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Entrepreneurial Learning: Researching the Interface Between Learning and the Entrepreneurial Context

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The context for the research presented in this article arises from increasing interest, by academics and practitioners, in the importance of learning and knowledge in the knowledge-based economy. In particular, we consider the scope for applying concepts of learning within the field of entrepreneurship. While it has gained currency within the field of management, the application of these concepts to entrepreneurship has been limited. In this Introduction to the Special Issue, we review the development of the field of entrepreneurship as a context for the emergence of learning as an area of scholarly attention, summarize a number of key themes emerging from the organizational learning literature, and outline the article selection process and summarize the key elements of each of the included articles. The article concludes with some reflections on future research at the interface between learning and the entrepreneurial context.

Introduction

There is a burgeoning interest in organizational learning—the acquisition by an organization or any of its units, of knowledge that it recognizes as potentially useful for the organization—and the learning organization in the organizational and managerial literatures (Dierkes, Berthoin Anthal, Child, & Nonaka, 2001; Easterby-Smith & Lyles, 2003; Easterby-Smith, Burgoyne, & Araujo, 1999; Starkey, 1996). Although the link between learning and organizational effectiveness is far from proven, logically or empirically, the interest in organizational learning has been underpinned by a set of beliefs about the importance of learning in organizational adaptation and flexibility in conditions of change and uncertainty (Moingeon & Edmundson, 1996). According to Easterby-Smith and Lyles (2003), the fields of organizational learning and knowledge management have developed rapidly over the past decade or so, in terms of both the volume and the diversity of the research being undertaken. In particular they highlight four characteristics of the field. First, it is characterized by both novelty and diversity, much of the research has been undertaken since 1990, even 1995, and this makes it problematic to satisfactorily discern trends and a cumulative sense of development. Second, the field is increasingly diverse and specialized, with the consequence that much research is being undertaken

in parallel traditions without cross-reference or cross-fertilization. Third, this diversity in research has stimulated debates and arguments around definitions and terminology, the meanings of concepts, methodological issues, applications and influences on organizational learning processes, and the purposes to which new knowledge of organizational learning and knowledge management should be put. Finally, despite the diversity of the research, there are a relatively small number of core references and citations, which suggest an underlying commonality in the field to which the majority of current scholars refer.

Relatively little of this research has been explored within the entrepreneurship tradition, nor has the entrepreneurial context informed much of the organizational learning literature. In this Special Issue, we bring together a number of articles which deal with a variety of entrepreneurship issues and draw on the diverse range of literature on organizational learning, to contribute to both theory development and practice within the filed of entrepreneurship. It has been argued, in the context of the evolution of entrepreneurship as a field of study, that "the conscious and critical transfer and application of theories and methodologies from one research area to another may stimulate creative advances in both, and may provide the basis for the resolution of old problems in new ways" (Harrison & Leitch, 1994, p. 112). Fiet (2000b, p. 12) agrees with this perspective and observes:

> All theories in the social sciences, including those that examine entrepreneurs, are in some way inaccurate, contradictory, or incomplete. Consequently, it is not surprising that many of these separate theories do not easily accumulate, especially because most of them do not have their origin in entrepreneurship research. Nevertheless, they provide penetrating insights on many aspects of entrepreneurial conduct and wealth creation.

Although ideas of organizational learning have gained currency within the field of management, the application to entrepreneurship has been limited. As Deakins (1999, p. 23) has observed "our limited knowledge and understanding of the interaction of learning and the entrepreneurial process remains one of the most neglected areas of entrepreneurial research, and thus, understanding."

One of the stimuli for the increasing appreciation, by practitioners and academics alike, of the value of learning and knowledge is the belief that these concepts can provide managers with competitive advantage. This is particularly advantageous in a world that is characterized by technological, social, political, and economic diversity (Nonaka, Tayama, & Konno, 2000; Starkey, 1996b; Stata, 1996) and by increasing globalization (Kumar & Usunier, 2001). In particular, "it has become commonplace to conceive of 'management' specifically entering or having entered a new era, variously characterized as postindustrial, post-Fordist or post-modern" (Grey & French, 1996, p. 37). This has resulted in increasing incongruity between the rapidly changing competitive environment in which organizations, organizational characteristics, and practices are located. In turn this has led to questioning of conventional approaches to management research and knowledge as well as development. While "brainpower," "intellectual capital," and "learning" are now common currency in the knowledge-based economy, management development has been slow to adapt and few managers know how to manage or exploit a company that favors the importance of learning and knowledge. This is despite the almost intrinsic value of learning and knowledge in the "knowledge-creating company" (Nonaka, 1996; Nonaka & Konno, 1998) where new knowledge is consistently created and disseminated throughout the organization.

The structure of this article is as follows. First, we briefly review the development of entrepreneurship as a context for the emergence of learning as an area of interest and scholarly attention. Second, we summarize a number of themes emerging from the organizational learning and knowledge management area, and highlight some of the key issues that constitute the current research agenda in the field. Third, we outline the article selection process employed in compiling this Special Issue and identify the key themes in each of the contributions. Finally, we conclude with a number of suggestions for further research at the interface between learning and the entrepreneurial context.

