorunlar (UYK-2011), Istanbul, Turkey.
- Koch-Polagnoli, I. (2010). How can Entrepreneurship be implemented in schools? *Conference on Entrepreneurship Education* (pp. 10). Wrocław, Poland.
- Kutzhanova, N., Lyons, T. S., & Lichtenstein, G. A. (2009). Skill-Based Development of Entrepreneurs and the Role of Personal and Peer Group Coaching in Enterprise Development. *Economic Development Quarterly*, 23(3), 193-210. doi: 10.1177/0891242409336547
- Leitch, C., Hazlett, S.-A., & Pittaway, L. (2012). Entrepreneurship education and context. *Entrepreneurship & Regional Development*, 24(9-10), 733-740. doi: 10.1080/08985626.2012.733613
- Mathews, M. (2007). Constructivist Pedagogy For The Business Communication Classroom. *Journal of College Teaching & Learning*, 4(11), 99-106.
- Minniti, M., & Lévesque, M. (2010). Entrepreneurial types and economic growth. *Journal of Business Venturing*, 25(3), 305-314. doi: 10.1016/j.jbusvent.2008.10.002
- Neck, H. M., & Greene, P. G. (2011). Entrepreneurship Education: Known Worlds and New Frontiers. *Journal of Small Business Management*, 49(1), 16.
- Raposo, M., & do Paco, A. (2011). Entrepreneurship education: relationship between education and entrepreneurial activity. [Research Support, Non-U.S. Gov't]. *Psicothema*, 23(3), 453-457.
- Sarasvathy, S. D. (2009). *Effectuation: Elements of Entrepreneurial Expertise*. Northampton, MA, USA: Edward Elgar Publishing, Inc.
- Thurik, A. R., & Wennekers, S. (2004). Entrepreneurship, small business and economic growth. *Journal of Small Business and Enterprise Development*, 11(1), 10.
- Walter, S. G., & Dohse, D. (2012). Why mode and regional context matter for entrepreneurship education. *Entrepreneurship & Regional Development*, 24(9-10), 807-835. doi: 10.1080/08985626.2012.721009
- Zalan, T., & Lewis, G. (2010). Entrepreneurs: Drivers of Economic Change. *Social Science Research Network*, 11.