



University of HUDDERSFIELD

University of Huddersfield Repository

Refai, Deema and Klapper, Rita

Enterprise Education in Pharmacy Schools: Experiential Learning in Institutionally Constrained Contexts

Original Citation

Refai, Deema and Klapper, Rita (2016) Enterprise Education in Pharmacy Schools: Experiential Learning in Institutionally Constrained Contexts. *International Journal of Entrepreneurial Behavior & Research*, 22 (4). pp. 485-509. ISSN 1355-2554

This version is available at <http://eprints.hud.ac.uk/id/eprint/28070/>

The University Repository is a digital collection of the research output of the University, available on Open Access. Copyright and Moral Rights for the items on this site are retained by the individual author and/or other copyright owners. Users may access full items free of charge; copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational or not-for-profit purposes without prior permission or charge, provided:

- The authors, title and full bibliographic details is credited in any copy;
- A hyperlink and/or URL is included for the original metadata page; and
- The content is not changed in any way.

For more information, including our policy and submission procedure, please contact the Repository Team at: E.mailbox@hud.ac.uk.

<http://eprints.hud.ac.uk/>

Enterprise Education in Pharmacy Schools: Experiential Learning in Institutionally Constrained Contexts

Dr Deema Refai (*corresponding author*)

Senior Lecturer, Department of Strategy, Marketing and Economics, University of Huddersfield, Queensgate, Huddersfield, UK, HD1 3DH

Dr Deema Refai is Senior Lecturer in Entrepreneurship at the Department of Strategy, Marketing and Economics at the University of Huddersfield. Deema specialises in enterprise education and the utilisation of experiential and interactive learning approaches as means for developing graduates' enterprise skills, with a special interest in healthcare disciplines.

Email: d.refai@hud.ac.uk, Tel.: +44 (0)1484472958

Dr Rita Klapper

Visiting senior researcher, INFU, faculty of sustainability, Leuphana University, Lueneburg, Germany.

Dr Rita Klapper is presently Visiting Senior Research Fellow at Leuphana University, Lueneburg, Germany, where she is pursuing her research and teaching interests at the crossroads between entrepreneurship, sustainability and leadership. Rita specialises in the use of innovative pedagogy drawing on creative arts, but also yoga/pilates and mindfulness in her programmes. Her work has informed the EU (2013) report Entrepreneurship Education: a guide for educators, and was reported on in the Wall Street Journal in 2011.

Email: rgklapper@gmail.com

Enterprise Education in Pharmacy Schools: Experiential Learning in Institutionally Constrained Contexts

Abstract

Purpose: This paper investigates implementation of enterprise education (EE) through experiential learning, and its relevance to pharmacy education in the United Kingdom (UK) Higher Education Institutions (HEIs).

Design/methodology/approach: The paper characterises the state of pharmacy EE using Fayolle's (2013) generic teaching model in EE and Kolb's (1984) experiential learning theory as underlying conceptual and theoretical frameworks. The paper focuses on how EE takes place through approaches employed within experiential learning to develop graduates' enterprise skills, and investigate the challenges faced within institutional contexts. The paper draws on qualitative empirical approach using the social constructionist paradigm to investigate experiences of pharmacy academics.

Findings: The study identifies four Aspects of Experiential Learning in the context of EE (AELEE), which extend both Fayolle's and Kolb's frameworks.

Research limitations/implications: The research focuses solely on views of academics in UK pharmacy schools, and is of qualitative nature. This could limit the generalizability of results, yet also offer deeper sector-specific insight into EE.

Practical implications: Findings provide insights into the difficulty of positioning EE in non-business schools and the hurdles academics face. Findings are expected to encourage enterprise educators to design EE programmes that consider the institutional context.

Originality/value: The research makes a significant contribution to existing EE literature with its non-business sector specificity and its focus on academics. Hence, the study responds to Fayolle's (2013) call for more research into EE with focus on the educator, and deeper connections between EE and education literature.

Keywords: enterprise education, enterprise skills, institutional context, experiential learning, pharmacy education

Introduction

This study investigates the state of the art of Enterprise Education (EE) in pharmacy education in the United Kingdom (UK) Higher Education Institutions (HEIs). The relevance of EE to pharmacy education is explored through considering experiences of academics within the context of pharmacy schools. EE is defined in this study as *‘the processes or series of activities that aim to enable an individual to assimilate and develop the knowledge, skills, and values required to become enterprising’* (Broad, 2006, p.5). Fayolle’s (2013) generic teaching model in EE is used as underlying framework, and the research focuses in particular on the ‘what’ and ‘how’ dimensions, yet adding a contextual, i.e. ‘where’ dimension to the generic model, in recognition of the fact that the investigation is context-bound, i.e. takes place in UK pharmacy schools.

The need for better contextualisation of entrepreneurship and entrepreneurship education has been underlined by a number of authors (e.g. Broad, 2006 and Welter, 2011). Furthermore, Feldmann (2014) highlight that institutional and departmental culture and policies can impact academics in their academic entrepreneurship endeavours. Draycott and Rae (2010) also agree that empowering academics to adopt more enterprising approaches in teaching is essential for developing the suitable environment for developing students’ enterprise skills. Given this framing, as shown in Figure 1, the study explores methods and pedagogies; i.e. the How-dimension, which academics embed within experiential learning to develop graduates’ ‘soft’ enterprise skills through education ‘into’ enterprise, i.e. the What-dimension.

Different approaches exist among academics to deliver EE, and some examples of good practice have been recommended (e.g. Fayolle, 2013; Gedeon, 2014; Klapper and Refai, 2015; Refai *et al.*, 2015). Yet, the effectiveness of these approaches is not clearly established (Rideout and Gray, 2013), and it is not yet known which approaches work best (Klapper and

Neergaard, 2012). Figure 1 also highlights the contextual, i.e. Where-dimension, which investigates the challenges academics face in a certain context, here within their pharmacy schools. Pittaway and Hannon (2008) propose that various dimensions of institutional strategies can impact the viability and sustainability of EE within institutions, and, therefore, call for more in depth investigation of these dimensions in practice. Jones *et al.* (2014) also highlight the difficulty of impacting the institutional environment of the enterprise educators, where both the institutional framework and its support for EE are essential for the implementation of the latter across different schools.