The Development of Entrepreneurship

The sustained interest in entrepreneurship is more than just a fad and accurately reflects an "emerging economic environment created by the confluence of changes in the corporate world, new technology, and emerging world markets" (Fiet, 2000a, p. 102). However, despite these developments "the study of entrepreneurship is still in its infancy" (Brazeal & Herbert, 1999, p. 29), and as such those working in the field continue to be engaged in conceptual and methodological debates (Busentiz, West, Shepherd, Nelson, Chandler, & Zacharakis, 2003; Phan, 2004; Torrès, 2004; Verstraete, 2001). Research in the field has tended to run ahead of theoretical developments and be carried out in an ad hoc way without theoretical underpinnings being developed. Indeed, as a number of contributors to a recent symposium on entrepreneurship theory have identified, progress in this domain will require changing the questions we ask, the definitions we apply, and the theories we appropriate (Dew, Ramakrishna Velamuri, & Venkataraman, 2004; Phan, 2004; Sarasvathy, 2004). It is in this context that Low (2001) has described entrepreneurship as being in its adolescence, and while much research activity has occurred over the past decade only a modest level of academic legitimacy has been achieved. The basic problems, which the field faces, stem on the one hand from the number of issues to be explored, and on the other from the diverse range of disciplines from which these issues might be examined. More fundamentally, there is an ongoing issue of how to deal with what has been described as the "failure" of entrepreneurship research; that is, the apparent inability of the field to characterize and define the entrepreneur (Jones & Spicer, 2005), and to develop an adequate body of theory (Harrison & Leitch, 1996). More specifically, the discourse of entrepreneurship, which has focused primarily on the nature and characteristics of the entrepreneur and the structural characteristics within which entrepreneurship is enacted will have to change (Hjorth, 2001). In this respect:

> There is something peculiar about enterprise and entrepreneurship that is generally denied. What is denied is something central to the very object of the entrepreneur, something that, we have argued, is glimpsed by entrepreneurship research but is rationalized and hence pushed out of sight. We are suggesting that entrepreneurship discourse is not a coherent and stable discourse, held together around a stable centre. Rather, it is a paradoxical, incomplete, and worm-ridden symbolic structure that posits an impossible and indeed incomprehensible object at its centre. (Jones & Spicer, 2005, p. 236)

This problematic status of the entrepreneur is matched by ongoing lack of agreement on the most appropriate theoretical and conceptual foundations for the discipline. This is in spite of some recent attempts to see this lying in an individualistic opportunity-oriented definition of the discipline, "the study of entrepreneurial opportunities—their origins, nature, and evolution—should form the core of the field of entrepreneurship"

(Shane, 2003; Venkataraman, 2003, p. xi). This has already been highlighted as a major constraint on the establishment of entrepreneurship as a discrete academic discipline (Harrison & Leitch, 1996), and is reflected in a recent statement that "entrepreneurship research is and should be breaking away from more applied economics, psychology, or sociology research and instead appropriate agnostically from the theories that can provide the greatest explanatory power" (Phan, 2004, p. 620).

This position is not unique to the field of entrepreneurship, for as Gartner (2001, p. 23) notes "questions about how scholars develop and advance entrepreneurship, as a legitimate field of study are very similar to discussions of the development of academic fields in the social sciences." For some time theoretical and methodological heterogeneity, fragmentation, and segregation have been a matter of debate for those working in the field of management and organization studies as a whole. As Reed (1992, p. 1) has noted "since the end of the 1960s organizational studies has become more pluralistic in terms of its central themes or problems and the theoretical framework through which they are analyzed." In fact, as Tranfield and Starkey (1998) have observed, the one feature on which there is consensus in the discipline is that management research has been conducted from a variety of ontological and epistemological perspectives. As a means of understanding the knowledge production process within the field of management research, Tranfield and Starkey (1998) and Starkey and Madan (2001) have employed Gibbons, Limoges, Nowotny, Schwartzman, Scott, and Trow (1994) two organizing frameworks with respect to the nature of knowledge production systems in contemporary society. In Mode 1, knowledge generation occurs as a result of pursuing a discipline-based academic agenda, which is predominately driven through, and categorized by, the associated adjacent disciplines. In this instance, knowledge generally resides in universities, and thus, the key consumer of the research generated is the academic community. Berry (1994) observes that management research has too often been viewed as similar to research in the physical sciences, which is characterized by a belief in the existence of universal laws. On the other hand, the Mode 2 knowledge production system is very different and:

> Is characterised by a constant flow back and forth between the fundamental and the applied, between the theoretical and the practical. Typically, discovery occurs in contexts where knowledge is developed for, and put to use, while results—which would have been traditionally characterized as applied—fuel further advances. (Gibbons et al., 1994, p. 19)

The fact that knowledge production and diffusion are interlinked rather than sequentially disaggregated makes it more difficult to divide theory and practice. This view concurs with that held by Tranfield and Starkey (1998, p. 11) who contend that management research should adopt "a dual approach to knowledge production that is both theory sensitive and practice-led."

