

**Research Proposal:
Who's in Control? Self-Directed and Self-Regulated Learning in Entrepreneurship
Training Programmes.**

By Ellen Donkers

Contact Information

E. (Ellen) Donkers, MSc
PhD Candidate
NIKOS - Netherlands Institute for Knowledge Intensive Entrepreneurship
School of Management and Governance
Institute for Innovation and Governance Studies
University of Twente
P.O. Box 217
7500AE Enschede
The Netherlands
Langezijds, Building A, Room 221
Phone: +31 53 489 3797
Fax: +31 53 489 2159
E-mail: e.donkers@utwente.nl

Introduction

There has been a significant increase in entrepreneurship education since the early 1970s with the emergence of an entire infrastructure of courses, programmes and centres in many parts of the world (Fayolle & Gailly, 2004; Fiet, 2001a, 2001b; Gorman et al., 1997; Katz, 2003; Kuratko, 2005; Vesper & Gartner, 1997). Although there has been considerable debate whether or not entrepreneurship can be taught, it is becoming clear that, as Drucker in 1985 stated: “[entrepreneurship] is not magic, it’s not mysterious, and it has nothing to do with genes. It’s a discipline. And, like any discipline, it can be learned”. In the past few decades research on the traits of and systematic differences between entrepreneurs and non-entrepreneurs, and successful and unsuccessful entrepreneurs, has provided mixed results only (Alvarez & Barney, 2007; Baum et al., 2001; Brockner et al., 2004; Busenitz et al., 2003; Eckhardt & Shane, 2003; Mishra & Zachary, 2010; Sarasvathy, 2001). The focus of entrepreneurship research has been shifting from this search for the ‘typical’ entrepreneurial personality to more acquired characteristics, such as entrepreneurial cognition (Brockner et al., 2004; Grégoire et al., 2006; Ireland & Webb, 2007; Mitchell et al., 2002). The question whether entrepreneurship can be taught, has been replaced by more relevant questions of what should be taught and how (Bryant, 2006; Gorman et al., 1997; Kuratko, 2005). Educators are now challenged with designing effective learning opportunities for entrepreneurship students (Kuratko, 2005). It is therefore not surprising that research in these topics is gaining interest from researchers in multiple disciplines, such as psychology, educational science, organizational science, economics and sociology (Bécharde & Grégoire, 2005; Brockner et al., 2004; Fayolle & Gailly, 2004; Fiet, 2001a, 2001b; Grégoire et al., 2006; Holmgren & From, 2005; Ireland & Webb, 2007; Katz, 2003; Kuratko, 2005).

However, much of the research in entrepreneurship tends to be studied mainly within the context of each discipline, often ignoring theoretical and methodological insights from other fields. Several authors in entrepreneurship literature have called for a multidisciplinary approach in entrepreneurship research (Bécharde & Grégoire, 2005; Gorman et al., 1997; Ireland & Webb, 2007; Mishra & Zachary, 2010). Yet, with the field of entrepreneurship still considered to be in its infancy, theoretically as well as in terms of its legitimacy as a research domain (Bécharde & Grégoire, 2005; Busenitz et al., 2003; Grégoire et al., 2006; Kuratko, 2005; Shane & Venkataraman, 2000; Wiklund et al., 2010), research at the interface between entrepreneurship and education could be considered to be even less developed. Bécharde and Grégoire (2005) argue that even though significant progress has been made, if the field of entrepreneurship education is to continue its development, an important challenge lies in further integration of research in entrepreneurship and education. They identified three research areas in educational research, which appear to be underaddressed in entrepreneurship research: “social-cognitive, psycho-cognitive, and spiritualist or ethical”. As such, teaching of entrepreneurship might be ignoring important opportunities to improve practice and avoid pedagogical stagnation (Bécharde & Grégoire, 2005; Katz, 2003).

