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Learning and Educational Programs for Entrepreneurs

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Abstract

This chapter summarizes the latest studies in entrepreneurial learning in order to highlight their implications for the design of educational programs (Pittaway & Thorpe, 2012). It examines in detail the latest thinking on the subject, summarizes the key concepts and empirical contributions with a particular focus on expanding understanding of 'situated', social and contextual learning (Lave & Wenger, 1991). The chapter stems from Pittaway and Thorpe's (2012: 850) summary of Cope's framework. Here it highlights critical concepts, such as dynamic temporal phases, forms and characteristics of learning (Cope, 2010) and lays out the underlying principles of each concept. Following this initial framework recent contributions to the subject of entrepreneurial learning, both conceptual and empirical, are presented to provide an up-to-date picture of thinking in the field. The latter part of the chapter highlights implications of current thinking on the design of development programs for entrepreneurs. It focuses on how concepts in this field can be used to enhance efforts to consider, design and deliver educational programs for entrepreneurs. A number of forms of educational practice are recommended based on this analysis. The chapter closes by considering future developments and lines of inquiry in entrepreneurial learning.

Author Biographies

Dr. Luke Pittaway

Dr. Luke Pittaway is the Copeland Professor of Entrepreneurship and Director of the Center for Entrepreneurship at Ohio University (Athens, OH) where he leads the academic programs in the College of Business and is leading enhancements to University-wide programs. He was formally the William A. Freeman Distinguished Chair in Free Enterprise and the Director of the Center for Entrepreneurial Learning and Leadership at Georgia Southern University where he managed programs in entrepreneurship until May 2013. Dr. Pittaway has previously worked at the

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University of Sheffield (UK), Lancaster University (UK) and the University of Surrey (UK). He has been a Research and Education Fellow with the National Council of Graduate Entrepreneurship and an Advanced Institute of Management Research Scholar. He is on a number of editorial boards including: International Small Business Journal; International Journal of Entrepreneurial Behaviour and Research; and, the Service Industries Journal. Dr. Pittaway's research focuses on entrepreneurship education and learning and he has a range of other interests including: entrepreneurial behavior; networking; entrepreneurial failure; business growth; and, corporate venturing.

Dr. Louisa Huxtable-Thomas

Dr. Louisa Huxtable-Thomas is the Research Lead for Institute for Entrepreneurial Leadership at Swansea University, Wales. She has extensive experience in case study research and work based learning, facilitation of innovation and invention in supported companies, training and supervision of PhD students. In this role she undertakes research for a successful management and leadership programme aimed at improving leadership skills for owner-managers of small businesses. The role requires research into learning and teaching methods most suitable for this group of mature students, post-full time education as well as analysis of the wider economic impacts that such learning has. In addition, Louisa has an academic role as advisor for two doctoral students and provide qualitative methodologies advice to a further five students at the recommendation of their Directors of Studies. As well as holding a doctorate in business and economics, Louisa holds a Postgraduate Certificate in Developing Higher Education and is a Fellow of the Higher Education Academy (FHEA). In previous roles she qualified as a Chartered Environmentalist (CEnv) and Member of the Institute of Ecology and Environmental Management (MIEEM) and Institute of Environmental Management and Assessment (AIEMA). Louisa has been considered a trusted advisor to the Welsh Assembly Government and local authorities in Wales.

Prof. Paul Hannon

Paul is a graduate entrepreneur and has helped shape enterprise and entrepreneurship education, support and development in the UK and overseas during the past 35 years. He is a successful creator and innovator of local support initiatives for enterprise and entrepreneurship stimulation in the private and public sectors; he has won accolades for his innovative approaches to enterprise and entrepreneurship curricula design and delivery in higher education; and he is also an experienced entrepreneur with 10 years as the co-owner/director of a small growing firm in the food industry. In 2015 Paul was invited to be a member of Maserati 100 the top 100 individuals in the UK actively supporting the next generation of future entrepreneurs. In 2016 he was appointed European Entrepreneurship Education Laureate by the Sten K. Johnson Centre for Entrepreneurship at Lund University, Sweden. At Swansea University in Wales Paul is Head of Section in Research, Engagement and Innovation Services. He is Director of the Institute for Entrepreneurial Leadership and is Director of Leading Business Growth that is supporting leadership development and growth in 100's of Welsh SMEs. The Institute for Entrepreneurial Leadership offers research, learning and development opportunities to stimulate cultures and practices of entrepreneurial leadership for Individuals and organisations in highly uncertain, unpredictable and complex environments. Up to the end of March 2013 Paul was Chief Executive at the UK's National Centre for Entrepreneurship in Education (formerly NCGE) that supports long-term cultural change in UK universities and colleges.

Learning and Educational Programs for Entrepreneurs

Introduction

Since the 1990s, researchers in entrepreneurship have been developing and testing new concepts within the subject of entrepreneurial learning. Consequently, our understanding of learning during entrepreneurial efforts has advanced significantly (Harrison & Leitch, 2008). Yet, despite these advances we contend that entrepreneurial learning researchers have largely failed to demonstrate the practical implications of their work within entrepreneurship education; particularly within the context of educational design and its implications for entrepreneurship education (Pittaway & Thorpe, 2012). This chapter addresses this oversight by reviewing current concepts and empirical work in entrepreneurial learning and explores implications from this work on the development of educational programs for entrepreneurs. Our starting point is Pittaway and Thorpe's (2012) summary of Cope's 'entrepreneurial learning framework'. We use this framework to review current concepts and ideas, recent studies and the latest empirical contributions and discoveries in entrepreneurial learning. Finally, we outline how this body of work can inform the design of programs for entrepreneurs. We thus begin this chapter by outlining past conceptual thought in the subject.

