Received 29 July 2020
Revised 14 December 2020
5 April 2021
13 April 2021
Accepted 13 April 2021

The entrepreneurial diary – a reflective learning activity to enhance the judgmental abilities of student entrepreneurs

Gustav Hägg
Sten K. Johnson Centre for Entrepreneurship, School of Economics and Management, Lund University, Lund, Sweden and
Department of Urban Studies, Faculty of Culture and Society, Malmö University, Malmö, Sweden

Abstract

Purpose – The purpose of the paper is to theorize how to develop student entrepreneurs' ability to reflect by means of a learning activity called the entrepreneurial diary, which seeks to develop self-regulated learners capable of intelligent entrepreneurial action. The importance of self-regulation in entrepreneurship is linked to the individual's ability to make judgments under conditions of uncertainty, which requires reflective thinking.
Design/methodology/approach – The paper builds on a synthesized conceptualization of three main literature strands, reflective thinking, cognitive-load theory and experiential entrepreneurship education. In addition to the synthesized conceptualization, it builds on some empirical insights derived from a venture creation master programme in which the learning activity has been developed and refined for the last seven years.
Findings – The main finding from the paper is the theoretical justification for why reflective thinking deserves an important place in the educational process and how the entrepreneurial diary as a learning activity can create a bridge between theory and practice in venture creation programmes that take an experience-based pedagogical approach. Furthermore, the study also provides some empirical insights of how students create self-awareness of their learning through the method and the metareflection reports. Self-awareness is foundational for developing conditional knowledge on why and when to make entrepreneurial decisions to balance the often action-oriented processes seen in venture creation programmes.
Originality/value – The paper provides both a practical learning activity to be used in the entrepreneurial classroom and a theoretical contribution on how entrepreneurial experience is transformed into entrepreneurial knowledge to enhance students' judgmental abilities to make entrepreneurial decisions in future entrepreneurial endeavours.

Keywords Experiential entrepreneurship education, Entrepreneurial diary, Reflective thinking, Cognitive load theory
Paper type General review

This paper forms part of a special section "Students creating ventures in higher education – nascent entrepreneurs and entrepreneurship students", guest edited by Lise Aaboen, Roger Sørheim, Dag Håkon Haneberg and Torgeir Aadland.

The author would like to thank two anonymous reviewers for their helpful comments for developing this work. The author is also grateful for valuable comments and suggestions on earlier drafts from Associate Professor Colin Jones and Associate Professor Agnieszka Kurczewska, as well as comments from a paper development workshop in 2019 hosted by Professor Gry A. Alsos and Professor Diamanto Politis at Lund University.

International Journal of Entrepreneurial Behavior & Research
Vol. 27 No. 5, 2021
pp. 1142-1165
Emerald Publishing Limited
1355-2554
DOI 10.1108/IJEBR-07-2020-0496

Introduction

When it comes to teaching methods and underlying theories of learning, entrepreneurial education has seen a tremendous growth and development (Hägg and Gabrielsson, 2019). In a contemporary entrepreneurial classroom, experiential and student-centred learning approaches originating in progressive and constructivist views on how to learn have become the norm. The norm has been pushed from both a policy perspective (Ball, 1989; Commission, 2013) and an empirical perspective on how entrepreneurs learn (Johannisson, 1991; Neck and Greene, 2011; Sexton and Bowman-Upton, 1987, 1988), as well as from an educational perspective that has shifted from an objectivist view on learning towards a constructivist one (Macht and Ball, 2016; Robinson *et al.*, 2016).

Since the early phases of entrepreneurship in higher education in the 1980s [1], the subject-domain of how to teach and how student entrepreneurs could learn has been an exploratory journey (Béchard and Toulouse, 1991; Fayolle, 2013; Gabrielsson *et al.*, 2020; Jones, 2019), largely influenced by adult education literature and constructivist ideas (Kassean *et al.*, 2015; Löbler, 2006; Pittaway and Cope, 2007; Scott *et al.*, 2016). An on-going argument in this search to find some common ground has been the need for experiential learning theories when teaching students, such as problem-based learning and action learning (Fayolle, 2013; Mandel and Noyes, 2016).

When tracing the inclusion and development of experiential learning in entrepreneurial education, there has been a somewhat skewed focus on implementing action (Hägg, 2017), which if one follows the early thoughts on progressive education would only tell half the story of how to learn through experience (Dewey, 1938, 1946). A main thought that guided early theorizing about learning through experience is based on the interplay between knowing and doing (McLellan and Dewey, 1889), which is synthesized through the process of reflective thinking (Boud *et al.*, 1985; Dewey, 1910; Rodgers, 2002). Despite an abundance of research discussing the importance of reflection in entrepreneurial education (Deacon and Harris, 2011; Jones, 2019; Lindh and Thorgren, 2016; Lundmark *et al.*, 2019; Neck and Greene, 2011; Williams Middleton and Donnellon, 2014), there is scant research that discusses the origins and learning activities for developing reflective thinking among students when engaging in learning entrepreneurship through experience (see, e.g. Hägg, 2018; Jones, 2009). Drawing from reflective thinking, cognitive load theory and experiential education, the questions that guided this paper are: what are the theoretical foundations when developing reflective thinking in experiential entrepreneurship education? and how might the entrepreneurial diary as a reflective learning activity stimulate self-regulation?

To address the above questions, the present paper discusses the usefulness of the entrepreneurial diary as a tripartite learning activity when students learn through experience (Boud *et al.*, 1985; Dyment and O'Connell, 2010; Gray, 2007). The entrepreneurial diary is intended to increase students' judgmental abilities to engage in intelligent entrepreneurial action (e.g. Dewey, 1946; Hägg, 2018) by means of developing self-regulation (Zimmerman, 2002). The learning activity is based on an individual level as it has been argued that construction of knowledge is a highly individual undertaking (Schunk, 2012), where the working of the mind takes different paths depending on the pre-knowledge and pre-experiences that each individual utilizes when reflecting on learning experiences.

The purpose of the paper is to theorize how to develop student entrepreneurs' ability to reflect by means of a learning activity called the entrepreneurial diary, which seeks to develop self-regulated learners capable of intelligent entrepreneurial action. The learning activity has been developed and theoretically refined within a venture creation master programme. The entrepreneurial diary consists of three parts: the first is a reflective journal that students write and hand in every second week throughout a full year of study, the second is a mid-term metareflection report that gives the students an opportunity to reflect back on their first semester of studies, while the third part is a final metareflection report that allows the

students an opportunity to reflect on their entire year of study and the interaction between theory and practice. The entrepreneurial diary with its focus on developing reflective thinking is a key to becoming a self-regulated learner (see Dewey, 1910; Ertmer and Newby, 1996; Zimmerman, 2002) that balances the action orientation in entrepreneurship. This is important as entrepreneurs engage in highly action-oriented activities that are closely linked to making judgments under conditions of uncertainty (see Knight, 1921; Sarasvathy, 2008). However, the entrepreneurial diary is just one part of an experiential educational process that depends on the other learning activities to function, such as employing effectual reasoning or the use of lean start-up methods and the creation of real-life entrepreneurial projects. As Roberts (2015) and Itin (1999) argue, the experiential education process consists of different transactions between the individual learner and the context, between peers in different social settings and between the learner and the facilitator. In this respect, the entrepreneurial diary is a learning activity that forms one sub-process, which together with the other learning activities creates a whole in a venture creation programme.

The paper is structured as follows. First, there is a section addressing entrepreneurship education and different forms of knowledge that provide a foundation for why reflective thinking and the entrepreneurial diary are important for developing different types of knowledge. This is followed by a discussion on the role of experience in learning, leading into a discussion on why reflective thinking is essential for the development of knowing, which includes two forms of thinking: empirical and experimental. Following the discussion on the important role of reflective thinking, the three parts of the entrepreneurial diary as a learning activity and the context for its development are discussed. Next the theoretical grounding for the entrepreneurial diary is addressed beyond the foundational role of reflective thinking, which concludes with a model of the interplay between the theoretical streams and a discussion on how to start researching and evaluating the process of developing reflective thinking. The paper ends with a concluding section and the contributions that we believe the entrepreneurial diary brings to the ongoing research discussion on learning in entrepreneurial education.

Entrepreneurship education and different forms of knowledge

Entrepreneurs learn from and through experience (Deakins and Freel, 1998; Minniti and Bygrave, 2001), both from successes or failures (Politis and Gabrielsson, 2009; Shepherd, 2004). They engage in various entrepreneurial activities that enhance their declarative and procedural knowledge in order to decrease the uncertainty bound to the entrepreneurial process (Politis, 2005a). However, when thinking about how to transfer these entrepreneurial activities into the educational setting, the main focus has been on including more experiential activities that engage student entrepreneurs in various procedural forms of knowledge accumulation (Johannisson *et al.*, 1998; Kassean *et al.*, 2015; Sexton and Bowman-Upton, 1988). It has been argued by both educators and practitioners that the aspect of including knowledge of how to conduct various entrepreneurial tasks bound to the process of starting a business is important, highlighting the inclusion of action in the learning process (Gielnik *et al.*, 2015; Pittaway *et al.*, 2009).

However, an issue that has been less addressed is how the included action transforms into entrepreneurial knowledge (Hägg and Kurczewska, 2020), which in this study relates to the definition of domain knowledge, including declarative (know what), procedural (know-how, skills) and conditional knowledge (know when and why) (Alexander, 1992). Domain knowledge relates to entrepreneurship as a phenomenon, which has been argued to be teachable (Fayolle, 2008; Henry *et al.*, 2005). The three components of domain knowledge are all associated with the current focus on experiential learning and the underlying conceptualization of how to learn through experience in the educational setting. In order to learn through experience both declarative (know-what, facts) and procedural (know-how,

skills) knowledge is needed, whilst conditional knowledge (knowing why and when to use one's declarative and procedural knowledge) is developed through reflective thinking intended to enhance the student's judgmental ability. This is also known as attempting to develop the ability to self-regulate (Zimmerman, 2008).