The distinction between Mode 1 and Mode 2 research, in terms of knowledge production and the research process, have been set out clearly in the preface and introduction to Gibbons, Limoges, Nowotny, Schwartzman, Scott, and Trow (1994; see also Nowotny, Scott, & Gibbons, 2001):

> Our view is that while Mode 2 may not be replacing Mode 1, Mode 2 is different from Mode 1—in nearly every respect . . . it is not being institutionalized primarily with university structures . . . (it) involves the close interaction of many actors through the process knowledge production . . . (it) makes good use of a wider range of criteria in judging quality control. Overall, the process of knowledge production

is becoming more reflexive and affects at the deepest levels what shall count as "good science." (Gibbons et al., 1994, p. vii)

This distinction is more explicitly made with reference to the characteristics of Mode 1 knowledge production:

> Mode 1 problems are set and solved in a context governed by the largely academic interests of a specific community. By contrast, Mode 2 is carried out in the context of application. Mode 1 is disciplinary while Mode 2 is transdisicplinary. Mode 1 is characterized by homogeneity, Mode 2 by heterogeneity. Organizationally, Mode 1 is hierarchical and tends to preserve its form, while Mode 2 is more heterarchical and transient. In comparison with Mode 1, Mode 2 is socially accountable and reflexive. (Gibbons et al., 1994, p. 3)

This distinction has become the focus of an extensive debate in management, in terms of general discussions of management as a form of Mode 2 knowledge production, which emphasizes both the issue of the relevance of research to practice and the importance of multidisciplinarity (Grey, 2001; Hatchuel, 2001; Starkey & Madan, 2001). More recently, this debate has been extended to consider the implications of this perspective for the knowledge produced as a result of collaboration across disciplines and the theory–practice divide (MacLean, MacIntosh, & Grant, 2002; Van Aken, 2005). However, there have also been calls within management to recognize that Mode 1 and Mode 2 are not alternative modes of knowledge production, in that Mode 2 embodies and builds on elements of Mode 1, as the basis for a further extension to this framework (Huff, 2000; Huff & Huff, 2001). In delineating Mode 3 knowledge production as the basis for refocusing the business school agenda, Huff and Huff (2001, p. S53) identify the trigger for Mode 3 as the "appreciation and critique of the human condition, as it has been, is, and might become." As such:

> The impetus is not an intellectual gap identified by a sub-discipline, though a number of academics, especially in the humanities, have relevant things to say. It is not, at heart, a "practical problem" to be solved, though certainly specific areas of concern can benefit from being treated in this way. (Huff & Huff, 2001, p. S53)

Currently, entrepreneurship, as a field of study, shares many of the characteristics of Mode 2 knowledge production (as described by Gibbons et al., 1994; Muller & Subotzky, 2001). In particular, research problems arise not with the issues, questions, and problematics of a discipline (as in Mode 1 research) but in a context-of-application, in other words:

> Knowledge is not produced elsewhere (say in a laboratory) and then applied to a worldly problem: the knowledge is now increasingly produced through addressing the problem directly. (Muller & Subotzky, 2001, p. 167)

As a result, research undertaken in this mode is almost by definition transdisciplinary and "cuts across existing discipline boundaries as it searches for solutions" (Muller & Subotzky, 2001, p. 167). This contextual and transdisciplinary—rather than discipline-based and unitary—nature of entrepreneurship (as with management as a field of study as a whole) is, therefore, fundamental to the nature of the field rather than a passing and aberrant phase in its development.

Recognizing that entrepreneurship shows many of the characteristics of Mode 2 knowledge production throws into new light the concerns raised by Aldrich and Baker (1997, p. 398) who note that:

> Judging from normal science [that is, Mode 1] standards, entrepreneurship research is still in a very early stage. If no single powerful paradigm exists, then there is even

> less evidence for multiple coherent points of view . . . Entrepreneurship research is still improving but still of limited topical concern and value to practising managers.

Brazeal and Herbert (1999, p. 26) concur with this view and observe that despite conceptual and methodological advances in entrepreneurship, "we are not convinced that the field has reached its full potential as a field with substantive managerial applicability." However, if a theory-led approach only is adopted then the research focus within the field is in danger of becoming little more than a "retreat into academic fundamentalism" (Burgoyne, 1993). This does not easily allow research to understand or explicate practice. As Tranfield and Starkey (1998, p. 14) note within the arena of management research, it:

> Cannot subscribe to any ivory tower ideal of a disinterest in, and a distaste, for practice. Indeed the ability to develop ideas and relate them to practice should be the distinguishing competence of the skilled management researcher.

Progress in entrepreneurship research, therefore, may be achieved better through a robust focus on context-of-application based problems than attempts to develop grandiose integrative theories within a single powerful paradigm. In this article, our starting point is the process of organizational learning as a context-of-application research problem relevant to entrepreneurship:

> Virtually every aspect of organizational learning has relevance either directly or indirectly for entrepreneurial management . . . [and] . . . issues in organizational learning [relevant for entrepreneurship] include structures and processes which encourage learning, differences in learning across the levels of the organization, and . . . transfer mechanisms and learning. (Day, 1992, pp. 137–140)