Early Concepts in Entrepreneurial Learning

The development of thinking in entrepreneurial learning has been mapped previously (Pittaway & Thorpe, 2012) following prior observations that entrepreneurs had to 'learn on the job' (Rae & Carswell, 2000). This 'active' component of entrepreneurial learning was conceptualized in different ways. 'Adaptive learning' was conceived to explain how entrepreneurs must adapt to change and 'learn as they go' as the circumstances warranted (Watts *et al.*, 1998). Different researchers have described it as, 'learning by doing' (Jones *et al.*, 2008), 'learning as they go' (Gartner, 1988) and 'experiential learning'

(Rae, 2002). While there are nuances between definitions, the general stance is that entrepreneurs are action orientated people who make decisions and undertake actions, as they navigate ongoing business activities, which leads to the accumulation of a 'stock of experience' (Reuber & Fischer, 1999; Smilor, 1997). Adaptive learning highlights the importance of an entrepreneur's willingness and/or aptitude to change their personal behaviors and business strategies as the context requires (Deakins & Freel, 1998). It was widely noted that making recoverable mistakes and engaging in experimental behavior could also contribute to an entrepreneur's capacity to learn (Cope & Watts, 2000). The nature of experience, in this research, was characterized as either a 'general stock of experience', which entrepreneurs apply to their future actions or a 'specific stock of experience' that was acquired from the highly contextual nature of the entrepreneurial process encountered (Reuber & Fischer, 1999).

Initial research confirmed entrepreneurs' anecdotal experiences and observations of practice by researchers (Pittaway & Thorpe, 2012). Entrepreneurial learning represented a gradual process of knowledge accumulation (Deakins & Freel, 1998) that led to a change in orientation over time (Cope & Watts, 2000), rather than a sudden shift. Researchers, however, began to notice two problems with this conceptualization of entrepreneurial learning.

Firstly, it was noted that 'one can experience something and yet learn nothing' (Cope, 2003; Taylor & Thorpe, 2004). This view drew on adult learning theory which emphasized both 'action' and 'reflection' as important factors in the learning process (Preskill, 1996; Gibb, 1997 and Cope, 2003). Reflection included the meaningful assessment of past action as a way to consider alternative courses of future action, the retention of good practice and the avoidance of repeated mistakes. Researchers began to include 'action', 'experience' and 'reflection' in their thinking on entrepreneurial learning and they noted that effective entrepreneurs appeared to be more 'reflective' (Rae & Carswell, 2000; Taylor & Thorpe, 2004). Reflection, however, is a complex concept (Cope, 2003; 2005). For example, Cope (2003), drawing on others (Senge, 1990; Mezirow, 1991 and Daudelin, 1996), began to highlight differences between

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reflection on 'ongoing experience' and 'critical reflection' that led to significant reconsideration of personal viewpoints. Later he highlighted four forms of reflection, 'inward', 'outward', 'backward' and 'forward' (Cope, 2005; Pittaway *et al*., 2015), which included reflections on self, reflections on the context and on others, reflections on past events and reflections on experiences that can be 'taken forward' into future situations (Minniti & Bygrave, 2001).

Secondly, researchers noted that entrepreneurial ventures experience significant 'crises' and highly emotionally charged situations, which sometimes included outright failure of the business (West & Wilson, 1995). Researchers proposed that 'critical periods', 'mistakes' and 'failure' contributed to learning in heightened ways (Cope & Watts, 2000; Cope, 2003; 2005) challenging the position that all experience was equal. These seminal moments were considered as a pathway to transformative learning (Shepherd, 2003; Politis & Gabrielsson, 2009) and as such, could change the individual's orientation to themselves, to others and to their venture. Learning from entrepreneurial failure consequently became a key aspect of thinking in the subject (Cope, 2010; Pittaway & Thorpe, 2012).

As researchers began to appreciate the 'dynamic learning contexts' that could be encountered by entrepreneurs and considered the extent to which contexts could influence learning acquisition, it became evident that concepts had been too focused on the individual learner (Harrison & Leitch, 2008; Jack *et al*., 2008). 'Social learning' and 'situated learning', based on Lave and Wenger's (1991) work, became more important in thinking (Taylor & Thorpe, 2004; Karatas-Ozkan, 2011). Here it was noted that learning is a social process that involves multiple people within a context of ongoing activity (Jack *et al*., 2008). Social practice and relationships are, therefore, considered to play an integral role. Relationships with key people (e.g. spouses and mentors) were widely noted as influencers in the learning process (Hamilton, 2004). The 'situated' nature of learning became more of a focus (Cope, 2010) and researchers concluded that learning differed depending on the learning challenges encountered and thus learning outcomes differed between phases (Karatas-Ozkan, 2011). Certain characteristics of the learning context

were viewed to play a pivotal role in learning acquisition. So, for example, the degree of 'emotional exposure', 'financial exposure', 'social engagement' and 'relationship conflict' (Pittaway & Thorpe, 2012) experienced could play an important role and impact on learning processes (Jack *et al.*, 2008). Figure 1 summarizes these early concepts in entrepreneurial learning, as highlighted previously in Pittaway & Thorpe (2012, p. 850)

[Insert Figure 1]

The framework presented in Figure 1 introduces key components from prior studies. First, all individuals come to a learning event with a prior 'stock of experience' (Smilor, 1997; Reuber & Fischer, 1999). This can be acquired from multiple contexts not related to entrepreneurship but these may contribute to person's 'entrepreneurial preparedness' or their readiness, ability and competence to act in entrepreneurial ways (Reuber & Fischer, 1999). An individual engaging in an entrepreneurial process will enter 'dynamic temporal phases' specific to their situation, context and to the endeavor they are pursuing (Cope, 2010). Even where the temporal phases are the same the situated nature of the effort will make the experience highly unique and different. Every entrepreneur has an inherently different experience due to temporal phase, context and levels of support provided by other people. As such, each learning situation is unique both because of its historical context and situational dynamic (Pittaway *et al.*, 2015). Despite this uniqueness, researchers have been able to observe some common inter-related processes of learning that both describe the learning process and help explain an individual's capacity to learn. These include 'adaptive learning'; 'reflective learning'; 'situated learning'; and, 'transformative learning' (Cope, 2005). Researchers have recognized characteristics of the entrepreneurial context that can lead to a heightened sense of learning potential and some argue that these are uniquely experienced within entrepreneurial processes (Macpherson *et al.*, 2010; Cope, 2010). For example, higher chances for 'social risk', 'social conflict', 'relationship conflict', 'emotional exposure' and 'financial exposure' have all been associated with entrepreneurial learning during failure events (Shepherd, 2003; Politis & Gabrielsson,

2009). Likewise, heightened sense of 'trial and error learning' and 'experimentation', have been associated with start-up processes (Dalley & Hamilton, 2000; Johnston, Hamilton & Zhang, 2008). In addition to common characteristics of learning there also appear to be common learning tasks that entrepreneurs need to accomplish. These include: learning about oneself; learning about the venture; learning about important relationships; and learning about the dynamic phase being experienced. The framework outlined presents a complex picture of entrepreneurial learning, being both uniquely embedded within the specific situation while having some common processes, characteristics and learning tasks that might be experienced by all entrepreneurs. Next we expand this picture by reviewing the latest conceptual and empirical research (2005-2015) in the field. At the end of the chapter we then explore how this research can guide practice in educational design for entrepreneurs.