In the educational setting, research on entrepreneurship has largely focused on the development of declarative and procedural knowledge (Fiet, 2001a, b; Mwasalwiba, 2010), arguing for a movement from declarative towards procedural (Johannisson, 1991; Kassean *et al.*, 2015; Rasmussen and Sørheim, 2006; Ronstadt, 1985), but in the literature, less attention has been devoted to emphasizing the role of conditional knowledge (e.g. Hägg, 2017; Williams Middleton and Donnellon, 2014). Although reflection has been highlighted as an important component in the learning process (Deacon and Harris, 2011; Neck and Greene, 2011), and the use of reflective journals is reported in the scholarly discussion (Jones, 2019; Kubberød and Pettersen, 2018; Kurczewska *et al.*, 2018; Lundmark *et al.*, 2019), there are less theoretically and methodologically strong arguments for justifying how and why reflective journals and reflective thinking are important when developing entrepreneurial knowledge. But also, how reflective thinking as a systematic process aids in the development of judgmental ability (conditional knowledge), which could be argued to be essential in entrepreneurial contexts where uncertainty prevails (Knight, 1921; Sarasvathy, 2008).

The importance of experience for learning

The role of experience has been central in entrepreneurial education since the 1980s, but its role in learning in general can be traced far back in time. A main idea regarding experience and its relation to learning addressed by Dewey was the interplay between mind and body that several other scholars had addressed prior to his claims (such as Aristotle as well as Jean-Jacques Rousseau). The idea of balance between the body and mind in learning has presently been revitalized and is a highly discussed element in learning from and through experience (e.g. Hickman, 1992; Hägg and Kurczewska, 2016; Jay, 2005; Kuk and Holst, 2018; Lackéus *et al.*, 2016). Experience, especially related to progressive ideas in education, is an active and future-oriented concept consisting of primary and secondary experience (Jay, 2005). Whereas primary experience is the actual doing (concrete experience in the ideas of Kolb) that includes peer interaction and other social contacts important for learning, secondary experience consists of reflective thinking being a systematic process that transforms experience into knowing (e.g. Rodgers, 2002). The influence of experiential learning and experiential education research in entrepreneurial education and more specifically in venture creation programmes has a long history (Haneberg and Aadland, 2020; Kuratko, 1989; Rasmussen and Sørheim, 2006), where learning experientially has been closely linked to how practicing entrepreneurs and small business owners learn (Deakins and Freel, 1998; Politis, 2005b; Wang and Chugh, 2014). However, the role of experience and how it is infused into the context of education could be argued to vary from the context of practicing entrepreneurs and small business owners due to the difference between a novice learner undergoing an education and a more proficient practitioner (Cohen *et al.*, 2020; Hägg and Kurczewska, 2020). Whilst the practitioner employs gut feeling (Garavan and O'Cinneide, 1994; Gibb, 1987) or reflects in action (Schön, 1983) based on prior knowledge and experience of similar situations, the novice learner needs tools that aid in dealing with primary (concrete) experiences (Garrison, 1995). This is where reflective thinking as a systematic process comes in, serving as a way to grasp and turn concrete experience into secondary experience leading towards entrepreneurial knowledge.

Reflective thinking – a learning activity that supports the development of knowing

It has been argued that the action-orientation to implement experiential and constructivist approaches when teaching entrepreneurship has raced ahead of the theoretical foundations

(Fayolle *et al.*, 2016; Rideout and Gray, 2013) to justify the methods and learning activities implemented in the educational setting. The importance of reflective thinking when teaching entrepreneurship has been extensively discussed (Deacon and Harris, 2011; Lindh and Thorgren, 2016; Neck and Greene, 2011; Neck *et al.*, 2014), but its underlying theoretical roots demands more scrutiny to both guide and justify how it balances action-orientation when student entrepreneurs are to learn through entrepreneurial experience (Hägg and Kurczewska, 2020), as well as how it fosters the development of judgmental ability to engage in intelligent (moral) action (Dewey, 1891) when facing entrepreneurial uncertainty (Knightian uncertainty).

The legacy of Dewey is undeniably a key starting point when discussing reflective thinking in the educational context (see, e.g. Kuk and Holst, 2018; Pepin, 2012; Rodgers, 2002; Schön, 1992). In this study, reflective thinking is viewed both as an activity that needs to be learnt and an ability that bridges knowing and doing. A sign of reflective thinking is that it is "always more or less troublesome because it involves overcoming the inertia that inclines one to accept suggestions at their face value; it involves willingness to endure a condition of mental unrest and disturbance... in short, it means judgment suspended during further inquiry" (Dewey, 1910, p. 13). Hence, the study follows the definition set by Dewey (1910, p. 6), where reflective thinking is an "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the conclusions to which it tends".

Based on the above, reflective thinking is here seen as an individual mental process that synthesizes declarative knowledge about a subject (often addressed as theories in use) and procedural knowledge of how to conduct different tasks (in the context of venture creation it relates to activities bound to the start-up process). Hence, there is an interplay between doing and knowing, where reflective thinking is the systematic process of turning experiences into knowing, a pragmatic developmental view of knowledge that is not static (Peirce, 1992). Dewey's main ideas around reflective thinking can be found in *How We Think* (1910), where he accounts for two kinds of experiential processes: lower-order trial and error and the higher level of reflection (Biesta, 2007), but he also first makes a distinction between two kinds of thinking: empirical and experimental, which will be discussed next.

Empirical thinking

Empirical thinking is dependent upon past habits, and although many empirical conclusions are correct and sufficiently accurate to be of great help in real-life situations, they are unable to discriminate between the right and wrong conclusion (Dewey, 1910, p. 147). The issue with empirical thinking is that it makes people less open to novelty and leads to laziness, presumption and dogmatism as empirical thinking rejects things that do not fit into established norms (Dewey, 1910, pp. 147–149). An example of this could be the discovery that the Earth is round and not flat, which was seen as preposterous at the time that Copernicus developed his thoughts around the heliocentric world and later when Galileo claimed that the Earth was orbiting around the sun and not the centre of the universe as argued by Aristotle.

Experimental thinking

To progress learning, Dewey argued for a specific version of the scientific method, also called the experimental method of thinking, which he divided into two methods.

The first is an extension of empirical thinking termed the *empirical method of observation*. The empirical method of observation consists of carefully comparing the result of many observations that have occurred under accidently different conditions (Dewey, 1910, pp. 150–151). The method is, however, rather limited as it can do nothing until presented with a certain number of diversified cases, and it is also considered a passive method dependent upon external accidents (Dewey, 1910, p. 151). The empirical method is

evident in Knight (1921) and his discussion on calculated risk, something that insurance companies rely on when deciding on the cost of insurances. The empirical method of observation is problematic in the context of entrepreneurship, especially in relation to entrepreneurial opportunities as the uniqueness tied to opportunities creates a barrier for comparing multiple observations. However, it might be valuable in long-term decision-making based on re-occurring habitual action (e.g. Kember, 1999; Mezirow, 1991) that entrepreneurs engage with in their everyday practice (Blenker *et al.*, 2012). The empirical method might also be beneficial in certain situations, where a more experienced entrepreneur can draw on years of empirical experience when engaging in new opportunities (e.g. Sarasvathy, 2008). Hence, the abundant research on entrepreneurial learning arguing that entrepreneurs learn from experience reflects the empirical method of observation when drawing conclusions on, for example, habitual and serial entrepreneurs and that entrepreneurs learn from failure by often being more successful in their second or third venture than in their first (e.g. Deakins and Freel, 1998; Minniti and Bygrave, 2001; Politis and Gabrielsson, 2009). Due to the increased number of observations amassed by the more experienced entrepreneur, a pattern of thinking emerges that increases the likelihood of making sound judgments in upcoming entrepreneurial decisions. This is, however, problematic when discussing how to learn through experience in an educational setting, where the average student possesses limited entrepreneurial experience as well as limited previous work experience (Cohen *et al.*, 2020; Hägg and Kurczewska, 2019), two important factors found in successful entrepreneurs (Baron, 2006; Politis and Gabrielsson, 2009).

This brings us to the second method, which Dewey (1910) labels the *experimental method of thinking* where even a small number of observations could suggest an explanation, hypothesis or even a theory. This method, which bears similarities to the scientific method, is basically a conjoint process of analysis and synthesis, or less technically addressed, the process of discrimination and assimilation or identification (Dewey, 1910, p. 152). It is also in this discussion that Dewey actually addresses the aspect of past and future in relation to experience. Past experience is something connected to empirical thinking, while future experience is linked to the experimental method of thinking, which is further addressed in "Logic – the theory of inquiry" (see Dewey, 1938; Schön, 1992). The emphasis on the experimental method of thinking suits the context of novices, such as students, as it does not rely heavily on prior knowledge or experience, but instead adds the dimension of conceptual theories that academia can assist with (e.g. Dewey, 1930). In relation to the experimental method of thinking, one could also argue that entrepreneurial learning situated within academia is more accustomed to experimental- and future-oriented acts of thinking and consequently suitable for reflective practice, both in and on action (see, e.g. Schön, 1983).

To summarize, reflective thinking is a means for turning experience into knowing (Dewey, 1916), but it is built on an interplay between knowing and doing (McLellan and Dewey, 1889), which considers the learner's level of proficiency (Rodgers, 2002), where prior knowledge and previous experiences in specific knowledge-domains (e.g. entrepreneurship) are beneficial for the ability to reflect and accumulate knowledge (Dewey, 1910). However, to compensate for the shortage of prior knowledge, conceptual theories that provide perspectives on the experience undertaken can serve as a substitute (Dewey, 1930). The effort required to develop reflective thinking ability is demanding and requires a highly rigorous systematic process, which is both challenging and rewarding for the learner as well as for the teacher.