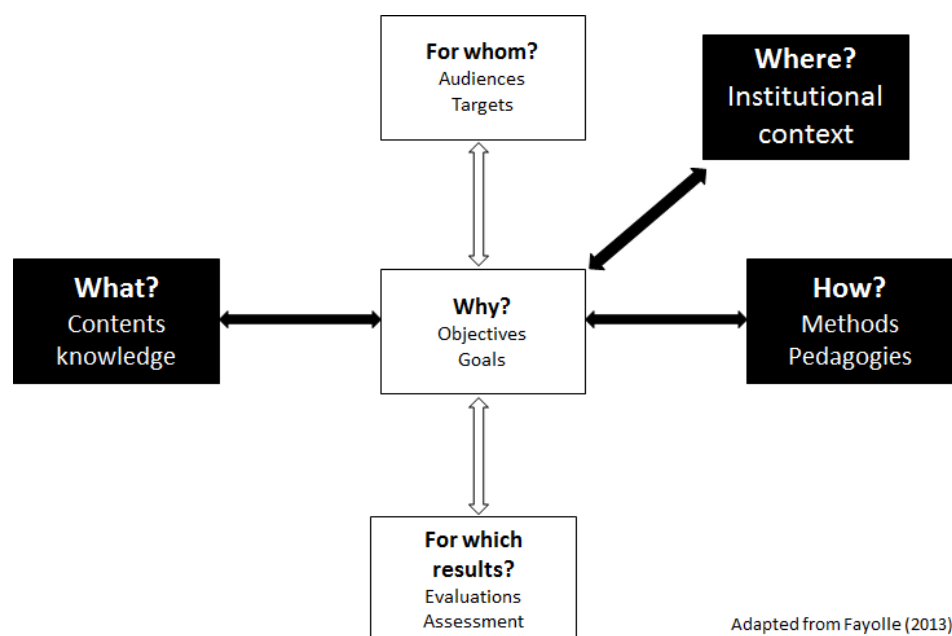


Figure 1: Generic teaching model in EE

Activities and interventions embedded within EE are described by Bechard and Gregoire (2005) as a craft rather than a systematic science, and can, therefore, be developed through experience. Consequently, this study aims to support the notion of ‘educating the educators’ (Refai and Thompson, 2014, p.10), a proposal highlighted by Fayolle and Gailly (2008, p.584) in their discussion of ‘learning to become an academic in entrepreneurship’. This is

recognised by Gibb (2011) who highlights the growing responsibilities of enterprise educators that go beyond curriculum and pedagogy developments in their own departments. The study does so by offering an improved understanding of the relevance of EE to pharmacy education in the UK and the challenges that educators face in the delivery of EE. The views of pharmacy academics are researched to more effectively understand the relevance of EE to their teaching through activities embedded within experiential learning, and the challenges academics face. The paper proposes a model of good practice for EE in pharmacy education through experiential learning, while recognising that other methods and approaches can be applied (Fayolle and Gailly, 2008). The study sets to investigate the following research questions (RQs):

- How is EE delivered across UK pharmacy schools, i.e. what are the different approaches that pharmacy schools and their staff apply to develop their graduates' enterprise skills?
- What are the main challenges that impact the delivery of EE in pharmacy schools?
- What can be inferred in terms of a good practice model?

Whilst most EE research investigates the views of learners (e.g. Hammel *et al.*, 1999; Glover *et al.*, 2002; Hmelo-Silver, 2004; Novak *et al.*, 2006), this study is one of a few studies exploring the views of providers (pharmacy academics/educators) regarding the relevance of EE and the development of enterprise skills to their teaching. Yet, the authors also recognise that EE 'does not happen in a vacuum' (Fayolle and Gailly, 2008, p.580), and that learners play a viable role (Blenker *et al.*, 2006)

The paper makes a number of contributions to existing literature in EE at didactical, theoretical and sector-specific levels. At the didactic level, the study documents the content of EE in the pharmacy context by focusing on developing students' 'soft' enterprise skills

through education 'into' enterprise. So far, most studies in the field of EE have focused on developing students' 'functional' enterprise skills (Rae, 2000, 2007) through business plans and new venture creation (Honig, 2004), exploiting opportunities through opportunity-centred learning (Rae, 2003), and examining dynamics of entrepreneurial processes (Shane *et al.*, 2003). This study highlights the methods applied in EE in pharmacy through exploration of the tactics, learning environment and roles of students and academics, and provides evidence about the institutional constraints impacting academics and the delivery of EE.

The study also contributes to theory from two perspectives. Given the lack of theory driven research in EE, as commented on by Bechard and Gregoire (2005), Fayolle (2013) and Nabi *et al.* (2016), this study has taken a two-fold approach. It builds on, and extends, Fayolle's (2013) conceptual framework for entrepreneurship education by including a contextual dimension, and also builds on, and extends, Kolb's (1984) experiential learning theory by highlighting four Aspects of Experiential Learning in the context of EE (AELEE). Thus, the study responds to Fayolle's (2013) call for clearer theoretical and conceptual foundations drawing from the fields of education and entrepreneurship. Such connections are lacking in EE literature with the exception of some work; e.g. by Lakeus (2014) who links the dimensions of when, how and why entrepreneurial learning happens in relation to learning theories, and the work of Kyro (2015) who underlines the conceptual contribution of education to research on EE.

Last, but not least, the paper makes a sector-specific contribution. Whereas most studies into EE are conducted in business-related contexts, this study investigates EE in the context of pharmacy education, a hitherto under-researched discipline, which responds to Broad's (2006) and Jungnickel *et al.*'s (2009) call for more specific discipline-based approaches in EE, where the latter highlight pharmacy disciplines in particular.

The 'Where' dimension – UK pharmacy education

Dodd and Hynes (2012) argue that, alongside national contexts, EE is also shaped by regional context, which impact EE objectives, outcomes, resources and social constructions. Consequently, the 'Where' dimension proposed here as part of a learning paradigm may be understood both from a macro and micro dimension (Klapper and Refai, 2015). Macro refers to locality of learning in terms of countries and localities in the latter; while the micro dimension is about learning in classrooms, but also in 'real-world' places such as companies through work-placed learning and in unexpected places such as museums, art galleries, sport halls and kitchens.