Review of Contemporary Research in Entrepreneurial Learning

The review was conducted, using some of the basic principles of the Systematic Literature Review (SLR) (Pittaway *et al*, 2014). First, leading journals were selected. From these journals the search string *'entre* AND learn*'* was applied to a search of abstracts between 2000 and 2015. This step produced 27 relevant research papers. Next the researchers reviewed the citation list of all of the papers identified in the first step and identified a further 44 papers for review (for a total of 71 articles). Abstracts for every paper were then reviewed and the boundaries of the review period were revised to 2005-2015. During this step 16 papers were removed either because they lacked relevancy or were outside of the review period (25 removed from the review). In total 46 papers were drawn on for this review, as outlined in Table 1 and Appendix 1. The papers were categorized according to whether they made an empirical or conceptual contribution to the subject. Finally, papers were reviewed and considered based on the themes presented in this chapter and new themes that emerged from the review were highlighted.

[Insert Table 1]

Papers found making conceptual contributions are summarized in Table 1 while all articles making empirical contributions are summarized in the appendix (see Appendix 1). The review conducted mirrors a recent SLR published on entrepreneurial learning by Wang & Chugh (2014). From the two studies a number of key observations can be highlighted.

i) Observation 1 - Entrepreneurial learning as a topic has grown considerably, but is often limited to conceptual or theoretical, rather than empirical or applied approaches (Kempster & Cope, 2010).

ii) Observation 2 - Entrepreneurial learning research since 2005 has increasingly diversified and as a consequence there remain definitional problems (Wang & Chugh, 2014). Consequently, studies have largely failed to recognize that learning from one context may differ substantively from another context (Taylor & Thorpe, 2004; Cope, 2005; 2010).

iii) Observation 3 – There are two clear 'schools of thought' developing in entrepreneurial learning. A North American school that focusses on 'entrepreneurial orientation' (EO) and forms of learning, such as, exploratory and exploitative learning (Holcomb *et al*., 2009), and a European school that emphasizes the subjective nature of knowledge and has adopted qualitative methods (Cope, 2003; 2005). This 'split' between two schools may result in different and non-complementary conceptions regarding the design and development of educational programs for entrepreneurs.

iv) Observation 4 – Entrepreneurial learning research draws on multiple concepts but without much clarity regarding the relationship between individual and collective learning. Although some efforts towards synthesis have been attempted (Cope, 2005; Pittaway & Thorpe, 2012) there remains much to do to encourage conceptual clarity.

These observations suggest that there is still an incomplete picture of entrepreneurial learning, and as it continues to be researched the potential for differences of position widen. Next we explore some of these details by outlining the latest conceptual and empirical contributions in the subject.

Conceptual Contributions

The recent conceptual contributions in the subject are summarized in Table 1. New concepts within this literature have gained heightened attention in recent years. 'Vicarious learning', for example, has gained more attention in the conceptual literature in the last decade (Holcomb *et al*., 2009). As researchers have recognized that entrepreneurs can learn from the situation as well as their own experiences, an acknowledgement has grown that entrepreneurs learn from others 'vicariously'. In other words, mentors and other entrepreneurs play a role in helping individuals as they engage with the dynamic phases of the venture process (Harrison & Leitch, 2005).

'Liability of newness' has been highlighted to explain that entrepreneurs must learn to cope with ambiguity and uncertainty and that this aptitude for coping with new experiences can in fact itself be learnt (Politis, 2005). 'Self-management' and 'self-monitoring skills' have been added to our understanding of the role of reflection in learning (Tseng, 2013). The capability of an individual to monitor and manage themselves relative to the situation and others is now considered to be an important aspect of self-directed learning. 'Exploratory and exploitative learning' (Kreiser, 2011; Zhao *et al.* 2011) characterizes differences in entrepreneurial orientation (EO) and learning between ventures. Exploratory leaning describes learning that leads to the observation of new opportunities (e.g. starting a technology-based university spinout) while exploitative learning involves learning that is accrued from the exploiting existing opportunities (e.g. starting a restaurant business).

'Intuitive and sensing learning' (Wang & Chugh, 2014) considers differences in individual learning styles between intuitive and sensing learning. Intuitive learning being the association of concepts that are not inherently connected in order to consider new possibilities while sensing learning is focused on learning from an environment by understanding what is going on in a particular context or market (Bingham & Davis, 2012). It is thought different learning styles may influence an entrepreneur's approach to opportunity recognition. These concepts are somewhat similar to the 'hypothesis-testing' and 'hermeneutic' modes of entrepreneurial learning presented by Berglund *et al*. (2007).

'Passion' and 'emotion' also begin to enter thinking in terms of how enthusiasm, passion and engagement with entrepreneurial efforts can influence a willingness or ability to learn (Cardon *et al*., 2009; 2012). Here passion and emotion have been viewed as both enablers and inhibitors of learning particularly during venture failure (Shepherd & Kuratko, 2009; Ucbasaran *et al*., 2013). Aspects of 'social capital', such as 'absorptive capacity', and aspects of 'human capital', such as prior education, are increasingly viewed to be important antecedents and mediators within the entrepreneurial learning context (Macpherson & Holt, 2007; Jones *et al*., 2010).