Both the discourse of entrepreneurial management and the discourse of learning in organizations occur within the contemporary "experimentally organized economy" (Eliasson, 1996a, 1998), which is fundamentally entrepreneurial—rather than managerial, and requires entrepreneurs—construed in this context by Eliasson as "experimenter managers," to continually engage in learning. Specifically, in order to be successful, these experimenter managers—at both the individual firm level and the economic system level—have to bundle together a number of interrelated competencies into a "competence bloc." This has been defined as the total infrastructure needed to *create* (innovation), *recognize* (risk capital provision), *diffuse* (spillovers), and successfully *exploit* (receiver competence) new ideas in clusters of firms (Eliasson, 1996b, 1996c). The nontechnical competencies of such a "competence bloc" must be: (1) entrepreneurial awareness, the realization of the marketability of a new product or technology; (2) acquiring risk capital to finance the start-up and growth of firms to exploit these opportunities; and (3) the capability to manage the enterprise from start-up through expansion into maturity. Each of these domains—awareness, resource acquisition, and management—requires that entrepreneurs engage in learning. For Smilor (1997, p. 344) learning is not an optional extra, but is central to the entrepreneurial process:

> Effective entrepreneurs are exceptional learners. They learn from everything. They learn from customers, suppliers, and especially competitors. They learn from employees and associates. They learn from other entrepreneurs. They learn from experience. They learn by doing. They learn from what works, and more importantly, from what doesn't work.

Over the last decade there have been a number of explorations of "learning" in the context of entrepreneurship and small and medium enterprises (SME) development.

Among these are discussions of learning in new venture creation (Erickson, 2003; Lichtenstein, Lumpkin, & Walton, 2000), in SME growth and development (Watts, Cope, & Hulme, 1998; Wyer, Mason, & Theodorakopoulos, 2000), in innovation (Ravasci & Turati, 2005; Sweeney 1987/88), in new technology-based firm formation (Fontes & Coombs, 1996), in venture capital (Busenitz, Fiet, & Moesel, 2004), in enterprise training and learning capability (Chaston, Badger, & Sadler-Smith, 1999; Chaston, Badger, Mangles, & Sadler-Smith, 2001; Rae, 2000, 2004; Rae & Carswell, 2000, 2001; Taylor & Thorpe, 2004; Ulrich, 1997), and in applications of the learning organization construct in SMEs (Choueke & Armstrong, 1998; Harrison & Leitch, 2000; Leitch, 2005; Leitch, Harrison, Burgoyne, & Blantern, 1996). However, despite this fragmented research effort it remains the case that "research on learning processes in entrepreneurial ventures is still in an early stage" (Ravasci & Turati, 2005, p. 139). More specifically "entrepreneurship is a process of learning, and a theory of entrepreneurship requires a theory of learning" (Minniti & Bygrave, 2001, p. 7).

Knowledge and Learning

As Prange (1999) has recently pointed out, ideas such as "organizational learning" and the "learning organization" have been discussed in the literature as ways of increasing the knowledge intensity of companies. This in turn has focused attention on issues of "knowledge management" and, in a neat reversion, to a renewed focus on the essence of the learning process through which that knowledge is generated (Dierkes et al., 2001). Driving this interest is the recognition that "organizations are reeling from discontinuities created by a growing level of globalization, heightened volatility, hypercompetition, demographic changes, and the explosion of knowledge" (Prange, 1999, p. 23). More recently, Easterby-Smith and Lyles (2003) have provided a framework for mapping the field of organizational learning and knowledge management based on two dichotomies. The first dichotomy is the distinction between theory—the concerns of academics, and practice—the concerns of practitioners. The second dichotomy separates content—the knowledge that the organization possesses from the process—learning, by which it acquires this knowledge (Figure 1).

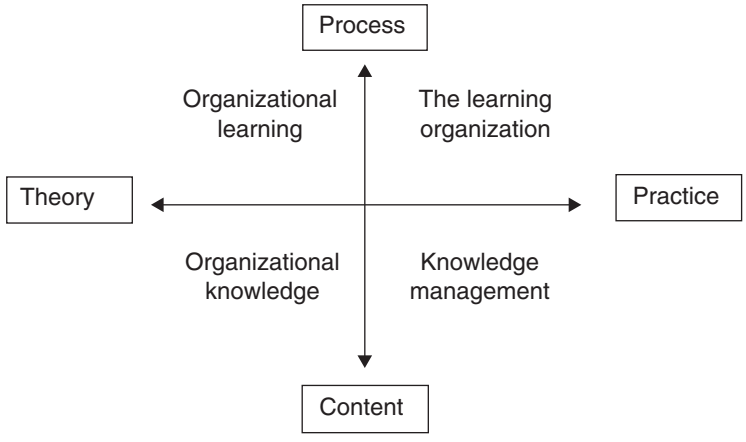
It is important to recognize that there is a fundamental distinction to be drawn between knowledge—that which is known, and learning—the process by which knowledge is generated. Dixon (1994, 1999) has stated that "we have entered the knowledge age and the new currency is learning—it is learning, not knowledge itself which is critical" (Dixon, 1994). This is because learning is a process that leads to the production of knowledge, and as knowledge is ephemeral it constantly needs to be revised and updated. Starkey (1996b, p. 1) concurs with this and observes, "learning is the creation of useful meaning, individual or shared. Learning generates knowledge which serves to reduce uncertainty," and continues by noting that, "learning and knowledge are major strategic resources, crucial to competitive advantage."