The focus is on EE in pharmacy schools in UK HEIs. In this context, educator-student relationships are understood to be happening in the micro environment of pharmacy schools. The wider institutional environment and national frameworks, however, are seen to happen in the macro environment. Institutions are commonly defined as 'rules, norms, and beliefs that describe reality for the organization, explaining what is and is not, what can be acted upon and what cannot' (Hoffman, 1999, p.351). Such institutional environments are 'characterized by the elaboration of rules and requirements to which individual organizations must conform if they are to receive support and legitimacy' (Scott, 1995, p.132). Pittaway and Hannon (2008) argue that various institutional dimensions can impact upon the viability and sustainability of EE programmes, and, therefore, should be examined. Some of these proposed dimensions include, but are not limited to, alignment of EE with institutional strategy and policy, alignment of funding and conceptions of the educational impact of EE. Similarly, Valliere *et al.* (2014) highlight that institutional values define priorities in an institution, and, therefore, can either encourage or discourage different pedagogical approaches in EE like experiential learning, for instance.

In the UK, Undergraduate pharmacy education is provided by 29 HEIs that offer a four-year Master of Pharmacy (MPharm) course, which is an undergraduate master's level degree. Pharmacy schools are governed by a number of influential bodies, mainly the General Pharmaceutical Council (GPhC) with whom graduates register upon successful completion of their MPharm courses plus a one-year placement. Pharmacy courses are very similar across the sector, and include subjects related to two main aspects of pharmacy education: science and practice. Most pharmacy courses include a level of experiential learning and involve students in preparation of personal reflective portfolios (Sosabowski and Gard, 2008). Studying pharmacy in the UK has increased in popularity as statistics show that the number of UK pharmacy students has increased from 4,200 in 1999 to 9,800 in 2009; this was associated with an increase in the number of UK pharmacy schools from 12 to 21 during the same period (Centre for Workforce Intelligence, 2012). The career paths for these graduates require the demonstration of various skills 'soft' enterprise such as problem solving, communication and self-learning (The Expert Group Report, 2008; AGCAS, 2011; Refai and Thompson, 2014). Most graduates choose careers in retail/community pharmacy, while the remainder go for hospital pharmacy, and to a lesser extent industry, followed by academia (Sosabowski and Gard, 2008).

The 'What' dimension

The 'what' dimension' refers to the content of EE (Fayolle, 2013), which covers the spectrum of education 'about', 'for' and 'through' (or 'into') enterprise (Jamieson 1984), in addition to 'witness' thinking (Shotter, 2006; Klapper and Neergaard, 2012), where education 'into' enterprise is the focus of this study. Rather than focusing on the development of 'functional' enterprise skills, which is typically done through education 'about' and 'for' enterprise, education 'into' enterprise supports the development of a wide range of 'soft' enterprise

skills. This aligns with the concept of developing ‘entrepreneurial mindsets’ (EU, 1998) as central to employability for all graduates, rather than the limited focus on traditional business school-led new venture creation, thus making EE relevant to all graduates’ careers and experiences whether employed, or self-employed (Gibb, 2002, 2007). These skills are defined as ‘*the skills, knowledge and attributes needed to apply creative ideas and innovations to practical solutions*’ (Rae, 2007, p.611). Nabi and Bagley (1999) define these skills in three main categories including personal, communication and problem-solving skills. For the purpose of this research, a number of resources are referred to in order to develop a list of ‘soft’ enterprise skills representing each of the three categories (e.g. Guirdham and Tyler, 1992; Whitely, 1995; Nabi and Bagley, 1999; Collin and Robertson, 2003; The Pedagogy for Employability Group, 2006; Broad, 2006; Thompson, 2007; Lowden *et al.*, 2011). Personal skills comprise confidence and self-learning; communication skills are about networking and assertiveness; while problem-solving skills comprise reflection and conceptual thinking. A comprehensive list of all these skills is shown in Table 1.

Attributes	Skills
Personal Skills	• Being up for responsibility and a leadership role, including taking initiative
	• Confidence and self-awareness, including independence and self-reliance
	• Self or independent learning/ Autonomy
	• Ability of self-assessment
	• Team skills and working with others
	• Ability to assess situations/ ideas and achieve results, including seizing opportunities
	• Time management
	• Planning and organising, including defining, allocating and establishing priorities
	• Flexibility in doing things/ Adaptability
	• Assertiveness, persistence and tenacity
	• Working well under stress/ handling pressure
	• Creative thinking, imagination, idea generation and thinking outside the box
	Communication Skills
• Ability to explain, influence and persuade others (including stakeholders)	
• Presentation and negotiation skills	
• Listening skills	
• Networking, and building and managing relationships	
Problem-solving Skills	• Finding information, including resourcefulness and researching to explore and decide on what is needed
	• Decision making and Problem evaluation and solving skills including identifying options and assessing them while exercising judgment and measuring risk
	• Reflective thinking, including learning from relationships and experiences, and actively processing the knowledge gained while carefully considering all other aspects that might affect situations
	• Numeracy
	• Conceptual thinking
• Computer literacy, including word processing, spread sheets and databases	

Developed from Caird (1992); Guirdham and Tyler (1992); Whitely (1995); Nabi and Bagley (1999); Collin and Robertson (2003); The Pedagogy for Employability Group (2006); Broad (2007); Thompson (2007); Lowden *et al.* (2011).

Table 1: List of ‘soft’ enterprise skills

For Young (1997), enterprise is a subject that focuses almost totally on activities and the gaining of experiences and practical skills, which cannot be achieved through traditional teaching, and, therefore, should not be taught using traditional approaches. Similarly, Gibb (1993a,b,c) argues that an enterprising learning approach is the opposite of a didactic one, where the development of skills constitutes an inseparable part in the former. Yet, Draycott and Rae (2010) raise concerns that *'the 'delivery' of enterprise education takes place in ways which are not 'enterprising' forms of learning'* (p.127), and highlight the need to improve definitions, structures and pedagogies in EE. To achieve this, academics also play an important role through leveraging their own expertise and personal skills, as well as their networks and business partnerships to enhance academic entrepreneurship as highlighted by Feldmann (2014). Therefore, EE should be seen as a unique activity that is distinguished from traditional education typically seen in management courses (Gibb, 1999; Solomon *et al.*, 2002), as arguably traditional approaches do not necessarily help in enhancing 'soft' skills (Jack and Anderson, 1999; Rae, 2005). Consequently, leading to the next dimension of 'how' best to do this.