The structure and context of the entrepreneurial diary

As outlined in the previous section, to develop the ability to reflect and become a self-regulated learner requires effort investment, both from the learner and from the facilitator. It is a process that builds on continuous feedback and the abilities to find trigger

points in each individual learner to push her/him beyond the surface and into the deep structures of thinking. A potential comprehensive learning activity for doing so is the entrepreneurial diary, consisting of three parts: (1) a reflective journal written throughout the year of study, (2) a mid-term metareflection report creating a first insight on individual development and (3) a final metareflection report that is intended to engage the students in developing insights and an ability to self-regulate (Zimmerman, 1990, 2002). In the next section, the context for developing the learning activity is addressed, followed by the three parts that make up the entrepreneurial diary, ending with conditions for the learning activity.

Context in which the entrepreneurial diary has been developed

The entire structure of the entrepreneurial diary has been derived from a one-year venture creation master programme (Lackéus and Williams Middleton, 2015) built around experiential learning (Kolb and Kolb, 2009; Kolb, 1984). The programme engages student entrepreneurs in start-up activities using a real-life entrepreneurial project as the main learning vessel (Lackéus and Williams Middleton, 2015; Rasmussen and Sørheim, 2006). To assist the students in their learning process, they participate in various courses covering aspects associated with starting and managing a new venture. The entrepreneurial diary has been developed as a counterbalance to the action-oriented learning activities.

In the current one-year programme format the students hand in 16 journal entries over the year, submitting them every second week from September to May. Each journal entry is between 500 and 1,000 words. In addition, they hand in the 1,000–1,500 word mid-term metareflection report after the Christmas break, in which they synthesize their learning based on the first eight journal entries. The entrepreneurial diary is finalized at the end of the programme by a metareflection report of around 3,000 words, where the students use their journal entries as empirical material to discuss their learning over the programme in relation to relevant theory they have engaged with through their coursework and beyond. By using the journals as empirical material, the students gain access to experiences undertaken during the programme, and the hindsight bias of human memory is reduced (see, e.g. Cox, 2005). To provide some empirical insights into how the students develop their thinking, several excerpts have been included in the following sections, and there is also a full journal entry in Appendix.

Part one: the reflective journal

The reflective journal is basically structured around five different developmental questions and statements that seek to create a continuous flow in a learning process (see Table 1). The basic idea is built around the interval-contingent journal format that asks questions related to what, how, when and why, as well as having a timely logic in terms of when to report in a continuous interval (Bolger *et al.*, 2003). To complement this structured format of daily event recording, the reflective journal also builds on the experimental scientific method as discussed by Dewey (1910) by having a clearly stated progression in the different guiding questions and statements. Together, the experimental scientific method and the interval-contingent diary format create the foundation for recording real life experiences in a systematic way, which connects to self-observation in the reasoning of Zimmerman (2002) towards becoming a self-regulated learner. The students also receive an example of a journal from previous students to gain an initial idea of what they are to develop in the journal entries.

The idea behind the reflective journal is to move from a surface level in question one and address the initial experiences faced, asking "*what have I done and whom have I met?*" Question one seeks to engage the journal writing student in descriptively capturing experiences undertaken over a pre-determined period of time.

The writing associated with question one then leads to another layer of thinking in question two, where the student entrepreneur engages in discussing "*Why did I do what I did?*"

Level	Question/statement	Explanation
Surface	1. What have I done and whom have I met?	Highly descriptive, an opening question that triggers memory of the key events and persons that the student entrepreneur have met during the time that has passed since the last entry
	2. Why did I do what I did?	Still on a descriptive level, but this question opens up for describing nuances in the experiences and persons that the student entrepreneur has met during the time since the last entry
Deep	3. Observations and reflections with regard to points 1 and 2	A first move towards a deeper level where the main emphasis is on elaborating thoughts, feelings and emotions related to the different experiences and persons encountered during the time that have passed since the last entry
	4. Can you please reflect on (entrepreneurial) theory and link it with point 3?	The deepest level of the entrepreneurial diary. Here the student adds the layer of theory that could aid in making a synthesis of what has been experienced and the conceptual knowledge that could help withdrawing new insights for future entrepreneurial experiences
Surface (future looking)	5. What are my goals for the next week?	The final question moves back to a surface level and engages the student in looking ahead and setting goals for the future learning activities that are upcoming; this also create an initial bridge between the diary entries

Table 1.
The structure of the reflective journal

The second question of the journal involves the students in discussing the rationale and reasons why they met certain people and why the different experiences have been selected.

The rationale behind the different experiences is then further elaborated upon in statement three, which asks them to present their "*Observations and reflections with regard to points 1 and 2*". Here the student entrepreneur elaborates about the experiences undertaken on a personal level by describing thoughts, emotions and feelings related to the main experiences.

The descriptions of how the various entrepreneurial experiences impacted them on a personal level are then further scrutinized and analysed in relation to different streams of theoretical knowledge (book knowledge, personal theories from past learning and additional input from peers and others) in question four: *"Can you please reflect on (entrepreneurial) theory and link it with point 3?"* It is in this part that the actual connection to the experimental scientific method (Dewey, 1910) becomes apparent and where the ideas of finding the balance between doing and knowing are heightened. The student entrepreneur is asked to engage in hypothetical development and abstract the empirical insights gained from the experiences undertaken by synthesizing them with theoretical knowledge that aids in developing new understandings of the experiences undertaken. It is in this act that the primary experience develops into secondary experience, and the individual can start to argue that they have actually engaged in learning through experience and developed new knowledge or modified existing knowledge (see Boud *et al.*, 1985; Dewey, 1910; Rodgers, 2002).

However, to follow up and create the continuity that is the primary objective in Dewey's view on learning through experience, the final question asks, "*What are my goals for the next week?*" By engaging in future what-if discussions, each journal entry creates an input for the following journal entry as the goals are tied to a future outlook on one's learning process and constitute a potential starting point for the next journal entry. This also connects to the ideas

put forward by Zimmerman (2002), when addressing forethought as an important aspect that a self-regulated learner should develop. The important continuity aspect in experiential education to create a fruitful learning process is covered by relating the different entries with this final question (e.g. Dewey, 1946; Roberts, 2015) as the students are asked to relate back to previous entries. As argued by Dewey (1910, pp. 2–3):

> Reflection involves not simply a sequence of ideas, but a consequence – a consecutive ordering in such a way that each determines the next as its proper outcome, while each in turn leans back on its predecessors. The successive portions of the reflective thought grow out of one another and support one another; they do not come and go in a medley. Each phase is a step from something to something – technically speaking, it is a term of thought. Each term leaves a deposit which is utilized in the next term. The stream or flow becomes a train, chain, or thread.

An example of a journal entry addressing the continuity aspect and how each part of the journal is built up systematically can be seen in Appendix.

Parts two and three: building continuity in learning and self-awareness

To compliment and further develop student entrepreneurs' abilities to become self-regulated learners (Zimmerman, 1990), the entrepreneurial diary also includes two reports that seek to synthesize and develop self-awareness about the learning process among students. The idea behind the two reports is to create a holistic view of the self and the learning process that the student is facing. In essence, the two reports are connected to the development of metacognition (Flavell, 1979), being able to monitor one's learning and develop the ability to self-regulate (Zimmerman, 2002).

Mid-term metareflection report

The mid-term metareflection report is a first step to synthesize the different journal entries that have been developed during the first semester, which is described in John's prologue:

> Looking back … I realise that the learning journals allowed me to understand and analyse my learnings made throughout this Master programme. The first impression I have while reading through them is the switch from profound academic learning and excitement from a new life stage towards more decision making thinking and mature/professional behaviour mainly in regards of the project (2019).

The report is a first introduction to the final metareflection report and is only around 1,000 words. But as with the reflective journal, the students obtain a worked example of how to develop some initial thoughts on structure for the mid-term report. The students are also advised to include the reflective journal entries as empirical material when writing up their mid-term metareflection report to give life to the report. After they have handed in the report, they receive constructive feedback on how to think when writing their final report at the end of the programme.

The mid-term metareflection report has also been seen as important for giving the students a sense of purpose when writing their reflective journal entries. When they go back and re-read all the journal entries from the first semester, they become aware of their learning process and the value of writing the journals for themselves and not just as an academic task that has to be completed. The sense of purpose is reflected in the following quotation from Joe: "Reflecting on the last semester I feel a great sense of accomplishment and growth" (2019). But the mid-term report is also a good start for thinking ahead to the upcoming semester and the learning process that is to come, which is discussed by Erica: "… my studies here have been an eye-opening experience and a self-exploration journey. My goals for the rest of the programme are to continue stepping out of my comfort zone, deepen the knowledge I have acquired and become more assertive and confident in my approaches" (2019).

Final metareflection report

The final metareflection report is the last piece of the puzzle in the entrepreneurial diary, the purpose of which is to reflect back on one's own earlier reflections made over the course of the programme. The metareflection report serves to engage student entrepreneurs in thinking about their thinking (Dinsmore *et al.*, 2008).

When it comes to instructions, the report follows the same logic as the reflective journal and the mid-term metareflection report. The student entrepreneurs receive a worked example as guidance to gain insights on how to deal with the technical writing process that frees up time to engage in developing their own insights about their learning over the programme. The final report comprises about 3,000 words, and the emphasis is on integrating the reflective journal entries as empirical material and literature studied during the programme and beyond. The rationale is to create a report that involves interplay between theory and practice, where the final synthesis is the conclusions that the students draw based on their current state of knowledge after having gone through the entire programme.