Conceptual advances in the field have recently developed in a number of ways. They have further sought to explain the 'situated' nature of entrepreneurial learning emphasizing what differs within different forms of entrepreneurship (e.g. opportunity creation versus opportunity recognition). They have explored factors that provide individuals with different aptitudes for learning within these different contexts and they have considered the affective dimension of learning more thoroughly. Next, we consider how empirical contributions have advanced the subject.

Empirical contributions

Recent empirical contributions in the subject naturally tend to lag behind the conceptual thinking. Here there are also some identifiable trends. Many studies, for example, focus on entrepreneurial

orientation (EO) as a construct and consider how it might impact on learning capability of an organization. Often the focus here is on organizational learning rather than individual learning (Wang, 2008; Anderson *et al.*, 2009; Brettel & Rottenberger, 2013; Real *et al.*, 2014). Increasingly, studies are examining wider variables in this relationship, such as, human capital (Corbett, 2007); internationalization (De Clercq *et al.*, 2005); and different forms of learning (Hughes *et al.*, 2007; Kreiser, 2011; Zhao *et al.*, 2011).

Other studies seek to highlight and understand the situated nature of entrepreneurial learning and identify factors that influence how the situation can influence the learning process (Kempster & Cope, 2010; Voudouris *et al.*, 2010; Karataş-Özkan, 2011). These include a focus on industry entry timing (Lévesque *et al.*, 2009) and the entrepreneurial team (Sardana & Scott-Kemmis, 2010). One empirical paper explores how to measure 'entrepreneurial passion' and 'emotion' and considers how this might impact on the development of ventures (Cardon *et al.*, 2013). Other studies have used methods more usually associated with recovery from grief to measure how entrepreneurs learn from venture failure and these also consider the emotional aspects of learning (Huovinen & Tihula, 2008; Cope, 2010).

Researchers have considered how learning and knowledge are distributed within the firm, once again taking an organizational learning perspective (Jones & Macpherson, 2006). Within this group there is a focus on: how external factors, such as shocks, impact on learning capabilities (Newey & Zahra, 2009) and how new knowledge is sought and/or used by firms (Ravasi & Turati, 2005; Parker, 2006). The final group digs deeper into 'social capital' and 'human capital' attributes and how these might impact on entrepreneurial capability (Thorpe *et al.*, 2006; Zhang *et al.*, 2006; Stinchfield & Nelson, 2012).

In comparison to the conceptual studies which emphasize individual learning concepts, the empirical contributions have a strong focus on organizational learning. Entrepreneurial Orientation (EO) as a construct and its impact on how firm's engage in strategic learning and development seems to be a strong focus for studies but these would appear to have little interconnectivity with other studies (as highlighted

in Observation 3). Empirical studies have only recently begun to focus on the emotional and situational aspects of learning. Based on the conceptual papers one would expect this focus to continue to grow along with more studies on the role of failure and other 'shocks' in entrepreneurial learning.   Finally, within organizational learning the extent to which the small firm uses knowledge and draws on the different forms of capital available to enhance the firm's learning posture also seem to have gained some momentum.

Overall this review provides further evidence for Observation 4, that there is somewhat of a disconnect between individual and collective learning within this field of study (Wang & Chugh, 2014). Having set out the prior work in entrepreneurial learning and having reviewed in more detail the most recent studies this chapter will now consider how this research can be used to inform and guide executive education programs for entrepreneurs.

Executive Education for Entrepreneurs

Like research in entrepreneurial learning there is a fairly extensive history of research into management development in small firms (Curran *et al*., 1997; Fuller-Love, 2006). Research has identified many challenges and in general there has been a lack of connectivity between the research on entrepreneurial learning and thinking on educational practice for entrepreneurs (Pittaway & Thorpe, 2012). We first highlight the issues identified in the wider research on management development for small firms and then discuss the implications of the entrepreneurial learning research for the design of educational programs (Pittaway *et al*., 2009); aiming to link these two subjects more closely together. During the second part we will consider both the implications for individual learning and the transfer of learning to the firm itself. The key issues for management development that are usually highlighted in the literature include:

i) Engagement – many countries consider management development for entrepreneurs to be important and, despite the fact they regularly offer free or cheap programs funded by the state, there is low level of engagement in programs (Stanworth & Gray, 1991; Storey, 1994; Westhead & Storey, 1996). Two factors often prevent engagement and these are time and cost (Gibb, 1990). Small firms typically have only limited funds and any costs can prove challenging. Likewise the opportunity cost for attending training and taking time out from revenue generating activities is higher for smaller firms (Patel, 1994).

ii) Context – programs have been traditionally led by what external organizations think entrepreneurs need (Dalley & Hamilton, 2000) rather than being led by what entrepreneurs themselves say they want. As a consequence programs are poorly designed for what they are trying to achieve (Gibb, 1990).

iii) Value –entrepreneurs report that they do not see immediate value in management development programs and consider them to be too costly both in terms of time and money (Perren & Grant, 2001; Thomson *et al*., 1997; Deakins, 1999).

iv) Culture – smaller firms attract leaders and managers with less formal education (Curran *et al*., 1997; Smith *et al*., 1999). Lack of positive experience of education can lead to a distrust of training, compounding the issue of value.

v) Independence - entrepreneurs often choose to start businesses because they distrust authority or wish to have independence from others (Chell, 1985; Bosworth & Jacobs, 1989). Consequently, they do not necessarily wish to engage in programs led by people they do not consider experienced in their life-world (Gibb, 1997).

vi) Isolation - Managing an entrepreneurial venture itself can prove isolating for an entrepreneur (Clarke *et al*., 2006) and they are often reticent to release control of the business to others in

order to pursue learning (Jones *et al.*, 2014), which becomes a vicious cycle as they struggle to delegate when they do recruit senior employees (Scase & Goffee, 1987).

vii) Complexity – entrepreneurs and those involved in running entrepreneurial ventures have to face considerable complexity and have to simultaneously undertake multiple aspects of management of the venture (Fuller-Love, 2006). Traditional management development programs have focused too much on program designs developed within traditional business education or for larger organizations to be relevant in this context (Deakins & Freel, 1998; Devins *et al.*, 2002).

viii) Team development – it has been noted previously that many small businesses fail to grow because of the entrepreneur's inability to develop a leadership team (Leach & Kenny, 2000) and that training programs rarely focus on this aspect of an entrepreneur's skill set (Vyakarnam *et al.*, 1996).