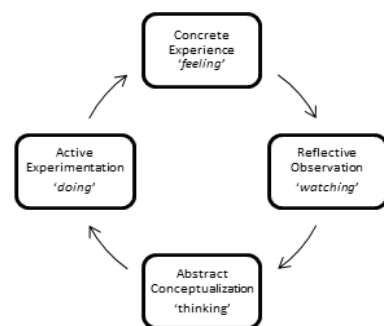
The 'How' dimension - delivering EE through experiential learning

The 'how' dimension of EE considers various teaching and learning methods (Fayolle and Gailly, 2008) that include lectures, tutorials, workshops, placements and role plays (Gibson *et al.*, 2009). This dimension also encompasses innovative and interactive pedagogies such as collage, art, music and experiential learning, with the latter being the interest of this study (Adler, 2006; Klapper and Tegtmeier, 2010; Shrivastava 2010).

Experiential learning focuses on engaging students in active learning experiences. Jones *et al.* (2014) stress this need for students' engagement and autonomy in EE. Revans (1982, p.12) defines experiential learning as *'a means of development, intellection, emotional or physical*

input that requires its subjects, through responsible involvement in some real complex and stressful problems, to achieve intended change to improve their observable behaviour in the problem field. Several types of experiential learning are discussed in academic literature; e.g. Problem-based Learning (PBL) (e.g. Barrows, 2000; Savin-Baden, 2000, 2003, 2004, 2007), Enquiry-based Learning (EBL) (e.g. Price, 2003; Kahn and O'Rourke, 2004; Savin-Baden, 2007), Case-based Learning (CBL) (e.g. Chi-Wan and Lopez-Nerney, 2005; Richards and Inglehart, 2006; Savery, 2006; Srinivasan *et al.*, 2007), team-based learning (e.g. Hassan, 2011; Stewart *et al.*, 2011), and opportunity-centred learning (e.g. Rae, 2003).

Kolb (1984), developing experiential learning theory, suggests that experiential learning can enhance students' understanding of the 'real-world'. Kolb (1984) argues that experiential learning should introduce changes in concepts as well as behaviour through experience. In his experiential learning theory, he argues that learning is a deliberate process that starts with an 'intention' that is triggered by 'triggering events' (Schindehutte *et al.*, 2000; Binks *et al.*, 2006) or 'critical incidences' (Deakins and Freel, 1996), which are usually passed down as opportunities from mentors to students. These incidences are defined by Barrows (2000) as tasks that take place often and have high impact. Students organise their experience based on theory and, consequently, learning happens as a result of combining theory and experience (Kolb, 1984).



Reproduced from Kolb DA (1984). *Experiential Learning experience as a source of learning and development*. New Jersey: Prentice Hall.

Figure 2: Kolb's (1984) learning theory

Figure 2 shows Kolb's (1984) conception of learning as a continuous process rather than a set of outcomes. Learning is viewed in a cycle to involve four basic stages, where learners can start at any stage (Kolb, 1984). *Concrete experience* involves the 'feeling' part of encountering a new experience or re-interpreting an existing one, which happens in real-life situation or through problems/situations presented to students. *Reflective observation* involves the 'watching' part, and originates from learners' evaluation of experiences against their understanding, which is usually a natural process that could take place through discussions with mentors and colleagues. The significance of applying reflective techniques in EE has been highlighted by several authors (e.g. Kassean *et al.*, 2015; Refai and Higgins, 2015), where articulating these reflections in a systematic way is necessary for individuals to progress and improve their application of future experiences. This emphasises the importance of the next stage, *abstract conceptualism*, the 'thinking' part, where reflections lead to new ideas or alteration of existing concepts, where learners conclude and learn from their experiences. The next stage, *active experimentation*, the 'doing' part, is where the learner shows ability to plan changes and influence others based on conclusions derived, to see what the results are. The cycle then starts again with application of new experiences. Kolb (1984) understands experiential learning as a flexible process that can start at any stage, a view that is also shared by e.g. Barrows (1986, p.485) and Savin-Baden (2003).

Having set out the theoretical background of Kolb's (1984) learning cycle, complemented by the 'where', 'what' and 'how' dimensions of Fayolle's (2013) generic teaching framework as enhanced by the authors, the next section focuses on the methodology of this research.

Methodology

The research study reported in this paper is conducted in the pharmacy education context in the UK HEIs and adopts a social constructionist paradigm (Refai *et al.*, 2015). This

paradigm enables the consideration of multiple realities and views sought from research participants involved in the delivery of EE in pharmacy schools. It also aligns with the qualitative approach of this study that aims to describe human experiences, and develop better understanding of them (Polit and Beck, 2006; Ellis and Crookes, 2004). Face-to-face interviews were conducted in order to support the consideration of different views and contextual factors impacting participants and their relationship with the subject matter. Interviews were conducted with participants at their workplaces in line with Denzin and Lincoln (2000) who propose that interviewees' experiences are best understood through qualitative approaches that bring the researcher closer to participants in the study. Research participants included 20 pharmacy academics from seven different HEIs. Seven institutions were considered a representative sub-sample of the 29 pharmacy schools across the UK (25%). These academics teach various science and practice-related undergraduate pharmacy courses, and are referred to here as (A1, A2.... A20). The selection of respondents from the seven HEIs is detailed in Table 2.

HEIs	Academic respondents	Currently teaching science-/ or practice- related modules
1	A1	science-related
1	A2	practice-related
1	A3	science-related
1	A4	science-related
2	A5	practice-related
2	A6	practice-related
2	A7	science-related
2	A8	science-related
3	A9	practice-related
3	A10	practice-related
3	A11	practice-related
4	A12	practice-related
4	A13	practice-related
5	A14	practice-related
5	A15	science-related
6	A16	practice-related
6	A17	science-related
6	A18	practice-related
6	A19	practice-related (taught science-related modules in the past)
7	A20	science-related

Table 2: Selection of respondents from 7 HEIs

No deliberate attempt was made to select respondents who were formally engaged in EE. The underlying rationale was two-fold: a) the word enterprise is not common in the titles nor profiles of pharmacy academics, and b) this approach is deemed justified given the aim of this research being to explore the state of the art of EE in pharmacy schools and its relevance to pharmacy education through exploring the endeavours that academics are applying in this regard. Convenience sampling was applied by selecting respondents through checking profiles of pharmacy academics in UK HEIs and emailing them. Snowball sampling was also applied as some respondents were referred by others. Potential interviewees were contacted by an email, which described the research aim and objectives. Those interested in participation were requested to reply and provide their consent to take part in the research.