The final report is entitled "From Student to Entrepreneur" and gives the students the opportunity to critically reflect on their learning throughout the year but also their future, either as entrepreneurs or contributing citizens. An example of concluding thoughts is seen in the case of Simon, who outlined his future aspirations: "The different sets of toolkits, models and particularly the way of thinking we learnt during the programme have made me a person with a strong sense of alertness to identify problems in daily lives and gaps in existing structures, and also respond to opportunities in a much more systematic, effective and sustainable way" (2015). Both the mid-term and final metareflection reports are guided by means of clear instructions and worked examples (e.g. Sweller *et al.*, 2011) as due to being the first time that the students engage with this type of learning activity the threshold for understanding the purpose is quite high. The main aim, which is visible in the above quotation, is to develop an ability to self-regulate in order to make sounder judgments when engaging in decision-making throughout the entrepreneurial process. Following the ideas of Dewey and more recently Zimmerman (2008) regarding the importance of self-reflection ability for regulating decisions and actions, the final report provides a steppingstone for students to develop self-awareness when heading into their careers.

Conditions for the learning activity

The entrepreneurial diary is a task that demands a great deal of effort where students receive two and a half hours of individual feedback, spread over six-seven written feedback sessions. This requires a good educational infrastructure and the realisation that the move from a behaviouristic to a constructivist view on learning (Brown, 2003) also creates a different demand for contact and meeting each individual at her/his own level (Williams Middleton and Donnellon, 2014). However, if there is a shortage of teaching hours dedicated to components that enable reflective thinking then focus might best be used to set the structure early and emphasizing thorough feedback in the beginning (Kirschner *et al.*, 2006). That would create clarity for the students on the reason for the learning activity and facilitate the transition of responsibility from teacher to student, which is essential when adopting an experiential pedagogical approach (Kolb and Kolb, 2005; Roberts, 2015). Another valuable aspect is a lecture on the purpose of the entrepreneurial diary and the different parts, which also creates an early understanding of *why* the activity is of importance and how it complements the entire experience-based pedagogical process.

The entrepreneurial diary – theoretical grounding

The entrepreneurial diary is useful when engaging student entrepreneurs in introspection and synthesis of both theoretical knowledge gained through education and practical insights

derived from educative entrepreneurial experience (Hägg and Kurczewska, 2020). It is a learning activity specifically developed when building courses or programmes from an experience-based pedagogical approach (Roberts, 2012, 2015) and more specifically within the context of venture creation programmes. The learning outcome of the entrepreneurial diary is the development of the student entrepreneur's judgmental ability when engaging in entrepreneurial decision-making. The entrepreneurial diary has a theoretical grounding that looks back on history, thus meeting some of the claims made by Rideout and Gray (2013) that the field has raced ahead of the theoretical and philosophical grounding in the educational literature taking its point of departure in the logic of inquiry (Dewey, 1910; Schön, 1992) that addresses reflective thinking as a transformative means for generating new or modified knowledge based on experience (Jordi, 2011; Kuk and Holst, 2018). But it also seeks to respond to contemporary ideas in which knowledge and learning have changed course from an objectivist towards a constructivist standpoint, where the learner needs to understand her/his learning process to develop knowledge, in essence becoming self-regulated (Ertmer and Newby, 1996). In this sense, the entrepreneurial diary responds to current arguments on the importance of self-regulation and the ability to develop metacognitive awareness (i.e. thinking about one's thinking) as a means to face the ever-increasing stocks of knowledge and information on which our society is based. The current insights from educational psychology and instructional science pertaining to how we store, organize and transfer information between the short- and long-term memory are also related to this.

Taking the above into consideration, the theoretical background of the entrepreneurial diary consists of Dewey's view on reflective thinking (as discussed in the experimental method of thinking section), insights from cognitive load theory on the importance of explicit instructions, worked examples and the expertise reversal effect in learning (Sweller *et al.*, 2011) but also insights on the role of timely feedback (Epp, 2008; Moon, 2006) and finally research on metacognition (Flavell, 1979; Kolb and Kolb, 2009) and its importance for developing the ability to self-regulate (Dinsmore *et al.*, 2008; Zimmerman, 1990). In the following sections, the theoretical grounding will be discussed with the exception of the view on reflective thinking, which has been previously addressed in the paper.

Explicit instructions and the reversal effect in learning

A main mechanism that was less evident in the explanation of reflective thinking by Dewey (1910) is the importance of explicit instructions and timely feedback. In the entrepreneurial diary, the main input regarding how to think about instructions and feedback relates to recent insights from cognitive load theory (Sweller *et al.*, 2011) and evolutionary educational psychology (Geary, 2002; Sweller, 2016), as well as from research on journal writing (Epp, 2008; Phan, 2007, 2009). Although the importance of instructions and feedback is evident in much educational literature (Sweller, 2015, 2016), the discussion that has been ongoing since the 1980s in cognitive load theory compliments the claim how to learn through experience by means of reflective thinking (Dewey, 1938; Mezirow, 1991; Moon, 2006; Rodgers, 2002) from an instructional and guiding perspective in education.

In the literature on learning from experience, the argument has been that in order to learn from experience, reflection must be made an active component in the learning process (Boud *et al.*, 1985; Boud and Walker, 1990), as otherwise it remains an unconscious activity (Boyd and Fales, 1983; Dewey, 1910) and few claims on knowledge development can be made. Cognitive load theory together with evolutionary educational psychology aid this process by arguing for the provision of explicit instructions before engaging students in a new learning activity in order to frame it but also through the use of templates and worked examples (Kalyuga *et al.*, 2003; Sweller *et al.*, 2011).

An important assumption behind evolutionary educational psychology is that what is learnt in academia mainly consists of biologically secondary knowledge (Geary, 2007), which is a human artefact developed over a long period of time in human history. We might epigenetically learn to speak a language, but we need clear instructions to read and write because our mimicking of speaking is biologically primary knowledge, whilst learning to read and write is secondary knowledge (Geary, 2002; Sweller, 2015). The division between primary and secondary knowledge also relates to domain knowledge (Alexander, 1992), which is what we mainly teach in education (Sweller, 2016). Although human thinking is primary knowledge that almost everyone is capable of doing, the act of reflective thinking based on the experimental method (Dewey, 1910) is a form of secondary knowledge that requires explicit instructions and timely feedback to learn.

From cognitive load theory, the main insights that are integrated into the entrepreneurial diary are the use of worked examples and the expertise reversal effect in learning (Kalyuga *et al.*, 2003; Kirschner *et al.*, 2006). A worked example is provided to give the students a clear understanding of how to perform the learning activity. To decrease the cognitive load the first time that the students engage with the reflective journal they receive a sample journal entry from a former student. This decreases the entry barriers in terms of what the students can expect to produce and also changes the focus from the end product (the journal entry) to the process of writing the entry. In accordance with early ideas in cognitive load theory, the use of worked examples aids in focusing the student's attention to the learning process instead of the end product (Sweller, 1988). The use of examples also increases transparency about what can be expected and facilitates feedback.

In addition to the worked example, the expertise reversal effect from cognitive load theory is also an influencing factor (Kalyuga *et al.*, 2003). The expertise reversal effect builds on a transition of ownership related to the learning process that students go through. A main part is the shift in responsibility in the learning process that moves from the teacher to the student. As a student gains increased knowledge about how to perform and develop reflective thinking ability through the reflective journal, the level of explicit instructions and feedback decreases. The expertise reversal effect builds on research demonstrating that when a student has grasped a learning activity, there is a fine line between the point at which explicit instructions and examples continue to foster learning and where they start to decrease the learning effect on the individual student (Sweller *et al.*, 2011). A main takeaway from the expertise reversal effect is that the teacher has a guiding role, where knowing the students' level of proficiency is of the essence when giving timely feedback throughout the reflective journal process.

Timely feedback – why, how much and what

A main influence when it comes to structuring the feedback has been built on a synthesis between the importance of explicit instructions, the reversal effect and providing personal and timely feedback. The literature on journal writing and especially on the use of reflective journals in education acknowledges the importance of personal and timely feedback (Epp, 2008; Moon, 2006). The issue is one of time in a dual sense. Timely feedback is important for aiding students in their individual learning process, but teachers often lack sufficient time to provide extensive feedback. However, if the feedback is institutionalized and platonic as opposed to being timely and personal, the student's motivation to continue investing effort might decrease.

The amount of individualized feedback provided to each student is partly dependent on the number of students in the class but also on how much feedback each student needs. In the present context, each student receives approximately two and a half hours of feedback spread over six-seven written feedback sessions. The length and depth of feedback are unbalanced, meaning that the first two feedback sessions are more detailed, so that the students gain a

clear understanding of the learning activity and ideas about how to develop their thoughts. However, as a rule of thumb, each written feedback session only includes a maximum of three points to think about. The reason for this restriction is to not overload the cognitive ability to take in feedback at one given point in time (Sweller, 2016). Instead, the following written feedback session will address further issues based on how the students have dealt with previous feedback, thus providing continuity in the individual student's learning process when developing their reflective thinking ability (see, e.g. Dewey, 1916, 1938, 1946). The aim of the unbalanced feedback over a one-year period is to shift responsibility from the teacher towards the student as she/he becomes more and more proficient in the learning activity.

Therefore, the shift of responsibility from the teacher to the student is important when tailoring and providing explicit instructions, which is why the amount of feedback decreases over the process. In the literature on experiential education, which is highly connected to contemporary thoughts on how to teach in entrepreneurship education, the attention to guidance and the learning process has been described as:

> Making the invisible, visible, which simply means paying careful attention to how you frame the learning activity or educational process by making your learning outcomes and your educational purposes intentional and overt to your students, both at the beginning and throughout (Roberts, 2015, p. 92).

Making the invisible visible connects well with the three main ideas discussed in this section as it contributes insights into the importance of tailoring guidance throughout the learning process when adopting an experiential learning approach. The process perspective also relates back to the importance of continuity, advocated by Dewey (1910) when engaging in reflective thinking as continuity is the key that connects one experience to another in the learning process.