This is a point that has been made by Castells (1996, p. 32) in his discussion of changes in the way knowledge is produced:

> What characterises the current technological revolution is not the centrality of knowledge and information but the application of such knowledge and information to knowledge generation and information processing/communication devices, in a cumulative feedback loop between innovation and the uses of innovation . . . New information technologies are not simply tools to be applied but processes to be developed. Users and doers may become the same . . . For the first time in history the

Figure 1

Mapping the Organizational Learning Landscape



human mind is a direct productive force, not just a decisive element of a production system.

It is in this context that it becomes important to identify the extent to which organizations in Eliasson's (1976, 1996a, 1998) experimentally organized economy (or knowledge-based firms) "learn" or approach their learning differently to other, more traditionally organized firms. Eliasson's work refers both to changes in the "old" economy (i.e., traditional manufacturing sectors) and to the emergence of "new economy" organizations. Indeed, as Prusak (1997) has argued, changes in the scope of knowledge production are not confined to sectors conventionally referred to as knowledge-intensive:

> This shift is more apparent in research labs, consulting firms and software vendors, but as all products are increasingly "smart" and as flexible production processes need to process higher levels of information about changing customer requirements, delivery times, and so on it arguably applies right across the board.

While learning has been presented as a source of competitive advantage, Edmondson and Moingeon (1996, p. 12) warn that, "definitions and mechanisms involved in achieving this advantage are not specified. Moreover, little empirical evidence has been presented to support this claim." Despite these caveats the potential for conducting research in the area is promising, especially as knowledge replaces hard labor and capital as the main factor of production. In terms of the framework set out in Figure 1, all of the articles included in this Special Issue are positioned in the top left quadrant, in that they engage in the application (and, to some extent, development) of theory to understanding the process of learning in a range of entrepreneurial contexts. While this emphasis is important and is generating valuable insights on the process of entrepreneurial learning, the absence of serious engagement with issues arising in the other three quadrants is likely to constrain the development of the field. In essence we see the emergence of entrepreneurial learning as the embodiment of the "decoupled realities" (Astley, 1984) of organizational learning and practice. While theory development in this area is valuable in its own right (Prange, 1999), for the field of entrepreneurial learning to build on the

platform represented by the articles in this Special Issue it will be necessary to recouple the "realities" of theory and practice and of content and process. Future work, therefore, should develop an agenda for examining how existing knowledge is shared, used, and stored in entrepreneurial organizations, and for exploring the process of learning in the context of entrepreneurial practice.

One example of the potential for extending research in entrepreneurial learning arises from the consideration of the learning organization (or company), defined as "an entity, an ideal type of organization, which has the capacity to learn effectively and hence to prosper" (Easterby-Smith & Lyles, 2003, p. 2). Much of the research in this vein in the organizational learning and knowledge management literature is predicated on attempts to understand and improve the learning capacity of organizations, with a more practical and performative orientation than in the organizational learning literature itself. An illustration of the type of research which sits within the top right quadrant of Figure 1 comes from the application of action research methodologies to the process of learning, using the learning organization concept as a focus (Leitch, 2005).

Although the term "learning company" or "organization" initially appeared in the literature in the late 1980s in America (Hayes & Abernathy, 1988) and in Britain (Pedler, Boydell, & Burgoyne, 1988), its origins can be traced as far back as the 1920s. Particularly influential writings in the development of the concept were those which articulated ideas about learning. These include Gardner's (1963) concept of self-renewal, Lippitt's (1969) framework of organizational renewal and Bateson's (1973) theory of "deutro-learning" which is an explanation of learning to learn, as well as the work of Arygris and Schon (1978) who introduced the idea of organizational learning and, thus may be credited with the current interest in the learning company. Following on from this in the late 1970s and early 1980s the link between learning, training, and company performance was further developed with the development and application of action-learning concepts, originally proposed as a method of inquiry by Lewin (1946) to capture the symbiotic relationship between theory and practice, in the writings of Revans (1978) and Morgan (1983, 1986). Although Senge (1990a) is credited with the popularization of the term "the learning organization," and March (1991) also used the term, the concept remains a largely European interest (Pedler, Burgoyne, & Boydell, 1997; Probst & Büchel, 1997; Swieringa & Wierdsma, 1992).

In an attempt to ascertain the disciplinary roots of different conceptions of the learning organization, Easterby-Smith (1997) has conducted a review of the academic literature. He contends that two disciplines in particular have been influential in the development of the learning organization. On the one hand, the North American tradition emanates from a management science perspective while insights are subsequently added from other areas, notably from organization development (OD). He quotes Nevis, Di Bella, and Gould (1995), as exemplifying this first tradition. They have developed a model of organizational learning, which contains three elements: knowledge acquisition, knowledge sharing, and knowledge utilization. These factors depend on various aspects, which would aid in the facilitation of creating a learning organization including a "systems perspective" and a "concern for measurement." Garvin (1993) also stresses the importance of systematic problem solving, ongoing experimentation, and measurement of the learning process and outcomes, while Senge (1990a, 1990b) combines systems thinking with a strong reliance on OD. Theories about knowledge and learning which have their roots within this discipline have been derived from a positivist, hypothetico-deductive research method (Spender, 1996). In this respect, organizations are seen as systems with their own principles and regularities, of which humans are just one element.