Interviews with respondents lasted between 30-75 minutes, and were conducted by one of the co-authors of this article who is a professional pharmacist, thus, supporting more engagement in the research process and further empathy with respondents. This ultimately lead to better understanding of the research context, its limitations and obstacles. As a result, the researcher is part of what is being observed, which arguably enriches the process and results of the study (Etherington, 2004).

Interviews with respondents followed a semi-structured approach, which supported covering relevant research issues more comprehensively (Easterby-Smith *et al.*, 2012), while allowing the flexibility of asking questions in line with the flow of interaction (Jones, 1985; Patton, 2000). Semi-structured interviews were organised in three main stages. Patton (2000) contends that the first stage of interviews should begin with general descriptive questions as these require the least amount of information recall and analysis. Accordingly, interviews were initiated with a general question about respondents' views regarding EE and the significance of developing enterprise skills. In the second stage, questions relating to opinions and feelings can be initiated (Patton,

2000). In line with this research aim to investigate the state of the art of EE, exploring and understanding social processes and experiences of participants was done through situational questions that allow respondents to talk through their experiences and discuss their daily activities, rather than abstract questions that focus on what they have in mind or might do (Mason, 2002). Therefore, respondents were allowed to elaborate on the relevance of EE to their teaching by describing educational methods and approaches applied at their schools, and how these contribute towards the development of graduates' enterprise skills. The last stage of interviews aimed to identify respondents' personal perspectives (Patton, 2000) by allowing them to reflect on the challenges that face their application of various teaching methods and how these might support or impede the development of enterprise skills.

All interviews were recorded with consent, and then transcribed and analysed by the interviewer to provide credible evidence and ensure rich and comprehensive data analysis and interpretation (Silverman, 2000; Mason, 2002). The transcription considered verbal speech, but non-verbal utterances were not included as this level of detail was not required in the analysis of findings. Thematic Analysis (TA) was applied to analyse the data, following Braun and Clarke's (2006) six-step process including becoming familiar with the data, generating initial codes, searching for themes, reviewing them, defining and naming them, and producing the report.

In order to support the trustworthiness and rigour of the research, a second round of four interviews was conducted with four academics selected from amongst the original participants. These interviews did not aim nor result in the emergence of new themes, but rather, supported the credibility of the research by confirming the researcher's interpretation of data, which consequently supported the confirmation of emerging themes (Pring, 2000).

Results

The academics' understanding of the concept of EE and relevance/value of enterprise skills

Initially, research participants were asked about their understanding of EE and enterprise skills, and whether they believed the latter was being developed in their institutions and how. There was general agreement that the term 'enterprise' was used in 'functional' and business-related discourse in pharmacy schools, but, yet, did not officially feature in pharmacy course documents. However, this impression changed when the research participants started to understand the aim of this research and were confronted with the list of enterprise skills (Table 1). Comparing and contrasting the different comments made by the participating academics it was possible to see that there was a general consensus regarding the importance of developing these skills. However, whereas the pharmacy schools and their academics engaged in developing these skills through various learning activities, the terms enterprise education and enterprise skills themselves were not part of the discourse employed in these contexts. For instance A8 mentioned: *'...we think of enquiry based learning as a way of developing lots of generic skills, which probably aligns with enterprise education. These skills are absolutely essential for the workplace ...'*

Data analysis also showed that many of the research participants viewed enterprise Skills as vehicle to enacting pharmacy knowledge and putting it into practice. The comment of A5 supports this point: *'...what we actually need is the skills to be able to apply that knowledge in real-life, the knowledge is important but it's kind of foundational knowledge that you need to build on and know how to apply, and be able to access that knowledge and understand it through having those skills'*.

Academics involved in this study also emphasised a positive impact of enterprise skills for the individual and the institution. Academics emphasised to students, at different stages of the

respective courses, the value of these skills and their impact on their professional role in the marketplace. They also made it clear how a variety of learning activities are used to help them develop these skills. A2 highlighted: *'Yes, they know about these skills and the need for them. It shows in their portfolios and the fact they can write about skills as communication skills and empathy skills. It also shows in our accreditation reports when accreditors come and speak to our students and report that they do have an understanding'*. The above shows the twofold visible impact of introducing enterprise skills into the pharmacy education context: a) it manifests itself in the learning of the students, and b) it results into potentially better accreditation reports. This suggests a generally positive impact both for the individual and the institution.

More in depth discussions with academics showed that Pharmacy schools across UK HEIs used experiential learning to develop graduates enterprise skills within institutional contexts that are confronted with a range of challenges. Following is an analysis of themes that emerged from data in this research. The first three themes primarily relate to different ways in which academics engaged students in EE; these can be summarised in 'tactics', 'learning environment' and 'role behaviour- academic and students'. The fourth theme, 'institutional context', represents a cross-cutting theme that permeates the other three themes. The following section provides some illustrative examples.

Theme One: Tactics

Discussions with academics showed that they often had developed certain tool-oriented tactics to engage students in EE; e.g. the academic included case studies, group work, portfolios, reports, essays, oral presentations, posters, conferences and vivas in their teaching. These supported delivering problems to students, thus, engaging them in experiential learning. The main objective of these tactics was to help students 'live' real-life situations,

which are essential for the learning of pharmacy students e.g., investigating prescriptions or chemical reactions and formulations. As A2 noted: *'we usually offer them a problem in the form of a prescription, or a patient situation in a case study; but they have to identify the problem and ways in which they might solve it...'*. Tactics also involved OSCE's, i.e. Objective Structured Clinical Examinations, where students are presented with real or simulated clinical cases; e.g. A13 added: *'we do the OSCE's and we get them to do a number of clinical scenarios'*. .

Portfolios were also commonly applied, where students reflected on their experiences and learning processes. Students were also encouraged to present findings through reports, essays, oral presentations, posters, and to a lesser extent through conferences and vivas. Here the focus was on offering students the opportunity to present and defend their work, update their knowledge and network with people in the field. In general, the choice of tactics depended much on the individual educator's preferences.