Metacognition and developing self-regulation ability to handle uncertainty

The final theoretical grounding of the entrepreneurial diary is related to metacognition and the importance of developing abilities to self-regulate, two aspects that have been argued to be essential for entrepreneurs and entrepreneurial behaviour (Harms, 2015; Haynie *et al.*, 2010; Kyrö and Tapani, 2007). To deal with uncertainty, one has to be able to regulate one's own thoughts (Dewey, 1910; Dinsmore *et al.*, 2008; Flavell, 1979). However, to be able to monitor and regulate oneself, there has to be learning activities that open up for understanding and taking an objective view of one's own learning. Zimmerman (2002) presents a three-stage model including a forethought phase, a performance phase and a self-reflection phase. The final phase of self-reflection facilitates self-observation, where learners observe and compare their own prior performance and the performance of others to form a self-judgment (Zimmerman, 2002).

A theoretical map of the building blocks for developing reflective thinking

To summarize the above discussion, model one provides a graphical overview of the interplay between the theoretical streams and an emerging analytical tool to research reflective thinking as a learning process to make the invisible visible (Roberts, 2015). Making the move from invisible to visible is an important part of the discussion on learning through and from experience, where the idea of reflection needs to become a conscious process (Boud *et al.*, 1985) (Figure 1).

The model seeks to illustrate how the different theoretical streams and concepts create an interplay to explain how instructions, examples and different parts of knowledge interact in the process of developing reflective thinking based on the experimental method of thinking (Dewey, 1910) assisted by more contemporary ideas of cognitive load theory (Sweller *et al.*, 2011),

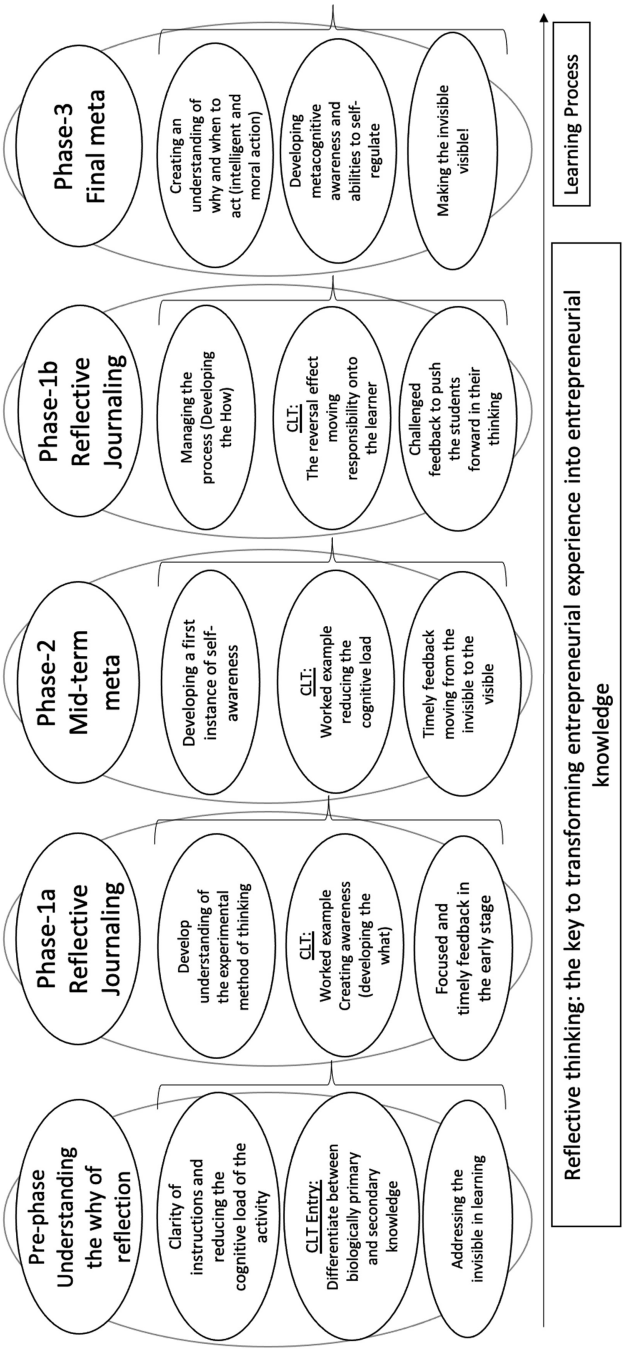

Figure 1.
The entrepreneurial diary – a stage model

reflective journal writing in higher education (e.g. Kember, 1999; Moon, 2006; Phan, 2009) and the transactive process put forward in experiential education research (see Itin, 1999; Roberts, 2015). The entrepreneurial diary with its different phases of progression aimed at developing self-awareness (Zimmerman, 2002) provides a systematized process of reflective thinking and how to become a self-regulated learner. It is a learning activity that complements other more action-oriented activities that are normally employed in entrepreneurship education and in particular venture creation programmes by focusing on the accumulation of knowledge that is implicitly developed when learning through various forms of entrepreneurial experience (see, e.g. Hägg and Kurczewska, 2020).

The pre-phase sets the scene of the learning activity and provides students with an understanding of why reflective thinking is important and enables them to take the first step to unmask the invisible and implicitness associated with reflection. The pre-phase also serves to reduce the cognitive load of the learning activity through explicit instructions and discussing the template and what is expected from the students.

Phase-1a, the first part of the reflective journal process, provides the student entrepreneurs with an initial understanding of Dewey's experimental method through the journal structure and the worked example (see Appendix). This gives the students guidance on the process, and they also receive thorough formative feedback in a timely manner.

In Phase-2, the student entrepreneurs engage in looking back on their individual learning process for the first time by means of the mid-term metareflection report. This phase provides the students with an explicit understanding of the development in their learning process and a more visible view of their learning.

In Phase-1b, the students gain greater independence in their journal writing and feedback is used to push them further in their thinking processes. It is also in this phase that the level of responsibility is moved further and further onto the students, also known as the reversal effect in learning when instructional feedback no longer provides benefits for developing and extending one's knowledge.

Finally, in Phase-3, the students have an opportunity to look back on the entire learning process and the various experiences they have undertaken as well as the different decisions they have made and how they have iterated or made various pivots in their processes. This final phase provides ample opportunities for introspection and fully visualizing the invisible learning process that is often undertaken unconsciously (see, e.g. Boud *et al.*, 1985). It provides the students with a final opportunity to think about their thinking and look back on what they have achieved, how they have addressed various opportunities and relations over the year and where they are heading when taking the leap of faith into the future.

The entrepreneurial diary as a learning activity is a process for the students to develop self-awareness (i.e. metacognitive abilities to regulate one's learning and thinking). The learning activity provides the student entrepreneurs with opportunities for mental training in dealing with the uncertainty (Haynie *et al.*, 2010) that they face when engaging in learning from and through entrepreneurial experince. It is a learning activity that seeks to prepare the students to handle uncertainty, which is a natural state for entrepreneurs when acting entrepreneurially (Knight, 1921), both in a start-up context (Sarasvathy, 2008) and in an intrapreneurial context when developing new projects or business ideas (Kuratko and Morris, 2018).

All in all, the entrepreneurial diary is a comprehensive learning activity that has been developed to follow an entire master programme in entrepreneurship with a specific focus on venture creation. Although, it is beyond the scope of this study to address in-depth empirical insights, the value of reflective thinking has been reported in other empirical studies in entrepreneurial education and in the broader context of education. A main argument for the systematic process and attention to clarity is seen in Zimmerman (2002, p. 69), where he addresses the novice and expert learner:

> The self-regulation profile of novices is very distinctive from that of experts. Novices fail to engage in high-quality forethought and instead attempt to self-regulate their learning reactively. That is, they fail to set specific goals or to self-monitor systematically, and as a result, they tend to rely on comparisons with the performance of others to judge their learning effectiveness. . . In contrast, the self-regulation profile of experts reveals they display high levels of self-motivation and set hierarchical goals for themselves with process goals leading to outcome goals in succession.

The above quotation from Zimmerman shows clear similarities to the ideas put forward by Dewey a century before and related to cognitive load theory's ideas on clarity when facing new learning activities, which the entrepreneurial diary seeks to meet.

In the context of entrepreneurial education, the role and importance of reflection can be found in Lundmark *et al.* (2019), who acknowledge that students who developed their reflective ability also increased their perceived behavioral control, whilst in a study by Hägg (2018), an increased reflective thinking ability correlated with higher average grades (development of entrepreneurial knowledge) during a venture creation programme. Furthermore, in the study by Wraae *et al.* (2020), the use of reflective video clips aided in understanding tacit assumptions and reframing experiences, something that comes close to the argument by Boud *et al.* (1985) that to learn from experience one has to make reflection a conscious process, which is evident in the example in Appendix, where a student in a systematic process develops her/his thoughts about the different experiences encountered over a two week period.

Conclusion

The main questions that guided the present study were: what are the theoretical foundations when developing reflective thinking in experiential entrepreneurship education? and how might the entrepreneurial diary as a reflective learning activity stimulate self-regulation?

From a theoretical perspective, the study provides both theoretical advancements of the interplay between action and reflection when engaging student entrepreneurs in highly experiential forms of entrepreneurship education and in demonstrating how students can develop self-awareness about their learning for making judgmental decisions in future situations. The study also contributes to the theoretical anchoring of reflective thinking in entrepreneurial education research (Jones, 2009; Lundmark *et al.*, 2019; Pepin, 2012; Williams Middleton and Donnellon, 2014), describing it as a highly systematic process (see Dewey, 1910), which has not been sufficiently covered in previous discussions. It also contributes to our understanding of how to develop balanced learning processes in venture creation programmes. In particular, the structure of the entrepreneurial diary with two synthesizing tasks, a mid-term and final meta-reflection, provides a theoretical advancement on how to make the invisible visible (Roberts, 2015) when it comes to the outcomes of journal writing and the importance of reflective thinking when engaging in entrepreneurial activities. This is something that has not been fully addressed in previous entrepreneurship education research, especially in the experiential learning process where venture creation programmes are positioned.