Considering the shift from traits toward cognition in entrepreneurship research, and that recent research in entrepreneurial cognition has drawn heavily on the field of social cognition (Mitchell et al., 2007), this study will concentrate on the social-cognitive dimension. Even though entrepreneurial cognition research is still in early stages of development, in the past fifteen years there has been a substantial expansion in research on this topic (Baron, 2004; Busenitz et al., 2003; Ireland & Webb, 2007; Mitchell et al., 2007; Sarasvathy, 2001; Shane & Venkataraman, 2000). Yet in their analysis of 103 peer-reviewed entrepreneurship education articles, Bécharde and Grégoire (2005) found only four articles associated with the

social cognitive-dimension, one studying self-efficacy and three articles on contextualized approaches. Moreover, their focus is on the formal context of higher education because they indicate that a significant portion of entrepreneurship education is centred on the context of formal education, and more specifically in higher education. This would imply that in the context of entrepreneurship training programmes, involving adult learners in non-formal education, research in the social-cognitive dimension would be even more scarce.

Research in the social-cognitive dimension is concerned with interactions between the individual and his/her social context. It situates the mental (psycho-cognitive) dimensions that play a role in education within its sociocultural context, in terms of their implications for pedagogical strategies. Examples include self-efficacy, self-regulation, group dynamics, motivation, goal setting, and collaborative and contextualized learning (Béchar & Grégoire, 2005). This study will focus on one of the pillars in adult learning theory, self-directed learning and the related concept of self-regulated learning (Knowles et al., 2005; Merriam, 2001). With the increase of control over their learning process and environment, and the rapid expansion of available peer produced and informal learning materials, the demands placed on adult learners to self-direct and self-regulate their learning is increasing (Sitzman & Ely, 2011). Even though it is broadly agreed that self-direction and self-regulation are positively related to educational outcomes (Knowles et al., 2005; Loyens et al., 2008; Sitzman & Ely, 2011; Zimmerman, 2001) and it has been suggested that the process of engaging in self-regulation may provide information on when and why entrepreneurial success may occur (Brockner et al., 2004), little research has been done into the topic of self-direction and self-regulation in entrepreneurship education and training (Béchar & Grégoire, 2005; Bryant, 2006). This study attempts to fill this gap by investigating the concepts of self-direction and self-regulation in the context of entrepreneurship training, with the aim of designing an instrument that will support and strengthen self-directed and self-regulated learning of entrepreneurs.

Theoretical background

Self-directed learning

There is a general consensus in adult learning theory on the importance of learner control in adult education (Illeris, 1994; Kessels & Poell, 2004; Knowles et al., 2005). Adults are assumed to be able to make their own choices, weigh their options and make responsible, well-informed decisions in their own interest (Kessels & Poell, 2004). Learning develops most quickly when adults clearly take responsibility for their own learning process. And although adults take this for granted, they have a tendency, especially in the beginning, to avoid it. It is crucial that the teacher does not take back this responsibility and helps the adult develop from a dependent to a self-directed learner (Illeris, 2004; Knowles et al., 2005).

Having its roots in adult education, self-directed learning (SDL) has a history of learning outside school environments (Loyens et al., 2008; Merriam, 2001). SDL was first defined by Tough in 1967 as widespread and systematic learning that is part of the adult's everyday life and does not depend on an instructor or a classroom. His study of this type of learning provided a significant boost to the field of adult education (Merriam, 2001). Also Knowles' first assumption in describing the adult learner is that learners become increasingly self-directed as they mature (Knowles et al., 2005; Merriam, 2001). He defined SDL as "a process in which individuals take the initiative, with or without the help from others, in diagnosing their learning needs, formulating goals, identifying human and material resources, choosing

and implementing appropriate learning strategies, and evaluating learning outcomes” (Knowles, 1975). Later definitions also refer to the preparedness of learners to engage in learning activities initiated by themselves rather than the teacher, which entails having both the willingness to engage in the learning activities, as well as the ability to do so (Loyens et al., 2008).