The data analysis highlighted that the majority of academics used 'group work' as a tactic. Respondents mentioned that group-work aimed to a) professionalise learning, b) facilitate and simulate real-world context through imposed groups (academics 5 and 8); c) encourage subject, i.e. pharmacy-related discussion (academic 5), d) stimulate general interaction between students (Academic 6) and e) promote peer group assessment (Academic 5). E.g. A5 explained: *'we do small group work with imposed groups...We have about six in a group in a year, first we had a lot, about ten and sometimes more, but we reduced the number to about six which improved it... make it more team-based so it will involve more discussion about patients'*. In addition, A6 reflected: *'We are able to break them down to smaller groups in some courses and that's where we're able to introduce some interaction'*.

Academics also highlight the value of embedding tactics across curricula using inter-disciplinary and inter-professional learning, as A9 highlighted: *'We embed PBL and CBL with inter-disciplinary learning to integrate pharmacology and pharmacy practice'*. However, some academics mentioned the lack of consistency of embedding interactive tactics in a holistic manner across modules, particularly the science-related ones; as mentioned by A6 *'The focus so far is predominantly on practice... So at the moment I think the skills delivered are being delivered out of context and the students can't see how they are relevant to being a pharmacist'*. This also goes in line with a significant amount of didactic teaching in pharmacy schools, A6 reflected: *'Predominantly didactic for the undergraduates, but there are some pockets for more interactive approaches'*. The lack of continuity in application of various tactics was mentioned to potentially affect students' ability to relate their knowledge and develop their skills, particularly in science-related contexts; as A8 pointed out: *'I think students compartmentalize their science knowledge, and don't see how it's relevant to practice. They think it's the practice knowledge and skills that they need to carry on with. We, as academics, have to make sure that they understand the need for integrating both, it's a whole package'*.

Theme Two: The learning environment

This theme highlights the kind of learning environment that students are typically exposed to. Academics involved in this study highlight that the development of enterprise skills requires more active and engaging learning environments as opposed to a more traditional, i.e. didactic teacher-focussed teaching style which may be more appropriate to pure knowledge transmission. A17 reflected: *'...traditional teaching... the lecturer is at the front... and the students are supposed to sit there and listen, which doesn't really help in developing their skills'*. Alternatively, there are active learning environments (i.e. learner-focused), which

support the development of enterprise skills through engaging students in tutorials, laboratories, workshops or even real-world contexts during placements; e.g. A16 notes: *'...we run tutorials to analyse lectures, where students are not given all information, but have to look it up to resolve a problem. This should encourage their self-learning, responsibility and organization skills, and their academic skills in doing research and using online resources...'*, and A17 added: *'...there are a lot of opportunities in the workshops we offer; we get real data from real problems to produce students who can solve problems in the real-world'*.

Theme Three: Role behaviour- academic and students

Data analysis shows that academics in this research associate the development of enterprise skills to certain roles for academics as well as students.

The role of the academic

This role varied, including facilitating and encouraging students to learn, as A5 mentioned: *'...Our role is very much to facilitate, we help them to learn, give them feedback, we discuss, we use examples and they produce things like care plans...'*, but also encompasses holding standard lectures as A7 mentioned: *'It depends on the activity; sometimes you're giving a lecture, sometimes you're facilitating the group'*.

Sometimes the role of the academic was perceived as challenging as A8 reflected: *'...academics are encouraged not to be spoon feeders, and the advisors are there to ensure the team is working effectively and arrange meetings with them and ensure they have delegated the tasks. So we're there to facilitate them, give them advice about references and resources, refer them to a library session, and so on'*. In general, there seemed to be a need

for a high level of flexibility, and for the academic to be what was required of him/her at that particular moment in time.

The role of the student

Students are generally expected to be proactive, dynamic and meet deadlines, e.g. A8 narrated: *'we put students in imposed groups, they are assigned an academic advisor, they sit in sessions and the team building skills are done in these sessions... and it's up to them to work out where and when to meet... manage to get the work done within the deadline assigned'*. Certain behaviour, self-discipline and determination are expected from students and these expectations are communicated to them; e.g. A16 highlighted: *'In my tutorials we tell them from the beginning we are here to facilitate your education, we're not here to tell you everything and spoon feed you, you have to do your own work'*.

Theme Four: Institutional context

A fourth, cross-cutting theme of institutional context, permeates the other three themes. Many of the challenges identified in discussions with academics teaching EE emerged out of the institutional contexts in which learning and teaching took place. Here, institutional context could denote both the pharmacy school itself, but also the wider external environment of which these pharmacy schools are part. Among these challenges were, in particular, funding issues, the high number of students in classrooms, the teacher/student ratio, the teaching style preferences of the teacher him/herself, but also the wider encompassing institutional philosophies and regulatory/accreditation requirements..

Funding and student number issues

Learning does not typically take place in small groups throughout pharmacy programmes mainly due to large student numbers and the lack of funding for small group teaching. For instance, A8 reflected: *'...we take about 180 students in a lecture. We have only 37 academic advisors, so we haven't got enough small group teaching just because of the large numbers. We do appreciate the value of small group work, it's just having the resources to do that'*.

Teacher-focussed challenges

Delivery of EE also depended on the individual instructor. A2, for instance, highlighted: *'I would say it strongly depends on the tutor, it is strongly tutor lead'*; in a similar vein, A6 emphasised: *'We are able to introduce some interaction in some modules, and that's really at the discretion of the course leader who decides how to deliver the module, and is largely down to the individual members of staff and how passionate they are about using alternative learning methods'*.

The above statements show that the individual academic is key to the chosen teaching style and that, given the lack of incentive coming from the institutional context for introducing new ways of EE, change is unlikely. A4, for instance, alluded to resistance among some academics to let go of the old established teaching styles: *'...some of us don't want to easily let go of the traditional lecturing styles because it's worked'*. Knowing what works is a key driver for not changing established ways of getting the required knowledge across. In addition, as indicated earlier, little incentive is coming from the individual institutions to effect change in teaching styles.

Lack of institutional support/incentive for change

The interviews responses also show a general lack of a holistic and coordinated approach in pharmacy schools, and the application of experiential learning in some modules, but not

others. This relates to earlier comments by academics who mentioned that the development of enterprise skills does not happen as part of schools' philosophies or schemes, but rather through individual efforts by academics, e.g. A5 highlighted: *'So we're trying to introduce more interactive teaching, but that's only happening in a small number of classes... I don't think we have a whole co-ordinated approach yet, but within our new teaching we're trying to develop a new structure'*.