Another contribution is that reflective thinking has been continuously argued to be essential when engaging students in learning entrepreneurship to promote an understanding of why they act as they do (Kassean *et al.*, 2015; Neck and Greene, 2011; Williams Middleton and Donnellon, 2014), but there has been little research on the underlying prerequisites for how to firstly develop reflective thinking ability and secondly, making the value of that ability explicit to the students when they go through the learning process. The present study has provided at least one brick for closing that gap, both theoretically what reflective thinking implies based on Dewey but also by describing how to structure a learning process to enhance the ability to reflect for developing knowledge from entrepreneurial experience, as well as providing some empirical insights of the entrepreneurial diary from students who participated in the one-year programme.

Finally, a main contribution is the response to the critical voices that have been raised that the scholarship of teaching and learning in entrepreneurship education has raced ahead of theoretical underpinnings of the learning theories employed and recommended when teaching entrepreneurship to students in higher education (Fayolle *et al.*, 2016; Rideout and Gray, 2013; Scott *et al.*, 2016). Despite the fact that the study employs a theoretical frame that is over a hundred years old (Dewey, 1910), it is still a valid theoretical frame due to the linkage with contemporary sources in educational literature that re-visit the thoughts of Dewey. But to compliment and add to our understanding, the paper also combines current insights from cognitive load theory (Sweller and associates), as well as insights on feedback (see Epp, 2008; Moon, 2006) and finally the arguments for developing the ability to self-regulate (Harms, 2015), which builds on the importance of preparing student entrepreneurs to deal with uncertainty when they engage in entrepreneurial action. Hence, the final contribution is the synthesis of various theoretical streams that together build the entrepreneurial diary.

Note

1. I consider the 1980s as the take-off phase, despite being aware that entrepreneurship has been taught in courses since the mid 20th century, where the first course was taught at Kobe University, Japan, in 1938 by Shigeru Fijii (see, e.g. Dana, 1992; Falkäng and Alberti, 2000) and the more acknowledged course at Harvard emerged in 1945.

References

Alexander, P.A. (1992), "Domain knowledge: evolving themes and emerging concerns", *Educational Psychologist*, Vol. 27 No. 1, pp. 33-51.

Ball, C. (1989), *Towards an "Enterprising" Culture: A Challenge for Education and Training*, OECD/CERI, Paris.

Baron, R.A. (2006), "Opportunity recognition as pattern recognition: how entrepreneurs 'connect the dots' to identify new business opportunities", *The Academy of Management Perspectives*, Vol. 20 No. 1, pp. 104-119.

Béchard, J.-P. and Toulouse, J.-M. (1991), "Entrepreneurship and education: viewpoint from education", *Journal of Small Business and Entrepreneurship*, Vol. 9 No. 1, pp. 3-13.

Biesta, G. (2007), "Why 'what works' won't work: evidence-based practice and the democratic deficit in educational research", *Educational Theory*, Vol. 57 No. 1, pp. 1-22.

Blenker, P., Frederiksen, S.H., Korsgaard, S., Müller, S., Neergaard, H. and Thrane, C. (2012), "Entrepreneurship as everyday practice: towards a personalized pedagogy of enterprise education", *Industry and Higher Education*, Vol. 26 No. 6, pp. 417-430.

Bolger, N., Davis, A. and Rafaeli, E. (2003), "Diary methods: capturing life as it is lived", *Annual Review of Psychology*, Vol. 54 No. 1, pp. 579-616.

Boud, D. and Walker, D. (1990), "Making the most of experience", *Studies in Continuing Education*, Vol. 12 No. 2, pp. 61-80.

Boud, D., Keogh, R. and Walker, D. (1985), *Reflection: Turning Experience into Learning*, Kogan Page, London.

Boyd, E.M. and Fales, A.W. (1983), "Reflective learning key to learning from experience", *Journal of Humanistic Psychology*, Vol. 23 No. 2, pp. 99-117.

Brown, K.L. (2003), "From teacher-centered to learner-centered curriculum: improving learning in diverse classrooms", *Education*, Vol. 124 No. 1, pp. 49-54.

Cohen, D., Hsu, D.K. and Shinnar, R.S. (2020), "Identifying innovative opportunities in the entrepreneurship classroom: a new approach and empirical test", *Small Business Economics*, Vol. ahead of print No. ahead of print, doi: 10.1007/s11187-020-00387-z.

Commission, E. (2013), *Entrepreneurship Education - a Guide for Educators*, Enterprise Publications, European Commission, Brussels.

Cox, E. (2005), "Adult learners learning from experience: using a reflective practice model to support work-based learning", *Reflective Practice*, Vol. 6 No. 4, pp. 459-472.

Dana, L.P. (1992), "Entrepreneurial education in europe", *Journal of Education for Business*, Vol. 68 No. 2, pp. 74-78.

Deacon, J. and Harris, J. (2011), "A longitudinal reflection of blended/reflexive enterprise and entrepreneurial education", *Reflective Practice*, Vol. 12 No. 5, pp. 599-613.

Deakins, D. and Freel, M. (1998), "Entrepreneurial learning and the growth process in SMEs", *The Learning Organization*, Vol. 5 No. 3, pp. 144-155.

Dewey, J. (1891), "Moral theory and practice", *The International Journal of Ethics*, Vol. 1 No. 2, pp. 186-203.

Dewey, J. (1910), *How We Think*, CourierDover Publications, New York.

Dewey, J. (1916), *Democracy and Education: An Introduction to the Philosophy of Education*, NuVision Publications, Sioux Falls, South Dakota.

Dewey, J. (1930), *The Quest for Certainty: A Study of the Relation of Knowledge and Action: Gifford Lectures 1929*, George Allen & Unwin, Great Britain.

Dewey, J. (1938), *The Theory of Inquiry*, Holt, Rinehart & Wiston, New York.

Dewey, J. (1946), *Experience and Education*, The Macmillan Company, New York.

Dinsmore, D.L., Alexander, P.A. and Loughlin, S.M. (2008), "Focusing the conceptual lens on metacognition, self-regulation, and self-regulated learning", *Educational Psychology Review*, Vol. 20 No. 4, pp. 391-409.

Dyment, J.E. and O'Connell, T.S. (2010), "The quality of reflection in student journals: a review of limiting and enabling factors", *Innovative Higher Education*, Vol. 35 No. 4, pp. 233-244.

Epp, S. (2008), "The value of reflective journaling in undergraduate nursing education: a literature review", *International Journal of Nursing Studies*, Vol. 45 No. 9, pp. 1379-1388.

Ertmer, P.A. and Newby, T.J. (1996), "The expert learner: strategic, self-regulated, and reflective", *Instructional Science*, Vol. 24 No. 1, pp. 1-24.

Falkäng, J. and Alberti, F. (2000), "The assessment of entrepreneurship education", *Industry and Higher Education*, Vol. 14 No. 2, pp. 101-108.

Fayolle, A. (2008), "Entrepreneurship education at a crossroads: towards a more mature teaching field", *Journal of Enterprising Culture*, Vol. 16 No. 4, pp. 325-337.

Fayolle, A. (2013), "Personal views on the future of entrepreneurship education", *Entrepreneurship and Regional Development*, Vol. 25 Nos 7-8, pp. 692-701.

Fayolle, A., Verzat, C. and Wapshott, R. (2016), "In quest of legitimacy: the theoretical and methodological foundations of entrepreneurship education research", *International Small Business Journal*, Vol. 34 No. 7, pp. 895-904.

Fiet, J.O. (2001a), "The pedagogical side of entrepreneurship theory", *Journal of Business Venturing*, Vol. 16 No. 2, pp. 101-117.

Fiet, J.O. (2001b), "The theoretical side of teaching entrepreneurship", *Journal of Business Venturing*, Vol. 16 No. 1, pp. 1-24.

Flavell, J.H. (1979), "Metacognition and cognitive monitoring: a new area of cognitive–developmental inquiry", *American Psychologist*, Vol. 34 No. 10, p. 906.

Gabrielsson, J., Hägg, G., Landström, H. and Politis, D. (2020), "Connecting the past with the present: the development of research on pedagogy in entrepreneurial education", *Education + Training*, Vol. 62 No. 9, pp. 1061-1086.

Garavan, T.N. and O'Cinneide, B. (1994), "Entrepreneurship education and training programmes: a review and evaluation–part 1", *Journal of European Industrial Training*, Vol. 18 No. 8, pp. 3-12.

Garrison, J. (1995), "Deweyan pragmatism and the epistemology of contemporary social constructivism", *American Educational Research Journal*, Vol. 32 No. 4, pp. 716-740.

Geary, D.C. (2002), "Principles of evolutionary educational psychology", *Learning and Individual Differences*, Vol. 12 No. 4, pp. 317-345.

Geary, D.C. (2007), "Educating the evolved mind: conceptual foundations for an evolutionary educational psychology", in Carlson, J.S. and Levin, J.R. (Eds), *Educating the Evolved Mind: Conceptual Foundations for an Evolutionary Educational Psychology*, Information Age Publishing, Charlotte, North Carolina, pp. 1-100.

Gibb, A.A. (1987), "Enterprise culture—its meaning and implications for education and training", *Journal of European Industrial Training*, Vol. 11 No. 2, pp. 2-38.

Gielnik, M.M., Frese, M., Kahara-Kawuki, A., Katono, I.W., Kyejjusa, S., Ngoma, M., Munene, J., Namatovu-Dawa, R., Nansubuga, F. and Orobia, L. (2015), "Action and action-regulation in entrepreneurship: evaluating a student training for promoting entrepreneurship", *The Academy of Management Learning and Education*, Vol. 14 No. 1, pp. 69-94.

Gray, D.E. (2007), "Facilitating management learning developing critical reflection through reflective tools", *Management Learning*, Vol. 38 No. 5, pp. 495-517.