Self-regulated learning

In the past 30 years, research on self-regulated learning has provided a great knowledge base for understanding how people systematically adapt their actions during the learning process to achieve their goals (Sitzman & Ely, 2011). Self-regulation describes the processes that help individuals set goals and self-direct their behaviour, affect, cognition and motivation towards reaching these goals (Loyens et al., 2008; Sitzman & Ely, 2011; Vancouver & Day, 2005). The ability to self-regulate could be considered one of the most essential assets an adults have, as it allows them to function effectively and acquire new knowledge and skills. Research in self-regulation provides insight in how people control their behaviour and explains why they are willing to apply considerable mental effort to learn (Sitzman & Ely, 2011). Self-regulated learning is concerned with being metacognitively, motivationally and behaviourally active participants throughout a learning experience to reach a desired level of achievement (Sitzman & Ely, 2011; Zimmerman, 1989). In a review of seven of the most influential self-regulation theories, Sitzman and Ely identified sixteen core constructs that constitute self-regulated learning: goal level, planning, monitoring, metacognition, attention, learning strategies, persistence, time management, environmental structuring, help seeking, motivation, emotion control, effort, self-evaluation, attributions, and self-efficacy. The result of their meta-analysis suggests that these constructs are highly interrelated and that most have a positive relationship with learning. Goal level, persistence, effort and self-efficacy have the strongest effect, whereas planning, monitoring, help seeking and emotional control had no significant effect (Sitzman & Ely, 2011).

Linking self-directed and self-regulated learning

The relationship between SDL and SRL was comprehensively examined by Loyens et al. (2008), who found that many literature sources use both concepts interchangeably. Both do involve active engagement and goal-directed behaviour, activate metacognitive skills (preceding and following the study activities) and emphasize intrinsic motivation as a key ingredient. But even though these concepts have significant overlap, clear differences can also be identified. First, SDL is both a design feature of the learning environment as well as a learner characteristic (activities or processes demonstrated by the learner). SRL on the other hand, is usually considered only as a learner characteristic. SDL originated in adult education context, concerning learning outside formal educational settings. SRL originated within the formal education setting. In SDL the learner also has more control over the learning environment and has a crucial role in initiating and defining the learning task. In SDL the learning task is always defined by the learner, whereas in SRL, this can also be determined by the teacher. In sum, SDL is broader than SRL. SDL can encompass SRL, but the opposite does not apply. In SDL the learner clearly has an important role at the start of the learning process, whereas SRL is more concerned with the subsequent steps (Loyens et al., 2008).

Based on a review of empirical studies examining SDL and SRL in the context of problem-based learning environments, Loyens et al. (2008) concluded that SDL and SRL are developmental processes, since several studies found more advanced students to be more

self-directed and self-regulated. This implies that SDL and SRL can be learned, although studies also indicate it is not an easy process. They also found empirical evidence that the “self” aspect (self-generation of learning goals, self-monitoring, self-reflection and self-assessment) is crucial in SDL and SRL, which emphasizes the crucial role of learner control. One last factor influencing the SDL process is the uncertainty both students and teachers experience whether the intended course content has been covered by the students’ self-study activities. In such cases providing students with core literature resources gives faculty and tutors reassurance, but at the same time, this undermines the students’ freedom to select and critically evaluate learning materials and as such makes SDL impossible. Conceptual clarity of what the concept entails and guidance for both tutors and students can help the self-directed learning process (Loyens et al., 2008).

Research question

The background information described here clearly shows the need for further integration of education and entrepreneurship research. By researching self-directed and self-regulated learning in entrepreneurship training programmes, this study aims to contribute to the social-cognitive research domain, which is underaddressed in entrepreneurship education research. Both concepts have been positively related to learning and there is evidence it can be learned, but a need for conceptual clarity has been expressed.

The aim of this study is to design and test an instrument that will support and strengthen self-directed and self-regulated learning of entrepreneurs within the context of entrepreneurial training programmes. The research question is therefore formulated as follows:

“How can self-directed and self-regulated learning of entrepreneurs be supported and strengthened in entrepreneurship training programmes?”