Due to these factors it is widely acknowledged that engaging entrepreneurs in management development can be extremely difficult. Yet, the research also shows that it is essential. Managerial competence has been linked to higher failure rates of firms and to higher growth rates. Owners often ascribe their failure to operational management issues (Hall & Young, 1991), lack of capitalization compounded by a lack of managerial experience (Birley & Niktari, 1995) and weak selling skills with too few customers or too much reliance on a single customer. It is thought that such failures can be partly offset by improvements in managerial competence (Fuller-Love, 2006). Failure to grow has also been ascribed to poor leadership skills, including the poor management of employees (Leach & Kenny, 2000), an inability to build teams (Vyakarnam *et al.*, 1996) and weak delegation skills (Stanworth & Curran, 1973). So, there is a paradox in education for entrepreneurs. It is simultaneously important and yet existing provision is largely ignored by entrepreneurs themselves. This paradox has led researchers to acknowledge that part of the problem is the design and development of management development itself

(Jones *et al*., 2014) and led them to argue that programs have to be better aligned with the lifeworld of the entrepreneur and the form of learning they need to acquire to be effective at running businesses (Pittaway & Thorpe, 2012). In the next part, therefore, we apply the current knowledge in entrepreneurial learning to explain key philosophies and/or components that we suggest should be included within designs of educational programs for entrepreneurs and these are summarized in Table 2.

[Insert Table 2]

Prior experience, social and human capital

The personal prior experience of an individual contributes to their engagement with new situations where entrepreneurial action is required. Entrepreneurs bring a stock of experience with them when they act (Smilor, 1997; Reuber & Fischer, 1999). This stock of experience is both 'technical', from the field within which they have worked and 'entrepreneurial', derived from prior entrepreneurial efforts (Corbett, 2005). Likewise entrepreneurs bring existing social capital; relationships, networks and mentors, to each new entrepreneurial endeavor (Jones & Macpherson, 2006). Finally, they also have education training and developmental experiences, which account for their personal human capital (Jones, Macpherson & Thorpe, 2010). These personal resource endowments of experience, social capital and human capital can significantly impact on the success and performance of the firms they create (Zhang, Macpherson & Jones, 2006). This aspect suggests that design of learning would benefit from cohort models that encourage peer learning. Maximizing opportunities for peer or 'interactive' methods that encourage individuals to share personal prior experiences would allow programs to access this 'shared stock of experience'. Methods can vary and include: interviewing; story-telling techniques; reflective accounts, and; live case studies.

The existence of a 'stock of social capital' cannot be overlooked either. Entrepreneurs within a program bring with them existing networks and their own social capital. Learning designs and mechanisms

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that utilize this could be highly productive and many are already in use. A few options include: entrepreneurs recruiting course speakers; formalizing informal relationships for mentoring; utilizing social networks to create advisory boards, and; using social networks to help program participants 'shadow' established entrepreneurs. There is also in existence a 'stock of human capital' that can be leveraged effectively in program design. Participants may have had formal education; engaged in training programs and/or had on the job technical training. These prior experiences can be used effectively, alongside the available social capital, by utilizing 'open design' or 'co-creation' methodologies where the participants of a program are involved directly in designing the program or even being actively engaged in aspects of delivery where their expertise and prior knowledge is appropriate. Such approaches could allow entrepreneurs more control and ensure programs align more closely with the identified needs of participants (Dalley & Hamilton, 2000; Jones *et al.*, 2014).

Action and problem-based learning

The 'learning by doing' and 'learning by experimentation' aspects of how entrepreneurs prefer to learn are well documented (Deakins & Freel, 1998; Watts *et al.*, 1998). Although there have been criticisms of this thinking few researchers dispute that it remains an important aspect of entrepreneurial learning (Taylor & Thorpe, 2004; Cope, 2005). This clearly has implications for program design. It suggests that entrepreneurs will find more value in learning when it is related to ongoing practice within their firms (Thomson *et al.*, 1997; Deakins, 1999; Perren & Grant, 2001) while abstract, academic, theories and learning will likely be seen has having less value (Clarke *et al.*, 2006). Three forms of learning design have been identified: First, problem-based learning, where aspects of learning are connected to specific problems or challenges within their context. Designs using this approach might, for example, engage teams of entrepreneurs in setting about investigating and proposing approaches for addressing a

significant problem experienced by one or more of their businesses. Secondly, experiential learning, where program designs engage entrepreneurs in deliberate efforts to assess, plan, act and reflect on, changes that they wish to progress within their own businesses. Finally inquiry-based learning or experimental learning that allows participants to hypothesize and test new markets or products. The research suggests that entrepreneurs value the opportunity to engage in solving salient problems for their ventures, in a safe environment where they can experiment and try out new actions (Pittaway *et al*., 2009); where they can 'do' rather than 'listen'.

Reflective learning

Research has identified that the focus on action needs to be a consolidated with active reflection (Cope, 2005; 2010). Typically entrepreneurs do not practice reflection as they are often embedded in the ongoing action. Life is busy, business demands are high and time is a major commodity; few entrepreneurs take time out from the business for a vacation let alone management development education (Curran *et al*., 1997; Smith *et al*., 1999). This lack of reflection is widely considered to be a weakness within the entrepreneurial context and yet effective entrepreneurs have been observed to be capable reflective learners (Rae & Carswell, 2000; Taylor & Thorpe, 2004). Program designs should enable entrepreneurs to practice reflection more readily (Jones *et al*., 2014) while simultaneously recognizing the potential opportunity cost this represents to the entrepreneur (Gibb, 1990). This presents one of the more challenging aspects of program design and warrants further research. The act of engaging an entrepreneur in a program itself has been seen to encourage more reflection on learning (Jones *et al*., 2014). Methods that may be of use include any form of reflective learning, such as: reflective diaries; learning logs; portfolios of evidence; interviewing (such as, the critical incidence interview); and coaching. Embedding

such approaches in designs that are focused on the activities associated with the entrepreneur's ongoing efforts would seem to have the most likely impact on perceptions of value (Deakins, 1999).