Hägg, G. (2017), *Experiential Entrepreneurship Education: Reflective Thinking as a Counterbalance to Action for Developing Entrepreneurial Knowledge*, Compilation, Lund University, MediaTryck, Lund.

Hägg, G. (2018), "The reflective novice entrepreneur: from habitual action to intelligent action using experience-based pedagogy as a vehicle for change", in Fayolle, A. (Ed.), *A Research Agenda for Entrepreneurship Education*, Edward Elgar, Cheltenham, pp. 189-223.

Hägg, G. and Gabrielsson, J. (2019), "A systematic literature review of the evolution of pedagogy in entrepreneurial education research", *International Journal of Entrepreneurial Behavior and Research*, Vol. 26 No. 5, pp. 829-861.

Hägg, G. and Kurczewska, A. (2016), "Connecting the dots – a discussion on key concepts in contemporary entrepreneurship education", *Education + Training*, Vol. 58 Nos 7/8, pp. 684-699.

Hägg, G. and Kurczewska, A. (2019), "Who is the student entrepreneur? Understanding the emergent adult through the pedagogy and andragogy interplay", *Journal of Small Business Management*, Vol. 57, pp. 130-147.

Hägg, G. and Kurczewska, A. (2020), "Towards a learning philosophy based on experience in entrepreneurship education", *Entrepreneurship Education and Pedagogy*, Vol. 3 No. 2, pp. 129-153.

Haneberg, D.H. and Aadland, T. (2020), "Learning from venture creation in higher education", *Industry and Higher Education*, Vol. 34 No. 3, pp. 121-137.

Harms, R. (2015), "Self-regulated learning, team learning and project performance in entrepreneurship education: learning in a lean startup environment", *Technological Forecasting and Social Change*, Vol. 100, pp. 21-28.

Haynie, J.M., Shepherd, D., Mosakowski, E. and Earley, P.C. (2010), "A situated metacognitive model of the entrepreneurial mindset", *Journal of Business Venturing*, Vol. 25 No. 2, pp. 217-229.

Henry, C., Hill, F. and Leitch, C. (2005), "Entrepreneurship education and training: can entrepreneurship be taught? Part I", *Education + Training*, Vol. 47 No. 2, pp. 98-111.

Hickman, L.A. (1992), *John Dewey's Pragmatic Technology*, Indiana University Press, Bloomington, Indianapolis.

Ilgen, D., Hollenbeck, J., Johnson, M. and Jundt, D. (2005), "Teams in organizations: from input-process-output models to IMOI models", *Annual Review of Psychology*, Vol. 56, pp. 517-543.

Itin, C.M. (1999), "Reasserting the philosophy of experiential education as a vehicle for change in the 21st century", *Journal of Experiential Education*, Vol. 22 No. 2, pp. 91-98.

Jay, M. (2005), *Songs of Experience: Modern American and European Variations on a Universal Theme*, University of California Press, Berkeley.

Johannisson, B. (1991), "University training for entrepreneurship: Swedish approaches", *Entrepreneurship and Regional Development*, Vol. 3 No. 1, pp. 67-82.

Johannisson, B., Landstrom, H. and Rosenberg, J. (1998), "University training for entrepreneurship—an action frame of reference", *European Journal of Engineering Education*, Vol. 23 No. 4, pp. 477-496.

Jones, C. (2009), "Enterprise education: learning through personal experience", *Industry and Higher Education*, Vol. 23 No. 3, pp. 175-182.

Jones, C. (2019), "A signature pedagogy for entrepreneurship education", *Journal of Small Business and Enterprise Development*, Vol. 26 No. 2, pp. 243-254.

Jordi, R. (2011), "Reframing the concept of reflection: consciousness, experiential learning, and reflective learning practices", *Adult Education Quarterly*, Vol. 61 No. 2, pp. 181-197.

Kalyuga, S., Ayres, P., Chandler, P. and Sweller, J. (2003), "The expertise reversal effect", *Educational Psychologist*, Vol. 38 No. 1, pp. 23-31.

Kassean, H., Vanevenhoven, J., Liguori, E. and Winkel, D.E. (2015), "Entrepreneurship education: a need for reflection, real-world experience and action", *International Journal of Entrepreneurial Behavior and Research*, Vol. 21 No. 5, pp. 690-708.

Kember, D. (1999), "Determining the level of reflective thinking from students' written journals using a coding scheme based on the work of Mezirow", *International Journal of Lifelong Education*, Vol. 18 No. 1, pp. 18-30.

Kirschner, P.A., Sweller, J. and Clark, R.E. (2006), "Why minimal guidance during instruction does not work: an analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching", *Educational Psychologist*, Vol. 41 No. 2, pp. 75-86.

Knight, F.H. (1921), *Risk, Uncertainty and Profit*, Houghton Mifflin Company, Boston.

Kolb, D.A. (1984), *Experiential Learning: Experience as the Source of Learning and Development*, Prentice-Hall, Englewood Cliffs, NJ.

Kolb, A.Y. and Kolb, D.A. (2005), "Learning styles and learning spaces: enhancing experiential learning in higher education", *The Academy of Management Learning and Education*, Vol. 4 No. 2, pp. 193-212.

Kolb, A.Y. and Kolb, D.A. (2009), "The learning way meta-cognitive aspects of experiential learning", *Simulation and Gaming*, Vol. 40 No. 3, pp. 297-327.

Kubberød, E. and Pettersen, I.B. (2018), "The role of peripherality in students' entrepreneurial learning", *Education + Training*, Vol. 60 No. 1, pp. 2-15.

Kuk, H.-S. and Holst, J.D. (2018), "A dissection of experiential learning theory: alternative approaches to reflection", *Adult Learning*, Vol. 29 No. 4, pp. 150-157.

Kuratko, D.F. (1989), "New venture creation: a laboratory course for entrepreneurship education", *Journal of Education for Business*, Vol. 64 No. 6, pp. 248-250.

Kuratko, D.F. and Morris, M.H. (2018), "Corporate entrepreneurship: a critical challenge for educators and researchers", *Entrepreneurship Education and Pedagogy*, Vol. 1 No. 1, pp. 42-60.

Kurczewska, A., Kyrö, P., Lagus, K., Kohonen, O. and Lindh-Knuutila, T. (2018), "The interplay between cognitive, conative, and affective constructs along the entrepreneurial learning process", *Education + Training*, Vol. 60 Nos 7/8, pp. 891-908.

Kyrö, P. and Tapani, A. (2007), "Learning risk-taking competences", in Fayolle, A. (Ed.), *Handbook of Research in Entrepreneurship Education*, Edward Elgar, Cheltenham, pp. 285-310.

Lackéus, M. and Williams Middleton, K. (2015), "Venture creation programs: bridging entrepreneurship education and technology transfer", *Education + Training*, Vol. 57 No. 1, pp. 48-73.

Lackéus, M., Lundqvist, M. and Williams Middleton, K. (2016), "Bridging the traditional-progressive education rift through entrepreneurship", *International Journal of Entrepreneurial Behavior and Research*, Vol. 22 No. 6, pp. 777-803.

Lindh, I. and Thorgren, S. (2016), "Critical event recognition: an extended view of reflective learning", *Management Learning*, Vol. 47 No. 5, pp. 525-542.

Löbler, H. (2006), "Learning entrepreneurship from a constructivist perspective", *Technology Analysis and Strategic Management*, Vol. 18 No. 1, pp. 19-38.

Lundmark, E., Tayar, M., Qin, K. and Bilsland, C. (2019), "Does reflection help students to develop entrepreneurial capabilities?", *Journal of Small Business Management*, Vol. 57 No. 3, pp. 1157-1171.

Macht, S.A. and Ball, S. (2016), "'Authentic alignment'–a new framework of entrepreneurship education", *Education + Training*, Vol. 58 No. 9, pp. 926-944.

Mandel, R. and Noyes, E. (2016), "Survey of experiential entrepreneurship education offerings among top undergraduate entrepreneurship programs", *Education + Training*, Vol. 58 No. 2, pp. 164-178.

McLellan, J.A. and Dewey, J. (1889), *Applied Psychology: An Introduction to the Principles and Practice of Education*, Copp & Clark, Boston.

Mezirow, J. (1991), *Transformative Dimensions of Adult Learning*, Jossey-Bass Publishers, San Francisco.

Minniti, M. and Bygrave, W. (2001), "A dynamic model of entrepreneurial learning", *Entrepreneurship Theory and Practice*, Vol. 25 No. 3, pp. 5-16.

Moon, J.A. (2006), *Learning Journals: A Handbook for Reflective Practice and Professional Development*, Routledge, London.

Mwasalwiba, E.S. (2010), "Entrepreneurship education: a review of its objectives, teaching methods, and impact indicators", *Education + Training*, Vol. 52 No. 1, pp. 20-47.

Neck, H.M. and Greene, P.G. (2011), "Entrepreneurship education: known worlds and new frontiers", *Journal of Small Business Management*, Vol. 49 No. 1, pp. 55-70.

Neck, H.M., Greene, P.G. and Brush, C.G. (2014), *Teaching Entrepreneurship: A Practice-Based Approach*, Edward Elgar Publishing, Cheltenham.

Peirce, C.S. (1992), *Reasoning and the Logic of Things: The Cambridge Conferences Lectures of 1898*, Harvard University Press, Cambridge, Massachusetts.

Pepin, M. (2012), "Enterprise education: a Deweyan perspective", *Education + Training*, Vol. 54 Nos 8/9, pp. 801-812.

Phan, H.P. (2007), "An examination of reflective thinking, learning approaches, and self-efficacy beliefs at the university of the south pacific: a path analysis approach", *Educational Psychology*, Vol. 27 No. 6, pp. 789-806.

Phan, H.P. (2009), "Exploring students' reflective thinking practice, deep processing strategies, effort, and achievement goal orientations", *Educational Psychology*, Vol. 29 No. 3, pp. 297-313.