This main research question is divided into the following research questions:

1. What is SDL and SRL?
2. Which factors influence SDL and SRL?
3. What are the necessary conditions for SDL and SRL?
4. How do SDL and SRL support entrepreneurial learning?
5. How do SDL and SRL affect the role of the teacher?
6. How do SDL and SRL affect programme design?

Research Design

The research will be conducted in a mixed methods approach, consisting of a literature study and an experiment, which will include both quantitative and qualitative measures and analyses. Table 1 provides an overview of the different research methods.

The research data will be collected at VentureLab Twente, a business incubator and accelerator for high-tech, high growth start-ups and existing businesses, which consists among others of training, coaching, networking and facilities. Since May 2009, close to 170 entrepreneurs have taken part in the programme, ranging from those having no clear business idea to entrepreneurs with well established companies. The incubator is also a research laboratory for NIKOS (Netherlands Institute for Knowledge Intensive Entrepreneurship) at the University of Twente, which generates a large amount of research data, including the early stages of entrepreneurship.

Research Question	Research Method			
	Literature Study	Experiment		
		Observation	Survey	interview
1. What is SDL and SRL?	x			
2. Which factors influence SDL and SRL?	x		x	
3. What are the necessary conditions for SDL and SRL?	x	x	x	
4. How do SDL and SRL support entrepreneurial learning?	x	x	x	x
5. How do SDL and SRL affect the role of the teacher?	x	x		x
6. How do SDL and SRL affect programme design?	x			x

Table 1: research methods

Literature study

A literature study will be conducted to achieve conceptual clarity of the concepts self-directed and self-regulated learning, illustrating the similarities and differences between them, which Loyens et al. (2008) believe will provide guidance to students, teachers and designers in implementing SDL and SLR strategies. Furthermore, together with the identification of the factors influencing SDL and SRL and a review of empirical studies of SDL and SRL in entrepreneurship (education) literature, this will provide the necessary input to design the intervention to support and strengthen SDL and SRL of entrepreneurs within the context of entrepreneurship training programmes. Also, the literature study will identify the scales to be used to measure SDL and SRL and possible other relevant variables.

True Field Experiment

The nature of the intervention as well as the design of the experiment will depend on the outcomes of the literature study, but is expected to be a true experiment, with randomly assigned subjects to three different types of intervention:

- X_A X_A : reduced learner control
- X_B X_B : increased learner control
- X_C X_C : increased learner control with intervention

Both the duration of the experiment and the scales to be used to measure the impact of the intervention on SDL and SRL in the entrepreneurs, will depend on the outcome of the literature study.

Relevance of the study

Several authors in entrepreneurship have called for a multidisciplinary approach in entrepreneurship research (Mishra & Zachary, 2010; Ireland & Webb, 2007). Béchard and Grégoire (2005) also concluded that addressing concerns in entrepreneurship education would benefit greatly from relevant knowledge already developed and established in entrepreneurship education. They advance that “the single most important challenge for the future lies in developing scholarly expertise in the dual fields of entrepreneurship and

education". Having a background in educational science and design, I will be using a multidisciplinary approach, combining insights from the fields of educational science, psychology and entrepreneurship, and as such add to the development of scholarly expertise in the dual fields of entrepreneurship and education.

By researching self-directed and self-regulated learning in entrepreneurship training, this study will contribute to the social-cognitive dimension in entrepreneurship education research, an area identified by Béchard and Grégoire (2005) as being underaddressed in entrepreneurship education research. By providing conceptual clarity of SRL and SDL, this study aims to move the field forward by aligning scholarly discussion, and improving understanding of these concepts so they can be operationalized and appropriate methods and assessments can be developed (Dinsmore et al., 2008; Lajoie, 2008). At the same time conceptual clarity of what SDL and SRL entail, will provide guidance for students, teachers and designers to become and bring forth self-directed and self-regulated learners (Loyens et al., 2008).