Vicarious learning

Only in the more recent study of entrepreneurial learning has vicarious learning been in full focus (Holcomb *et al.*, 2009). Possibly overlooked because of the entrepreneur's perceived desire for independence from others (Chell, 1985; Bosworth & Jacobs, 1989) it does seem important within learning designs. It has, for example, been noted that entrepreneurs want to learn from authentic experts (i.e. other entrepreneurs) and that those running businesses often have a feeling of isolation particularly when making key decisions (Clarke *et al.*, 2006; Jones *et al.*, 2014). Both aspects of the entrepreneurial context can be offset by a focus on vicarious learning. Certain methods that might be of relevance include: mentoring; peer-to-peer mentoring; shadow boards of directors; shadowing other entrepreneurs, as well as; engaging successful entrepreneurs in masterclasses. Mentoring and peer-to-peer mentoring in particular have been highlighted as beneficial in encouraging vicarious learning in the entrepreneurial context (Clarke *et al.*, 2006).

Situated learning and learning transfer

Learning in the entrepreneurial context can be viewed as highly situated, i.e. fully embedded in the unique context of the venture, the entrepreneur's critical relationships and the industry/marketplace within which the firm operates (Jack *et al.*, 2008). The context is ambiguous, uncertain and also highly social in that key relationships with others can have a disproportionate impact on the entrepreneur and the firm itself (Politis & Gabrielsson, 2009). Likewise the learning must be transferred to others for it to influence firm development (Jones *et al.*, 2014). Coping with this complexity is time-consuming and as a result entrepreneurs rarely allow time to engage in management development (Fuller-Love, 2006). This

aspect of the research on entrepreneurial learning opens up questions about the 'individualized' nature of management development education for entrepreneurs. There is an assumption that if entrepreneurs are given support and education then there will be benefits for the firm but recent research suggests that this may not be the case if the learning is not transferred into the organizational development path of the venture as a collective effort (Leach & Kenny, 2000). This is just one area of research that requires more consideration to determine how 'learning' can be collective across a wider group of participants associated with a venture (e.g. team-based learning) and how learning might engage other critical stakeholders alongside the entrepreneur (e.g. spouses or key investors). Learning designs focused on 'collective learning' for the team and the venture more broadly may assist the transfer of learning from the individual into organizational development for the venture itself (Vyakarnam *et al*., 1996). Methods that might be of value include designs that incorporate more consultant-like interventions that include the entire family associated with the business or engage all key members of the leadership team. The situated nature of learning also requires thought to ensure all learning is fully embedded in the context from which it derives (e.g. through problem-based learning) and includes methods that acknowledge the level of ambiguity and uncertainty that entrepreneurs face (e.g. experimental methods).

Emotion and affective learning

Much recent research has begun to focus on emotion and passion in entrepreneurial learning (Cardon *et al*., 2009; 2012). This research stream is fairly new and it is difficult at this point to fully outline how these aspects of learning could impact on the most effective mechanisms for executive development for entrepreneurs. There are a number of initial implications that can be highlighted. First, it has been widely acknowledged that running businesses can be isolating, (Chell, 1985; Bosworth & Jacobs, 1989) and that emotional, financial and social exposure is a very real danger for entrepreneurs when they experience major crises in the business (Cope, 2005; 2010). Prolonged uncertainty and the psychological costs of running businesses can lead to negative psychological, business and social outcomes (Shepherd

& Kuratko, 2009). From this early research it already seems clear that creating support networks for entrepreneurs that removes them from isolation and encourages them to share experiences and emotions may hold value beyond the development of managerial skills and the business. Action learning sets have already been shown to provide a support network for entrepreneurs (Clarke *et al*., 2006; Pittaway *et al*. 2009) and have been recommended as a means to help entrepreneurs during insolvency or other significant periods of difficulty (Jones *et al*., 2014). As research expands on entrepreneurial failure it seems likely that approaches may emerge that would allow the development of more effective support mechanisms to help entrepreneurs deal with the emotional consequences of failure. Such approaches may enhance entrepreneurial learning and help offset some of the psychological outcomes of failure events (Jones *et al*., 2014). Methods that could be of value within this theme include: action learning sets; counselling; peer-to-peer mentoring; and other group-based support (e.g. group counselling).

Approaches to management development education for entrepreneurs based on current knowledge about entrepreneurial learning are summarized in Table 2. Next we will conclude the chapter by explaining the wider implications of research in this subject area and by highlighting implications for future research, educational design and government policy.

Conclusions

This chapter has reflected on the historical development of research examining entrepreneurial learning and shown how the field has developed. It has then conducted a review of the contemporary subject exploring both the recent conceptual and empirical contributions (from 2005 until 2015). The implications of prior study in entrepreneurial learning are considered in some depth and from these the chapter explains how this research stream could be used to inform and develop educational program designs for entrepreneurs.

This chapter shows how the early study of entrepreneurial learning has developed from the simplified stance of 'learning from doing' (Watts, Cope & Hulme, 1998) to incorporate deeper personal development, including reflection (Cope, 2003; Taylor & Thorpe, 2004), learning from crises (Cope, 2005; Politis & Gabrielsson, 2009) and social learning (Jack *et al.*, 2008). Current and recent studies build on these dimensions, as well as looking at the impact of environment or situation (Politis, 2005), learning method (Kreiser, 2011; Zhao *et al.*, 2011) and emotion (Cardon *et al.*, 2012; Shepherd, 2003; Cope, 2011). It was clear that research in the entrepreneurial learning domain is gaining traction and growing as a subject of interest, that a degree of diversification had occurred, with the field splitting into at least two 'Schools of Thought', and the that there is a need to further connect individual learning with collective learning outcomes (Wang & Chugh, 2014).

We argue that more consideration is needed to understand how entrepreneurial learning should inform the development of learning programs for entrepreneurs. Problems still persist of low engagement (Stanworth & Gray, 1991), poor perceived value (Perren & Grant, 2001) and an inability to design programs in a way that entrepreneurs want (Dalley & Hamilton, 2000). The chapter highlighted aspects of design based on the prior research that might help as highlighted in Table 2. From this work it is clear that current knowledge on entrepreneurial learning could improve our ability to design and implement development programs for entrepreneurs. As yet, we conclude, it has only had limited impact and it is an area that is ripe for considerable empirical research.