On the other hand, the European tradition emphasizes a humanistic approach that underpins much of the thinking in OD and thus, draws heavily on the experiential learning concepts, as proposed by Kolb and MacIntyre (1973) and Revans (1971). This is consistent with another research tradition to developing knowledge about learning identified by Berger and Luckman (1967) which is based on the hermeneutic or constructivist paradigm. This is characterized by a more subjective view in which organizations are regarded as the product of interaction between all of their members. A part of the organization is thus considered to be in peoples' minds and it is the images of reality, which these individuals have stored that determine behavior. This has implications for methodology: field investigations of learning in organizational (including entrepreneurial) contexts located within this tradition adopt an interpretative methodology in which the data generated represent the composite of respondents' perceptions (seeing the world through their eyes) generated as part of a wider participatory action research process (Leitch, 2005; Park, 1999).

The "learning construct" has not, of course, been immune from critique. The available literatures on the concepts of the learning organization and knowledge management have been critically evaluated by Scarborough and Swann (2003) in an attempt to identify the key features of both concepts and what these implications might be for people management. They believe that the literature on the learning organization has to date been theory-driven, with abstract thinking shaping much of the research conducted. As a result they conclude that the implications for management practice are at times unclear. However, a more detailed review of the literature would suggest that while the field of organizational learning is indeed theory-driven, much of the research and writing on the learning organization/company has, in fact, been driven by the concerns of practitioners (Coopey, 1995; Coopey & Burgoyne, 2000; Easterby-Smith & Araujo, 1999; Leitch, Harrison, & Burgoyne, 1999; Snell & Chak, 1998). As Easterby-Smith, Crossan, and Nicolini (2000, p. 737) have observed, these two communities mainly operate independently, and "where boundary crossing takes place, it is largely one-way." As a result, practitioners who wish to implement more prescriptive models of the learning organization often draw on the more academic literature so that they might better understand the challenges they potentially face. However, it is rarer for academics to draw on the more prescriptive literature developed by the practitioner community. In turn, this is consistent with a view that the ontology of learning is different in diverse cultural contexts (Easterby-Smith & Araujo, 1999). Learning cannot and should not be divorced from the specific context, including organizational context, within which it takes place: it is the product of a community (of practice), not of individuals within it, and so may be organizationally-bound as well as culturally, socially, and economically contextualized (Brown & Duguid, 1991, 2000; Wenger, 1998). Senge (1995) has captured both the importance of understanding the entrepreneurial context and the recoupling of theory and practice:

> The organization and culture of entrepreneurial firms can foster organizational learning. It can also impede learning. Entrepreneurial ventures frequently lack the kind of traditional authoritarian, hierarchical structures that inhibit collaborative learning . . . Also, the entrepreneurial challenge often attracts individuals motivated by a strong desire to pursue their own personal visions. This can result in a business culture committed to both continuous individual improvement and collective innovation. However, their ability to actually succeed in continually renewing their organizations is often limited by what entrepreneurs often don't do well. In particular, they very often do not create an environment for reflection. They are often very action

oriented. This can be a great strength, but it can also mean that people get caught up in a "ready, fire, aim" mentality. Consequently, while they may have a strong personal vision, entrepreneurs often are not as skilful at fostering shared visions, and entrepreneurial firms can easily become dominated by one or two strong personalities. This tends to be particularly problematic when the firm reaches a size where power needs to be shared and more orderly management systems established.

Moving beyond this, future research on entrepreneurial learning will have to engage with these issues and with those which arise in seeking to understand the management of existing knowledge in entrepreneurial contexts (which is centrally concerned with understanding the link between knowledge and organizational performance), and the conceptualization of the nature of organizational knowledge (Figure 1).

The Genesis of the Special Issue

Against the background of a burgeoning interest in organizational learning and the learning organization in the organizational and managerial literatures, a call for articles for this Special Issue was publicized, with an initial closing date for submissions on September 30, 2003. The rationale for the Special Issue was grounded in the link between learning and organizational effectiveness and the importance of learning in organizational adaptation and flexibility in conditions of change and uncertainty. The call identified that we were interested in publishing articles that examined, conceptually and empirically, the process and outcomes of learning in entrepreneurial contexts. We highlighted that the topics of interest included, but were not limited to:

- The measurement of learning processes and outcomes at micro (within organizational or interorganizational settings) and macro (total organizations) scales;
- Learning at individual and group level within organizations;
- The relationship between learning and organizational effectiveness in entrepreneurial contexts;
- The learning advantages of newness in entrepreneurial start-up and development;
- Opportunity recognition and exploitation as a learning process;
- Interorganizational learning in entrepreneurial networks;
- Learning as problem-solving and experimentation;
- The relationship between learning as the process and knowledge as the outcome of that process;
- The relationship between learning and (knowledge) resource based views of the entrepreneurial firm;
- The application of learning theories to entrepreneurship;
- The development and application of alternative methodologies to access learning processes and outcomes in entrepreneurial contexts;
- Learning as the acquisition, sharing, and utilization of knowledge;
- Cross-cultural dimensions of organizational learning; and
- Unlearning and the role of organizational memory.