Academics also highlight that the nature of the pharmacy curriculum is very condensed and knowledge-intensive, making it often difficult to introduce interactive activities, which required more time than traditional teaching. A2 emphasised: *'Our accreditation requirements are very strict that there is hardly any room to introduce interaction besides all that is required really'*. Here, external pressures coming from accreditation bodies impact what is feasible in the classroom within the framework of EE.

Discussion

This section discusses the research findings in relation to this study's research questions.

RQ1: How is EE delivered across UK pharmacy schools, i.e. what are the different approaches that pharmacy schools and their staff apply to develop their graduates' enterprise skills?

The study shows that pharmacy schools work towards developing their graduates' enterprise skills through embedding a number of activities within experiential learning approaches. Fiet (2000) stresses the importance of delivering EE through processes that engage students in various activities. Gibb (1993a,b,c) and Young (1997) also emphasise that EE should not be delivered through traditional methods alone, if at all. A key finding is that academics across different pharmacy schools use various experiential learning approaches and activities, which

is not surprising given that teaching styles are, as some academics, commented, heavily dependent on the individual educator. This also concurs with the flexibility of Kolb's (1984) original experiential learning theory as well as Barrows (1986), Walton and Mathews (1989), Boud and Feletti (1997) and Savin-Baden (2003) who emphasise that various approaches can be embedded within experiential learning. This variety in delivering EE is also needed to address the diverse needs of enterprise as argued by Klapper and Refai (2015).

RQ2: What are the main challenges that impact the delivery of EE in pharmacy schools?

The research finds that EE in UK pharmacy schools suffers from lack of continuity and organisation: experiential learning is only applied in some modules and by some academics who are personally interested in applying non-traditional ways. In this regard, various institutional elements that operate at micro and macro levels are revealed, which coincides with Dodd and Hynes (2012) who argue the significance of regional, alongside national, context in shaping EE. At the micro-level, pharmacy schools impose certain challenges that impact academics in their delivery of EE; these are mainly reflected in the funding and student number issues.

Arguably, these challenges are impacted by more encompassing macro-institutional elements, which are reflected in this research in the lack of discourse of EE in pharmacy schools. Thus, no clear school philosophy or strategy exists in relation to EE despite acknowledging the relevance and applicability of experiential learning in the development of students' enterprise skills. Therefore, experiential learning is not integral to learning strategies, nor is it formally embedded as part of curriculum implementation, particularly in relation to science-related modules. Such lack of consistency may in part explain the level of didactic teaching, concurring with The Survey of Entrepreneurship Education in HE in Europe (2008) findings

that a large number of academics rely significantly on cognitive and theoretical learning, rather than practice, reflection and involvement.

This is similar to findings of The Survey of Entrepreneurship in HEIs in Europe (2008), which highlights the importance of time and institutional support factors in supporting EE. The survey acknowledges both time constraints and lack of readiness of institutions, their academics as well as students for change as main barriers to implementing EE. Fayolle and Gailly (2008) also emphasise other constraints such as the general learning context, and material constraints relating to equipment and class-room characteristics, in addition to resource constraints related to academics and finance as key barriers to EE. This is also similar to Refai *et al.* (2015) who argue that time and general resources affect the delivery of EE.

Therefore, academics who took part in this research undertake sense-making in EE on their own initiative (Geertz, 1973), but also as a response to institutional challenges. The academics are actors who engage in the organizing of teaching as a result of ‘a consensually validated grammar for reducing equivocality by means of sensible interlocked behaviours’, thereby translating ‘ongoing interdependent actions into sensible sequences that generate sensible outcomes’ (Weick, 1979, p.3). This suggests that institutions, here pharmacy schools, and their academics in UK HE share cognitive frames, where the shared nature of these frames makes it difficult to stray far from them, or if they do, as expressed by participants, it takes a particular effort to do so.

Within these cognitive frames, we find that academics are not always inclined to change their ways of delivering knowledge to students, due to lack of incentive, the nature of their host institution, external pressures coming from accreditation, but also the nature of the individual him/herself. This is similar to Pittaway and Hannon (2008) who point out that challenges may

arise where institutional priorities do not align with the demands of different stakeholders in HEIs. Hannon (2007) supports this and adds that teaching and learning strategies in institutions, as well as their philosophies regarding EE, can lead to differences among institutions, as well as stakeholders within institutions, as to the nature and purpose of EE. This infers that academics are constrained within the framework of institutions that have set rules and enforcement mechanisms, including the ways that they teach, for academics are assessed against the assessment and performance criteria set by the institutional framework (Coase, 1937; Williamson, 1975; North, 1990; Greif, 1994).

Yet, entrepreneurship has traditionally been associated with change, and the latter implies deviations from some norm (Garud and Karnøe, 2001). Fayolle and Gailly (2008) agree with this and highlight that the nature of entrepreneurship education encourages effectuation, where academics act on various arising opportunities. This is also supported by Feldmann (2014) who highlight *effectual reasoning* (Sarasvathy, 2008a,b) as an important supporter for academics in their academic entrepreneurship endeavours. Here, we may question whether EE and its associated entrepreneurial outcomes and processes will be readily embraced by actors committed to existing ways of doing things in a particular institutional context. We found frustration in those academics who want to deliver EE differently, frustration due to lack of a clear institutional strategy and philosophy in implementing experiential learning, and academics' inability to see how efforts in implementing experiential learning in EE could support students' development of enterprise skills in a progressive way. These findings are in line with Savin-Baden (2007), who highlights the high level of demotivation among academics due to lack of a clear strategy in implementing experiential learning, and inability to see how efforts can be moved forward and pulled together. Furthermore, in terms of external constraints on the institution, there has been on-going interest in how non-isomorphic change can be explained using an institutional lens (Dacin *et al.*, 2002), as well as

what the nature of the ‘institutional work’ needed to create, maintain, transform or disrupt institutions is like (Lawrence and Suddaby, 2006; Hardy and Maguire, 2008). In close association with this has also been a focus on processes of contestation and struggle within and over institutional fields (Garud and Rappa, 1994; Maguire and Hardy, 2006), which are perceived as political arenas in which power relations are maintained or transformed (Clemens and Cook, 1999; Lounsbury and Ventresca, 2003).

