

Introduction

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Governments around the world are increasingly investing in their enterprise policies in order to unlock the entrepreneurial potential of young people (OECD, 2009a). Accordingly, we observe a widespread rise of entrepreneurship courses in higher education (see cf. the forthcoming report by Weber, Oser & Achtenhagen, in press). However, entrepreneurship educators still do not agree on the appropriate curricular and instructional design of these courses (Anderseck, 2005; Uebelacker, 2005; Schulte, 2007; Fayolle & Kyrö, 2008). In addition, the emergence of entrepreneurship education at universities is frequently not accompanied by rigorous and sustainable program assessments (Fayolle, Gailly & Lassas-Clerc, 2006; OECD, 2009b). Taken together, one aim of this special issue is at overcoming the highly fragmented didactical and instructional approaches in entrepreneurship courses by highlighting and discussing the heuristic framework of the «curriculum-instruction-assessment triad» (Pellegrino, 2010; Griffin, McGraw & Care, 2012) for a sustainable implementation of a research- and evidence-based business planning program.

Within the first chapter, *Frank Achtenhagen* claims for the necessity of running a research- and evidence-based creation, planning, implementation and evaluation of educational programs – so also for a business planning program. Within his umbrella contribution he highlights the heuristic framework of the «curriculum-instruction-assessment triad» in accordance of Pellegrino (2010). He demonstrates its elements and interdependences by explaining and illustrating them with examples and discusses them under a strong subject-didactical perspective on the basis of sound research studies from the field of human resource education.

Within the second chapter, *Fritz Oser* and *Thierry Volery* are focusing on the «curriculum»-aspect of the triad – departing from the fact that most of the current entrepreneurship courses and textbooks are focusing one-directionally on promoting start-up desirability and feasibility. Those courses, thereby, neglect that statistical evidence shows the failure of start-ups in their first five years. Discussing the educational goals for entrepreneurship courses Oser and Volery call for a more balanced approach by developing the concepts «sense of success» and «sense of failure» among would-be entrepreneurs. By their conceptual paper they elaborate and ground these fundamental ideas on business, pedagogical and educational-psychological research results and work out a possible operationalization for the interdependent «curriculum», «instruction» and «assessment» elements.

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Bärbel Fürstenau underlines the necessity to also focus on the «sense of failure» aspects of entrepreneurship behavior and education. She stresses especially the necessity of strengthening research on this topic. Pairwise comparison of successful and less successful founders – matched by branch, industry, products, financial support and family – seems an effective way to work out the pin-pointed twin structure of entrepreneurship education.

Within the third chapter *Susanne Weber* and *Sabine Funke* are focusing on the «instructional» part of the triad. Departing from the conviction that there does not exist «one-size» or «one-shape» which fit all purposes of (entrepreneurial) instruction the authors present an entrepreneurship education course to foster «teamwork» as a decisive start-up competence (cf. Lang-von Wins, Leiner, von Rosenstiel et al., 2002). Considering competence facets of «knowledge on teamwork», «skills of doing teamwork» and «abilities on teamwork» they create a made to measure instruction – for a Bachelor cohort (N=430) at a huge universitarian management school in Germany – fostering these particular start-up competence facets. Each construction step is well-founded on current international research results and meta-analyses (e.g. Seidel & Shavelson, 2007) in the field of teaching-learning theory (cf. van Merriënboer & Kirschner, 2007: handling cognitive load and construction criteria; Dochy, Segers, Van den Bossche et al., 2003: for designing problem-based learning episodes). The first evaluation of Weber and Funke's approach shows that their educational program was picked up by the students, who were highly interested, engaged and could increase the intended competence facets on «teamwork».

The corresponding comment of *Kristina Reiss* shows that it is possible and makes sense to run such made to measure courses also in large settings. She emphasizes how central elements of professionalism like «pedagogical content knowledge» (what goes into a business plan, what are reasonable tasks to be solved within a team or better alone), «pedagogical knowledge» (how people learn) etc. in the sense of Shulman (1986) also get relevant and have to be involved within such a course constructing procedure.

Within the fourth chapter *Richard Shavelson* is focusing on the «assessment» part of the triad. Lot of entrepreneurial programs and courses are evaluated at different levels and with regard to different manifest and latent variables: «the number of created new businesses and jobs, patents, technology licenses»; «the enrolments across university»; «satisfaction with the course 'delivery'» and «arrangement» – with regard to latent output measures evaluations are focusing mainly on the concept of «entrepreneurial intention», «attitudes and beliefs held towards entrepreneurship and self-employment» like in Ajzen's model of planned behavior (Volkman, Wilson, Mariotti et al., 2009; Ajzen, 1991). Some authors suggest to evaluate additionally context variables (Fayolle & Gailly, 2009). But what do the students really learn and take out of the (entrepreneurial) course? – Shavelson, therefore, suggests to assess the individual learner's competencies using the criteria of Collegiate Learning Assessment (CLA) (Shavelson, 2010). That means «... complex ability ... that ... [is] closely related to performance in real life situations» (Hartig, Klieme & Leutner, 2008, p. v).

Within his paper Shavelson demonstrates step by step the heuristic of the CLA approach for modeling and measuring individual competencies, discusses quality criteria and limitations by using corresponding examples. His statements provide valuable hints for reconsidering the assessment strategies for entrepreneurship education.

The corresponding comment of *Tina Seidel* underlines that the CLA is an example of methodological and technical rigor in the development of assessment for use in higher education. She pinpoints the high standards of CLA and illustrates the challenges facing educational research in providing measures, not only for individual measurement but also to improve performance by facilitating change in the educational system.

As entrepreneurship was and is over the last decades a hot topic in the fields of business and management it becomes more and more relevant also in the field of human resource education. Whereas, the first wave of the huge governmental projects was to give entrepreneurship an explicit voice of its own by establishing professorships and institutions on a structural level, the second wave encouraged for describing the state of the art, rising questions on entrepreneurial activities and getting answers by extended research across disciplines. The third wave now focusses on entrepreneurship education: rising questions on the «curriculum» (What goals and issues should be part of an entrepreneurial course under an educational perspective?), on «instruction» (How can we foster entrepreneurial learning and development by using our current instructional technology?), and «assessment» (What outcome measures are valid and have a rigorous predictive quality? How can we model and measure «entrepreneurial competencies»?) and, by that, stimulating corresponding rigor and relevant research. Therefore, we conducted a symposium on «Modeling and Measurement of Competencies – Business Planning»¹ and discussed these issues intensively with participants of science (business, management, human resource, education, statistics), business practice (chambers of commerce) and educational practice (university teachers and teachers from professional and vocational schools). Exemplary ideas, arguments and results form the kernel of this special issue.

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1 We were very honored to initiate this symposium on the occasion of the research stay of Prof. Dr. Dr. h.c. Richard J. Shavelson (Stanford University) as Alexander von Humboldt Awardee at the Institute of Human Resource Education & Management, Ludwig-Maximilians-University, Munich. Thus, we thank the Alexander von Humboldt-Foundation for this great opportunity.

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