In total, we received 40 submissions from North America, the U.K. and Europe, Australia, and Asia. Three articles did not meet the requirements for the call for articles and were not submitted to the review process. The remaining 37 articles were subject to the normal double-blind review process. On the basis of the comments of the reviewers, and additional review and comment by the guest editors, seven articles were finally accepted for publication and these represent the leading edge of research on entrepreneurial learning.

The articles fall into three groups. First, there are two conceptual articles which provide broad overviews of the relevance of learning for understanding and thinking about entrepreneurial phenomena, and identify research agendas for the future. Both these articles draw heavily, but not exclusively, on European research traditions in organizational learning. The following three articles, sharing a common interest in aspects of entrepreneurial opportunity recognition, are also primarily conceptual in nature, and focus largely on the identification and elaboration of concepts of intraorganizational learning relevant to this topic. The final two articles are based on detailed empirical investigations of aspects of learning in interorganizational contexts. This separation of the treatment of intra and interorganizational learning is common in the wider organizational learning, to the point where Holmqvist (2003, p. 95) has argued that progress in that field will only be made by recognizing the need to "cross-fertilize these two themes of organizational learning by proposing that the two processes of intra- and interorganizational learning are deeply interlaced." The articles collected in this Special Issue represent a landmark in the development of learning constructs and theories in entrepreneurship. However, they remain a beginning to the process of exploring the interface between learning and entrepreneurial phenomena, rather than the end of that process.

In the first article, Jason Cope introduces a dynamic learning perspective on entrepreneurship which is developed in the context of a review of existing dominant theoretical approaches to understanding entrepreneurial activity. This conceptual article builds on prior qualitative empirical work with practising managers (Cope, 2003) to propose three interconnected elements of a learning perspective of entrepreneurship. First, he identifies the dynamic nature of entrepreneurial learning in terms of the key temporal phases that are central to the learning process. Specifically this allows him to identify entrepreneurial preparedness as a learning process and recognize that due to the complexity of each individual's learning history, entrepreneurial learning is fundamentally an individually situated learning task. Second, he conceptualizes the interrelated processes of entrepreneurial learning, in terms of learning from critical experiences or critical learning events. Although this higher-level learning has been described variously as "double-loop," "transformational" and "generative" learning, Cope demonstrates that discontinuous events can trigger very different forms of entrepreneurial learning which can be understood in terms of both individual experience and organizational processes. Third, he introduces the affective and social characteristics of entrepreneurial learning as an integrative overarching and dynamic approach to entrepreneurial learning.

This emphasis on the conceptual and theoretical underpinnings of research on entrepreneurial learning is continued in the article by Diamanto Politis. Her starting point is to review and synthesize the available research on learning in entrepreneurial contexts into a conceptual framework that explains the process of entrepreneurial learning as an experiential process. In so doing, the article makes a number of contributions to the development of the field. In particular, in an emphasis shared with Cope's article Politis highlights the role of experience in developing entrepreneurial knowledge through reference to a number of theories of experiential learning. This in turn leads to a distinction between the experience of an entrepreneur and the knowledge acquired as a result of that experience: although the potential learning effects of entrepreneurs' past experience have been discussed in the literature, Politis is among the first to formally distinguish between learning as a process and knowledge as the outcome of the process. A final element in Politis' framework is the embracing of a dynamic perspective on the process of entrepreneurial learning, which draws attention to the intermediate processes through which experiences are transformed into knowledge and which represents a major focus for further research.

In the third article, Dev Dutta and Mary Crossan draw upon insights from the entrepreneurship and organizational learning literatures to develop an understanding of the phenomenon of entrepreneurial opportunities. On the entrepreneurship side, they ground their discussion of entrepreneurial opportunities in the contrasting ontological positions of Kirzner and Schumpeter, and suggest that the complexitites associated with the entrepreneurial opportunities process will require a reconciliation between the Schumpeterian "opportunities discovered" position and the Kirznerian "opportunities enacted" approach. To achieve this they propose adoption of the 4I organization learning model (which distinguishes between the processes of intuiting, interpreting, integrating, and institutionalizing) which provides a multilevel and dynamic process framework to encompass the entire cycle of learning at the level of the individual, the group, and the organization. Based on a demonstration of the usefulness of applying organizational learning theory to the analysis of entrepreneurial opportunity, Dutta and Crossan conclude that there are also areas of entrepreneurship theory—notably in entrepreneurial psychology, resources, and information accessibility, and in the analysis of the timing of events—which could be productively applied to organizational learning. In so doing, uniquely among contributors to the Special Issue, they identify the potential for more than just a one-way transfer of concepts and understanding which will be necessary if entrepreneurship is to establish itself as an accepted field of study.