Pittaway, L. and Cope, J. (2007), "Simulating entrepreneurial learning integrating experiential and collaborative approaches to learning", *Management Learning*, Vol. 38 No. 2, pp. 211-233.

Pittaway, L., Missing, C., Hudson, N. and Maragh, D. (2009), "Entrepreneurial learning through action: a case study of the Six-Squared program", *Action Learning: Research and Practice*, Vol. 6 No. 3, pp. 265-288.

Politis, D. (2005a), *Entrepreneurship, Career Experience and Learning-Developing Our Understanding of Entrepreneurship as an Experiential Learning Process, Compilation*, Lund University, MediaTryck, Lund.

Politis, D. (2005b), "The process of entrepreneurial learning: a conceptual framework", *Entrepreneurship Theory and Practice*, Vol. 29 No. 4, pp. 399-424.

Politis, D. and Gabrielsson, J. (2009), "Entrepreneurs' attitudes towards failure: an experiential learning approach", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 15 No. 4, pp. 364-383.

Rasmussen, E.A. and Sørheim, R. (2006), "Action-based entrepreneurship education", *Technovation*, Vol. 26 No. 2, pp. 185-194.

Rideout, E.C. and Gray, D.O. (2013), "Does entrepreneurship education really work? A review and methodological critique of the empirical literature on the effects of university-based entrepreneurship education", *Journal of Small Business Management*, Vol. 51 No. 3, pp. 329-351.

Roberts, J.W. (2012), *Beyond Learning by Doing: Theoretical Currents in Experiential Education*, Routledge, New York.

Roberts, J.W. (2015), *Experiential Education in the College Context: What it Is, How it Works, and Why it Matters*, Routledge, New York.

Robinson, S., Neergaard, H., Tanggaard, L. and Krueger, N. (2016), "New horizons in entrepreneurship: from teacher-led to student-centered learning", *Education + Training*, Vol. 58 Nos 7/8, pp. 661-683.

Rodgers, C. (2002), "Defining reflection: another look at John Dewey and reflective thinking", *Teachers College Record*, Vol. 104 No. 4, pp. 842-866.

Ronstadt, R. (1985), "The educated entrepreneurs: a new era of entrepreneurial education is beginning", *American Journal of Small Business*, Vol. 10 No. 1, pp. 7-23.

Sarasvathy, S.D. (2008), *Effectuation: Elements of Entrepreneurial Expertise*, Edward Elgar Publishing, Cheltenham.

Schön, D.A. (1983), *The Reflective Practitioner: How Professionals Think in Action*, Ashgate, Farnham, Surrey.

Schön, D.A. (1992), "The theory of inquiry: Dewey's legacy to education", *Curriculum Inquiry*, Vol. 22 No. 2, pp. 119-139.

Schunk, D.H. (2012), *Learning Theories: An Educational Perspective*, Pearson Education, Boston.

Scott, J.M., Penaluna, A. and Thompson, J.L. (2016), "A critical perspective on learning outcomes and the effectiveness of experiential approaches in entrepreneurship education: do we innovate or implement?", *Education + Training*, Vol. 58 No. 1, pp. 82-93.

Sexton, D.L. and Bowman-Upton, N. (1987), "Evaluation of an innovative approach to teaching entrepreneurship", *Journal of Small Business Management*, Vol. 25 No. 1, pp. 35-43.

Sexton, D.L. and Bowman-Upton, N. (1988), "Validation of an innovative teaching approach for entrepreneurship courses", *American Journal of Small Business*, Vol. 12 No. 3, pp. 11-18.

Shepherd, D.A. (2003), "Learning from business failure: proportions of grief recovery for the self-employed", *Academy of Management Review*, Vol. 28 No. 2, pp. 318-328.

Shepherd, D.A. (2004), "Educating entrepreneurship students about emotion and learning from failure", *The Academy of Management Learning and Education*, Vol. 3 No. 3, pp. 274-287.

Sweller, J. (1988), "Cognitive load during problem solving: effects on learning", *Cognitive Science*, Vol. 12 No. 2, pp. 257-285.

Sweller, J. (2015), "In academe, what is learned, and how is it learned?", *Current Directions in Psychological Science*, Vol. 24 No. 3, pp. 190-194.

Sweller, J. (2016), "Working memory, long-term memory, and instructional design", *Journal of Applied Research in Memory and Cognition*, Vol. 5 No. 4, pp. 360-367.

Sweller, J., Ayres, P. and Kalyuga, S. (2011), *Cognitive Load Theory*, Springer, New York.

Wang, C.L. and Chugh, H. (2014), "Entrepreneurial learning: past research and future challenges", *International Journal of Management Reviews*, Vol. 16 No. 1, pp. 24-61.

Williams Middleton, K. and Donnellon, A. (2014), "Personalizing entrepreneurial learning: a pedagogy for facilitating the know why", *Entrepreneurship Research Journal*, Vol. 4 No. 2, pp. 167-204.

Wraae, B., Tigerstedt, C. and Walmsley, A. (2020), "Using reflective videos to enhance entrepreneurial learning", *Entrepreneurship Education and Pedagogy*, Vol. ahead of print No. ahead of print, doi: 10.1177/2515127420936955.

Zimmerman, B.J. (1990), "Self-regulated learning and academic achievement: an overview", *Educational Psychologist*, Vol. 25 No. 1, pp. 3-17.

Zimmerman, B.J. (2002), "Becoming a self-regulated learner: an overview", *Theory into Practice*, Vol. 41 No. 2, pp. 64-70.

Zimmerman, B.J. (2008), "Investigating self-regulation and motivation: historical background, methodological developments, and future prospects", *American Educational Research Journal*, Vol. 45 No. 1, pp. 166-183.

Appendix

Table A1.
Example of a reflective journal

Q1: What have I done and who have I met?
In the last two weeks, I met a lot of inspiring people and I got to bond more with my fellow classmates. In terms of activities there were three main events happening: the "business failure workshop", the "future in mind workshop" and the "pitching workshop"
Q2: Why did I do what I did?
The business failure workshop was something I anticipated and looked forward to from the beginning of this course. Unfortunately, I had to witness two company closures in my previous start-up experiences and ever since I was reflecting about "business failing" a lot. Before this course started, I of course tried to understand the reasons why those two ventures did not succeed but since I was "just an employee" in both start-ups I had difficulties to understand the whole picture. Therefore, I was more than happy when XX told his story and painted a whole picture, why his business failed. He gave me (us) some real insights and with some decision-making exercises in between, he managed to illustrate that business failure usually does not happen due to one mistake but is characterized by uncertainty and complexity
Since there generally was less time in the last two weeks to actually form larger groups for "idea-brainstorming-sessions", I made sure that I arranged some lunch and dinner meetings with two classmates in particular. All meetings were a lot of fun and I felt like we bonded a lot over the last couple of weeks. Therefore, it was a no-brainer for the three of us to form a team in the "pitching workshop" to work on an idea together. Interestingly all three of us had already have one idea in mind for the final project, but we all decided to come up with a new idea together
Q3: Observations and reflections with regard to points 1 and 2
As previously stated in journal #1 all of my fellow students are very friendly and working with a variety of them on different projects has been a pleasure so far. Feeling that I am starting to bond more with a fair amount of them also helps me when presenting in front of the class. While presentations in the first two weeks were still a bit nerve-wrecking, in the last two weeks they have been a lot of fun and I tried to put myself forward to present as often as I can since my classmates are usually very good at giving constructive feedback and I still very much enjoy improving my presentation still. Learning about the N.A.B.C pitching technique and getting useful tips from such a talented pitcher like XX was also very exciting. In regard to the new business idea, I found two like-minded people with whom working on a new idea was super fun and rewarding. All of us put the same amount of effort into the development and it did not feel like there was a "stormy phase" at all, and I am curious to find out if this is just because we did not leave the "honeymoon phase" or if it's because we are actually a great match. Nevertheless, I truly feel like our great team efforts paid off when we were presenting our concept
Q4: Can you please reflect on (entrepreneurial) theory and link it with point 3?
I have been reflecting a lot about the business failure workshop. In my opinion, he was a real impersonation of positive attitude towards failure. Even though I worked in several (five) start-ups before I used to have a rather negative attitude towards failure, which goes against Politis and Gabrielsson's (2009) proposal that one develops a positive attitude towards failure through start-up experiences. However, learning about his company closure and his overcoming of grief (Shepherd, 2003) in such a personal and relatable manner, I can truly understand how this can affect someone's attitude towards failure and even though I have not experienced a closure as a founder myself

(*continued*)

The pitching workshop on the other hand showed me that the IMOI model by Ilgen *et al.* (2005) is very applicable to team projects and we found ourselves referring back to it, especially in regard to the functioning stage (bonding, adapting and learning), to increase our efficiency as a team. Structuring our workload according to our strengths really helped the whole project to go smoothly and at the same time we made sure that we were teaching one another so that there was also a learning process involved

Lastly, I was trying to improve my entrepreneurial alertness by broaden my knowledge in different areas, meaning reading different articles on tech and finance news websites (tech crunch and financial times). Despite the fact that I just started with the plan to develop my general knowledge, I felt like it was already rewarding since I came up with the business idea for the pitching workshop challenge by connecting the dots of unrelated trends and topics, about which I had previously hardly any knowledge (Baron, 2006). Therefore, I am going to continue with my plan and hope that this will further sharpen my alertness and help me in upcoming entrepreneurial activities

Q5: What are my goals for next week?

(1) Do more research on the "XXX" as well as the "YYY" idea and try to decide which idea is more feasible for this program
(2) Talk to an acquaintance via Skype who works in the plastic recycling industry and ask about production opportunities
(3) Create a pitch deck for the idea of XXX
(4) Talk to alumni students and their experiences at the entrepreneurial fair
(5) Stick to the plan to broaden my knowledge in unfamiliar areas

Table A1.

Corresponding author
Gustav Hägg can be contacted at: gustav.hagg@fek.lu.se