An empirically tested instrument to develop self-directed and self-regulated learning of entrepreneurs will also be of value to entrepreneurship educators and programme designers in entrepreneurship training programmes. The outcome may also provide the basis to extend the area of study to formal entrepreneurship education in further research.

References

- Alvarez, S. A., & Barney, J. B. (2007) "Discovery and Creation: Alternative Theories of Entrepreneurial Action." *Strategic Entrepreneurship Journal*, 1(1-2): 11-26.
- Baron, R.A. (2004) "The Cognitive Perspective: a Valuable Tool for Answering Entrepreneurship's Basic 'Why' Questions." *Journal of Business Venturing*, 19(2): 221-239.
- Baum, J.R., Locke, E.A., Smith, K.G. (2001) "A Multidimensional Model of Venture Growth." *Academy of Management Journal* 44(2): 292-303.
- Béchar, J. & Grégoire, D. (2005) "Entrepreneurship Education Research Revisited: the Case of Higher Education." *Academy of Management Learning and Education* 4(1): 22-43.
- Brockner, J., Higgins, E.T., & Low, B.L. (2004) "Regulatory Focus Theory and the Entrepreneurial Process." *Journal of Business Venturing* 19(2): 203-220.
- Busenitz, L. West, G.P.I., Shepherd, D.A., Nelson, T., Chandler, G.N., & Zacharakis, A. (2003) "Entrepreneurship Research in Emergence: Past Trends and Future Directions." *Journal of Management* 29(3): 285-308.
- Dinsmore, D.L., Alexander, P.A., & Loughlin, S.M. (2008) "Focusing the Conceptual Lens on Metacognition, Self-Regulation and Self-Regulated Learning." *Educational Psychology Review* 20(4): 391-409.
- Drucker, P.F. (1985) *Innovation and Entrepreneurship*. New York: Harper & Row.
- Eckhardt, J.T. & Shane, S.A. (2003) "Opportunities and Entrepreneurship." *Journal of Management* 29(3): 333-349.
- Fayolle, A., & Gailly, B. (2004) "Using the Theory of Planned behavior to Assess Entrepreneurship Teaching Programs: A First Experimentation." Paper presented at the IntEnt Conference, Napels, July 4-7.
- Fiet, J.O. (2001a) "The Theoretical Side of Teaching Entrepreneurship." *Journal of Business Venturing* 16(2): 101-117.
- Fiet J.O. (2001b) "The Pedagogical Side of Teaching Entrepreneurship." *Journal of Business Venturing* 16(1): 1-24.
- Gent, B. van, & Notten, A.L.T. (1988) *Inleiding tot de Volwasseneneducatie*. Uitgeverij Boom: Meppel/Amsterdam.
- Gorman, G., Hanlon, D., & King, W. (1997) "Some Research Perspectives on Entrepreneurship Education, Enterprise Education, and Education for Small Business Management: a Ten-Year Literature Review." *International Small Business Journal* 15(3): 56-77.