The focus on opportunity recognition as a key locus for entrepreneurial learning is continued in the articles by Tom Lumpkin, Benyamin Bergmann Lichtenstein, and Andrew Corbett. Lumpkin and Lichtenstein argue that organizational learning can strengthen a firm's ability to recognize opportunities and help equip them to effectively pursue new ventures. They identify three approaches to organizational learning: behavioral learning, based on the assumption that organizations are goal-oriented, routine-based systems to experience by repeating behaviors that have been successful and avoiding those that are not; cognitive learning, which focuses on the cognitive content of organizational learning and how changes in individuals' cognitive maps are aggregated and translated into changes in an organization's cognitive schema; and action learning, which focuses on the moment-to-moment practice of correcting misalignments between espoused theory and theory-in-use. They then relate this to a creativity-based model of opportunity recognition which depicts this as a staged process involving both discovery (preparation, incubation, and insight) and formation (evaluation and elaboration). On the basis of a comparison between the organizational learning framework and the opportunity recognition model, Lumpkin and Lichtenstein develop a number of propositions for further research to empirically test how learning methods might best be integrated into venture creation and growth processes.

In his article, Andrew Corbett takes as his point of departure the same creativity-based opportunity recognition model and develops this explicitly in the context of a cognitive perspective on entrepreneurship. Usefully he argues that cognitive mechanisms and heuristics, and an individual's existing stocks of knowledge, are not synonymous with learning. Rather, learning is identified as a social process by which learning is created through the transformation of experience. Specifically, Corbett relies on experiential learning theory, archetypically represented in Kolb's work, to emphasize that the acquisition and transformation experience is central to the learning process. He concludes that part of the variance in behavior and knowledge that affects the opportunity identification and exploitation process is based on the existence of learning asymmetries, which reflect the fact that individuals acquire and transform their experiences (i.e., learn) in different ways. By integrating a learning perspective with the literature on opportunity identification and exploitation, Corbett demonstrates that differences in learning matter, with

respect both to the ability of an individual to identify opportunities and to the ability of the entrepreneur to adapt and learn as (s)he progresses through the process of entrepreneurship.

The final two articles are rather more focused in terms of the perspective on learning adopted, the domain of application to entrepreneurial contexts, and their engagement with empirical research as well as conceptual development. The article by Henri Schilt, Markku Maula, and Thomas Keil examines the antecedents of explorative and exploitative learning of technological knowledge from external corporate ventures. Building on some of James March's original work they apply the concept of explorative and exploitative learning to contrast the entrepreneurial search for new technological business opportunities and ways to capture those opportunities with more risk-adverse learning that leverages existing knowledge. Based on the empirical examination of these two dimensions of interorganizational learning, as reflected in patent citations between the largest information and communication technology companies and their external ventures, they conclude that an interorganizational learning perspective on external corporate ventures draws attention to the link between a specific set of clearly identifiable activities and their impact on organizational outcomes. Furthermore, they make a contribution to the learning literature by empirically examining factors influencing the type of learning outcomes (explorative versus exploitative), and identify the importance of different governance modes to the learning process.

Finally, Dirk de Clercq and Harry Sapienza apply learning and behavioral theories to develop a series of empirically tested hypotheses regarding the effects of prior experience, knowledge overlap, trust, and portfolio company performance on learning by venture capital firms. Taking their lead from Cohen and Levinthal's (1990) analysis of absorptive capacity and learning and innovation, they identify the role of the firm's existing knowledge base (in terms of both the breadth and depth of its knowledge), the amount of prior experience the firm has, the extent of knowledge overlap which is necessary for learning to occur and be embedded, the role of trust in increasing learning, and the role of performance (of the portfolio company) in providing opportunity for the organization to learn by making sense of how actions are related to outcomes.

Conclusion

The articles in this Special Issue provide clear evidence that the time is right for a more systematic treatment of the interface between the entrepreneurship and organizational learning literatures. What these articles share is a concern for understanding the process dynamics of entrepreneurial learning. Collectively, they reflect some of the key concerns and assumptions of the organizational learning literature, summarized as: first, that organizations' learning is experiential; second, that learning is a process that relatively permanently alters the character of behavior; third, that organizational learning is basically individual learning taking place in a social context; and fourth, that learning is organized by existing standard operating procedures, practices, and other organizational rules and routines (Holmqvist, 2003). The majority of the articles in the Special Issue also acknowledge that there is a distinction between the knowledge stock of an entrepreneurial venture (or entrepreneur) and the process through which that knowledge has been created. Further research is needed on this important relationship, and on the mutually interrelated domains of content (knowledge) and process (learning). Most of these articles also highlight the importance of identifying and drawing out the implications of research for entrepreneurial practice. As we have illustrated in our discussion above,

engagement with the world of practice will need to be accompanied by a more fundamental reconsideration of the appropriate domain of entrepreneurship research, and will have to engage with the debate that the more appropriate mode of knowledge production is one rooted in transdisciplinary problems rather than in traditional discipline structures. This will have implications for conceptual development, research methodology, and modes of knowledge production in the field. Finally, in terms of orientation, five of the seven articles in this Special Issue are focused on conceptual and theoretical development, although they do identify research propositions and frameworks for further empirical research. Only two articles are based on detailed empirical research into entrepreneurial learning. As this field develops, the major challenge will be the design, development, and execution of robust and relevant empirical studies, using the full range of appropriate methodologies, which address the full range of potential studies at the interface between organizational learning and knowledge management and the entrepreneurial context.

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