The main outcome of this work is a call to all researchers in entrepreneurial learning to begin to think more deeply, and thoroughly consider, the applications of this body of work. Increasing numbers of researchers have advanced the field conceptually and empirically, yet few have considered how findings can be used in practice. Researchers also need to study how conceptual and empirical studies connect. Conceptual studies tend towards a focus on individual learning while empirical studies focus more on organizational learning. Yet, it is clear from this review that the nexus of the two – how individual learning

is transferred into the organization and/or how the team or family learns together is of value. Likewise, trends towards the role of emotion and passion in learning are interesting lines of inquiry that merit more work and may lead to important applied outcomes when considering how to support entrepreneurs during periods of venture difficulty.

Finally, the chapter highlights some important practical and policy considerations. Prior work shows that traditional educational designs do not reflect how entrepreneurs learn. The expansive and growing research on entrepreneurial learning confirms this mismatch between learning designs and learning needs. Those who are involved with developing or commissioning programs for entrepreneurs need to recognize the different requirements of entrepreneurs to other types of learners. Learning needs to: be embedded in its context; focus on finding solutions to salient problems; be delivered by authentic and credible experts, and; encourage reflective and experimental learning. Utilizing the existing research to design more effective programs is likely to have far reaching consequences, taking learning beyond the individual and having a direct impact on the performance of businesses.

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Table 1 – Conceptual Studies in Entrepreneurial Learning (2005-2015)

Author (Date)	Key Conceptual Contribution
Baron & Henry (2010)	Proposes that expert performance gained from deliberate practice enhances cognitive resources, such as memory, perception and metacognition) which impacts on new venture performance.
Berglund *et al*. (2007)	Presents two generic approaches described as the hypothesis-testing mode and the hermeneutic mode. The model offers four categories of entrepreneurial learning: experimentation, evaluation, unreflective action and unverified assumptions.
Cardon *et al.* (2009)	Concludes that certain mechanisms of experience can be drawn from entrepreneurial passion concepts and explains how these might influence goal-directed cognitions and behaviors and entrepreneurial effectiveness.
Cardon *et al.* (2012)	Considers entrepreneurial emotion as an antecedent, can occur concurrently and can be a consequence of the entrepreneurial process.
Cope (2005)	Proposes three elements of entrepreneurial learning, dynamic temporal phases, interrelated processes and overarching characteristics. Highlights reflective learning and transformative learning.
Corbett (2005)	Provides an in-depth explanation of experiential learning theory and shows how it might be useful for understanding learning occurs in the entrepreneurial process. Understands the connections between entrepreneurial learning and opportunity identification and exploitation.
Dutta & Crossan (2005)	Applies the 4I organizational learning framework to entrepreneurial opportunities and presents learning as a multi-stage process. Considers entrepreneurial learning as a wider organizational effort.
Fletcher & Watson (2007)	Shows that entrepreneurial learning can include the development of an interpersonal identity formation process. Illustrates that in teaching entrepreneurship we need to consider how identity is formed.
Harrison & Leitch (2005)	Defines how the entrepreneurial context provides a unique and novel activity within which to explore organizational learning. Argues for a stronger examination of contextual and situational factors.
Holcomb et al (2009)	Considers how people assimilate and organize knowledge. Introduces three concepts about heuristics – the availability heuristic, the representative heuristic and the anchoring heuristic. Expands on how these heuristics can influence judgements in conditions of uncertainty.
Jones *et al*. (2010)	Introduces three key concepts associated with strategic space; 'social capital, 'absorptive capacity' and 'mediating artefacts'. Offer a conceptual model on the creation of strategic space.
Lecler & Kinghorn (2014)	Develops four learning patterns; expert honing and aligning; entrepreneurial shaping and configuring. Argues that entrepreneurial learning is critical for the development of dynamic capabilities.
Lumpkin & Lichtenstein (2005)	Argues that organizational learning can strengthen the firm's ability to see opportunities and allows them to pursue new ventures. Develops a typology of organizational learning and opportunity identification
Macpherson & Holt (2007)	Considers how human and social capital, organizational systems and knowledge networks combine to influence firm growth. Highlights the role of experience and learning within the growth process.
Morris *et al.* (2011)	A model and a set of propositions is developed that links pre-venture experience, key events, experiential processing, learning, affective outcomes and decision making.
Pittaway & Thorpe (2012)	Explores the initial implications of entrepreneurial learning theory on the development of executive education programs for entrepreneurs.
Politis (2005)	Identifies three components, entrepreneurs' career experiences, the transformation process and entrepreneurial knowledge, which includes coping with liability of newness.
Rerup (2005)	Argues that mindfulness influences how entrepreneurs choose to use prior experiences to discover and exploit opportunities.
Shepherd & Kuratko (2009)	Argues that emotions generated from failure can interfere with the learning process but also shows how it can enhance learning.
Tseng (2013)	Suggests that entrepreneurs who learn and develop their self-management and self-monitoring skills have more opportunities to enhance their entrepreneurial knowledge.
Ucbasaran *et al.* (2013)	Examines the financial, social and psychological costs of failure and explains how entrepreneurs make sense and learn from failure.
Wang & Chugh (2014)	Highlights a need to focus more on 'individual and collective learning', 'exploratory and exploitative learning' and 'intuitive and sensing learning'.