- Grégoire, D.A., Noël, M.X., Déry, R., & Béchar, J.P. (2006) "Is There Conceptual Convergence in Entrepreneurship Research? A Co-Citation Analysis of Frontiers of Entrepreneurship Research, 1981-2004." *Entrepreneurship Theory and Practice* 30(3): 333-373.
- Holmgren, C. & From, J. (2005) "Taylorism of the Mind: Entrepreneurship Education from a Perspective of Educational Research." *European Educational Research Journal* 4(4): 382-390.
- Ileris, K. (2004) *Adult education and adult learning*. Copenhagen: Roskilde University Press.
- Ireland, R.D., & Webb, J.W. (2007) "A Cross-Disciplinary Exploration of Entrepreneurship Research." *Journal of Management* 33(6): 891-927.
- Katz, J.A. (2003) "The Chronology and Intellectual Trajectory of American Entrepreneurship Education 1876-1999." *Journal of Business Venturing* 18(2): 283-300.
- Kessels, J.W.M. & Poell, R.F. (2004) "Andragogy and Social Capital Theory: the Implications for Human Resource Development." *Advances in HRD* 6(2): 146-157.
- Knowles, M.S. (1975) *Self-Directed Learning: A Guide for Learners and Teachers*. New York: Association Press.
- Knowles, M.S., Holton, A.F., & Swanson, R.A. (2005) *The Adult Learner, Sixth Edition: the Definitive Classic in Adult Education and Human Resource Development*. Houston, Texas: Butterworth-Heinemann.
- Kuratko, D.F. (2005) "The Emergence of Entrepreneurship Education: Development, Trends, and Challenges." *Entrepreneurship Theory and Practice* 29(5): 577-598.
- Lajoie, S.P. (2008) "Metacognition, Self Regulation, and Self-regulated Learning: A Rose by any other Name?". *Educational Psychology Review* 20(4): 469-475.
- Loyens, S.M.M., Magda, J., & Rikers, R.M.J.P. (2008) "Self-directed Learning in Problem-Based Learning and its Relationships with Self-Regulated Learning." *Educational Psychology Review* 20(4): 411-427.
- Lumpkin, G.T. & Dess, G.G. (1996) "Clarifying the Entrepreneurial Orientation Construct and Linking it to Performance." *Academy of Management Review* 21(1): 135-172.
- Krueger, N.F. (2007) "What Lies Beneath? The Experiential Essence of Entrepreneurial Thinking." *Entrepreneurship Theory and Practice* 31(1): 123-138.
- Merriam, S.B. (2001) "Andragogy and Self-Directed Learning: Pillars of Adult Learning Theory" *New Directions for Adult and Continuing Education* 2001(89): 3-14.
- Mishra, C.S. & Zachary, R.K. (2010). Entrepreneurship Research Today and Beyond: Hidden in Plain Sight. *Journal of Small Business Management* 48(4): 471-474.

- Mitchell, R.K., Busenitz, L., Lant, T., McDougall, P.P., Morse, E.A., & Smith, J.B. (2002) "Toward a Theory of Entrepreneurial Cognition: Rethinking the People Side of Entrepreneurship Research." *Entrepreneurship Theory and Practice* 27(2): 93-104.
- Mitchell, R.K., Busenitz, L.W., Bird, B., Gaglio, C.M., McMullen, J.S., Morse, E.A., & Smith, J.B. (2007) "The Central Question in Entrepreneurial Cognition Research 2007." *Entrepreneurship Theory and Practice* 31(1): 1-27.
- Rogers, C.R. (1969). *Freedom to learn*. Columbus, Ohio: Merrill.
- Shane, S.A. & Venkataraman, S. (2000) "The Promise of Entrepreneurship as a Field of Research." *Academy of Management Review* 25(1): 217-226.
- Sitzman, T. & Ely, K. (2011) "A Meta-Analysis of Self-Regulated Learning in Work-Related Training and Educational Attainment: What We Know and Where We Need to Go." *Psychological Bulletin* 137(3): 421-442.
- Vancouver, J.B. & Day, D.V. (2005) "Industrial and Organisation Research on Self-Regulation: from Constructs to Applications." *Applied Psychology: and International Review* 54(2): 155-185.
- Vesper K.H. & Gartner, W.B. (1997) "Measuring Progress in Entrepreneurship Education." *Journal of Business Venturing* 12(5): 403-421.
- Wiklund, J., Davidsson, P., Audretsch, D.B., & Karlsson, C. (2010) "The Future of Entrepreneurship Research." *Entrepreneurship Theory and Practice* 35(1): 1-9.
- Zimmerman, B.J. (1989) "a Social-Cognitive View of Self-Regulated Academic Learning." *Journal of Educational Psychology* 81(3): 329-339.
- Zimmerman, B.J. (2001) "Theories of Self-Regulated Learning and Academic Achievement: An Overview and Analysis." In *Self-Regulated Learning and Academic Achievement: Theoretical Perspectives*, Eds. B.J. Zimmerman & D.H. Schunk, 1-37. London: Lawrence Erlbaum Associates.