Table 2 – Key Philosophies and Components of Programs for Entrepreneurs

Concept	Forms of Learning	Example Methods
Prior Experience	• Cohort-based learning • Interactive learning • Sharing of personal experience	• Interviewing • Story-telling • Reflective accounts • Live case studies
Social Capital	• Networked-based learning	• Speaker recruitment • Informal mentoring • Advisory boards • Shadowing others
Human Capital	• Open design learning	• Participant program design • Peer-to-peer delivery
Learning by doing	• Context-based learning • Problem-based learning • Experiential learning • Experimental learning	• Observing, analyzing and addressing real problems • Assessing, planning, acting and reflecting on challenges as addressed • Test out and experiment with new products, services and operating procedures
Reflection	• Reflective learning	• Reflective diaries • Learning logs • Portfolios of evidence • Interviewing • Coaching
Learning from others	• Vicarious learning	• Mentoring • Peer-to-peer mentoring • Shadow boards of directors • Masterclasses
Situation	• Situated learning • Team-based learning • Family-based learning	• Team-building techniques • Outdoor team building • Consultant-based within the firm
Emotion	• Affective learning • Action learning	• Action learning sets • Support groups • Counselling

Appendix 1 – Empirical Studies in Entrepreneurial Learning (2005-2015)

Authors (Date)	Empirical Contribution
Anderson *et al.* (2009)	Explores the relationship between entrepreneurial orientation and strategic learning capability. The paper presents data from 110 manufacturing firms.
Brettel & Rottenberger (2013)	Samples 3,062 SMEs via an e-mail survey with a 10.7% response rate. Measures entrepreneurial orientation and organizational learning. Finds that having an entrepreneurial orientation can promote organizational learning.
Cardon *et al.* (2013)	Seeks to develop a measure for entrepreneurial passion. Undertakes a series of empirical studies, including three pilot studies sent to 4000 participants to validate the instrument and a final study including 158 participants. Finds that there are distinct aspects of entrepreneurial passion.
Cope (2011)	Develops a conceptualization of the process and content dimensions of learning from venture failure. Undertakes a purposive sample using Interpretative Phenomenological Analysis with 8 entrepreneurs who have experienced venture failure.
Corbett (2007)	Examines the relationship between opportunity identification and learning by examining data from 380 technology professionals. A random sample of 1,592 founders, owners and top management team members was used (Colorado). Findings show that an individual's specific human capital has an impact on their ability to discover opportunities and specifically technical knowhow.
De Clercq *et al.* (2005)	Considers notions of organizational learning and entrepreneurial orientation and how these ideas might impact on the internationalization of small firms. Draws on a sample of independent firms with a sample of 92 surveys. Concludes that learning efforts towards internationalization and entrepreneurial mindsets of firms will influence the success of internationalization efforts.
Hughes *et al.* (2007)	Explores exploitative learning and entrepreneurial orientation amongst young firms and considers the impact on performance. Specifically examines firms in incubators that are emerging and focused on technology. Sample 211 firms responded to a mail survey.
Huovinen & Tihula (2008)	Examines entrepreneurial learning in the context of portfolio entrepreneurship. Uses a case study method to explore one portfolio entrepreneur. Data included interviews and a written description of the entrepreneur's career. Proposes that failures lead to entrepreneurial knowledge.
Jones & Macpherson (2006)	Study explores how mature small firms use external knowledge to assist strategic renewal. Highlights the role of proactivity in learning across networks and the role of certain key external organizations in enabling the institutionalization of learning.
Karataş-Özkan (2011)	Presents a multi-layered relational framework of entrepreneurial learning. Conducts a longitudinal study using participant observation and in-depth qualitative interviews examining the entrepreneurial learning processes of five new entrepreneurs. Highlights how individual learning is embedded within their relationships with the broader venture community.
Kempster & Cope (2010)	Explores 'leadership learning' within the entrepreneurial context. Uses qualitative phenomenological interviews with nine entrepreneurs to inductively build theory. The paper finds that there are situated leadership patterns that are unique to the entrepreneurial context.
Kreiser (2011)	Explores the relationship between entrepreneurial orientation and an organization's acquisitive and experiential learning capacities. They present an empirical model.
Lévesque *et al.* (2009)	Researches entry timing to an industry and the implications for entrepreneurial learning and competitive advantage. An empirical model is presented.
Newey & Zahra (2009)	Considers operating and dynamic capabilities and how these help firms cope with risks following external shocks. Undertakes a comparative analysis of two firms that are collaborating.
Parker (2006)	Measures how entrepreneurs adjust beliefs after being presented with new information rather than simply responding to past experiences. The model is tested using the British Household Panel Survey on 700+ self-employed people
Ravasi & Turati (2005)	Undertakes a comparative study exploring the factors that influence the learning process supporting innovation in products and services. Uses a comparative case study method analyzing two development processes in one organization and collects data using semi-structured interviews.
Real *et al.* (2014)	Draws on organizational learning theory and the knowledge-based view of the firm to study entrepreneurial orientation and learning orientation. Model is tested on 140 Spanish industrial companies.
Sardana & Scott-Kemmis (2010)	Seeks to better understand the context and content of learning in the entrepreneurial process. Focuses on ventures selected from 96 biotech startups (India and Australia). The findings suggest that prior experience plays an important role in subsequent entrepreneurial learning.

Stinchfield *et al.* (2012)	Used grounded theory methods to explore bricolage and brokerage in a study of 23 entrepreneurs. They develop a five-category typology of entrepreneurial behavior.
Thorpe *et al.* (2006)	Highlights the concepts of 'enacted cognition', 'practical authorship' and 'maturity' and uses them to investigate entrepreneurial activity. An e-postcard method is used with 44 UK entrepreneurs.
Voudouris *et al.* (2010)	Examine entrepreneurial learning in a high-technology firm that internationalized from the outset. They take a case study method and follow one company over a seven year period.
Wang (2008)	Considers both entrepreneurial orientation and learning orientation. Uses data from 213 firms in the UK to study the relationship between the two concepts. The findings suggest that learning orientation is an important prerequisite for firms to act entrepreneurially.
Zhang *et al.* (2006)	Seeks to develop an understanding of the unique organizational learning processes relevant to small firms. Data is obtained from interviews with 26 owner-managers.
Zhao *et al.* (2011)	Explores relationships between entrepreneurial orientation, experimental learning and acquisitive learning and their links to firm performance. Undertakes a survey with 607 firms.

Figure 1 – Entrepreneurial Learning Framework

Situated Learning Context

Vicarious Learning

Stock of Prior Experience

Entrepreneurial Experience

General Experience

Entrepreneurial Preparedness

Dynamic Learning Context

Learning by Doing

Inward

Learning from Others

Backward

Critical Reflection

Forward

Critical Events

Outward

Learning about Oneself

Learning about the Venture

Stock of Prior Experience

Learning about Venture Management

Learning about Key Relationships