More broadly, the need for a more encompassing approach to EE is pointed out by Rae (2005), Gibb (2005), Pittaway and Hannon (2008), Klapper and Refai (2015) and Refai *et al.* (2015). The academics involved in this study emphasised the value of applying interdisciplinary (across science and practice-related modules) and inter-professional learning, which have been argued to support the development of enterprise skills (Refai *et al.*, 2015; Ward and Lee, 2002). Analysts such as Weinrauch (1984), Gorman *et al.* (1997), Bechard and Toulouse (1998) and Rae (2005) point out the benefits of collaborative approaches, while Gibb (2011) emphasise the need for enterprise educators to engage in activities beyond their own curricula and departments. Yet, collaboration requires institutional support as mentioned in previous research (see e.g. Rae, 2005; Broad, 2006; Fayolle and Gailly, 2008; The Survey of Entrepreneurship in HEIs in Europe, 2008).

RQ3: What can be inferred in terms of a good practice model?

Considering the flexibility in applying experiential learning, the basic stages proposed in Kolb’s (1984) experiential learning theory provide a comprehensive and useful heuristic. Recognising the links between Kolb’s learning theory and the four themes this research identifies, the latter are placed within the context of Kolb’s (1984) four stages of experiential learning. All these are related to the ‘what’, ‘how’ and ‘where’ dimensions of this study’s framework (Figure 1), and, consequently, propose four Aspects of Experiential Learning in

the Context of EE (AELEE), as shown in Figure 3, to infer a good practice model based on this research findings.

The ‘what’ dimension of this research framework is reflected in the four experiential learning stages by Kolb with students experiencing concrete experience, reflective observation, abstract conceptualisation and active experimentation. The ‘how’ dimension in our framework is reflected in the first three AELEE, including ‘tactics’, learning environment’ and ‘role behaviour-academic and students’, which represent the embedded teaching and learning methods and student-learner interventions within the learning environment. The ‘where’ dimension of this research framework, however, is reflected in the institutional context and the challenges it imposes; which encompasses a transversal theme of micro and macro institutional dimensions that touch all aspects of Kolb’s (1984) theory and the associated AELEE.

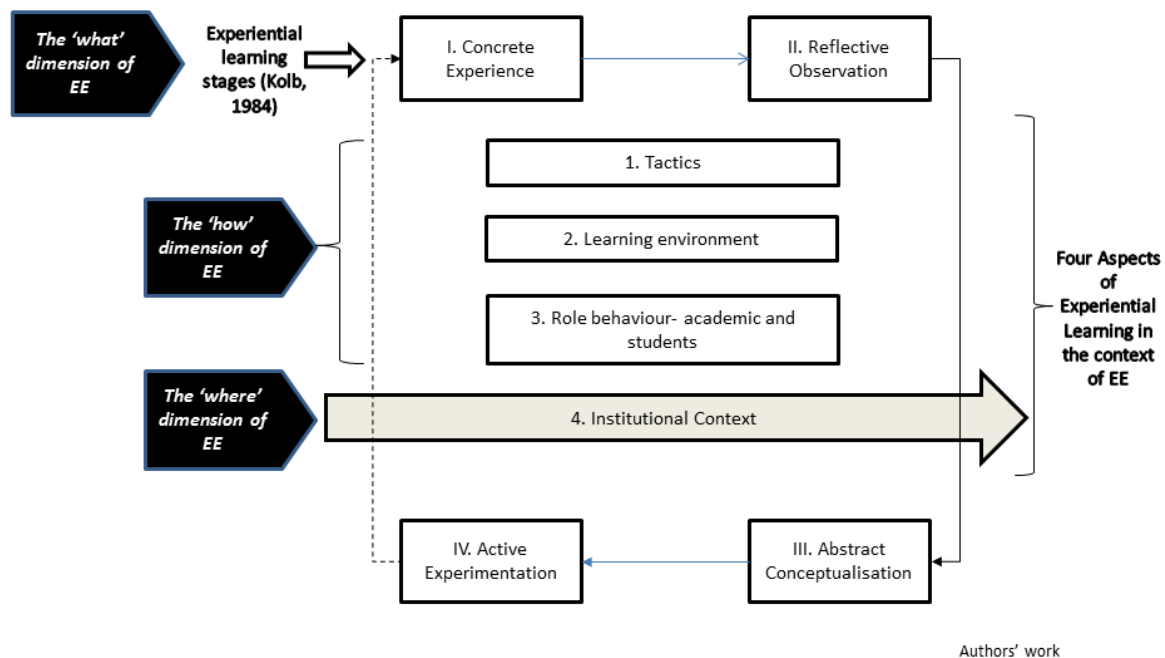


Figure 3: The Four Aspects of Experiential Learning in the context of EE (AELEE)

The *Concrete experience* stage in Kolb's (1984) learning theory involves the 'feeling' part. This stage is arguably closely related to both AELEE 'tactics' and 'learning environment' as it involves exposing students to problems/scenarios, which can take place in various learning environments, while considering that such environments can impact other stages of the cycle as well. The study reveals various 'tactics' for presenting problems/scenarios, where academics have a major role in shaping the nature and contents of these.

Arguably, a varied approach to teaching promotes developing independence and life-long learning skills in students (Barrows and Tamblyn, 1980), and corresponds to Bechard and Gregoire's (2005) description of activities embedded within EE as a craft rather than science. Clearly, the learning environment is important to students' learning context, and essential in supporting them in taking responsibility of their own learning (Gibb, 1987).

The *Reflective observation* stage in Kolb's (1984) theory involves the 'watching' part; it emphasises the significant role of reflection in enhancing the effectiveness of EE (Kassean, 2015 and Refai and Higgins, 2015), where students evaluate possible discrepancies between their experiences and prior understandings. At this stage, discussions take place with mentors and colleagues, and these activities are directly linked to the next stage, where reflections lead to processing ideas through *abstract conceptualisation* to reach new ideas or alter existing concepts. The *active experimentation* stage follows, where students reach conclusions and show ability to make plans relevant to professional practice. Thus, these three stages of experiential learning are related to the third AELEE of '*Role behaviour-academic and students*', which emphasises the active role of both academics and students in EE (Guirdham and Tyler, 1992; Fiet, 2000, Feldman, 2014 and Jones *et al.*, 2014). In accordance with Kolb (1984), the learning cycle is iterative, which allows students the

freedom to continuously work in groups, relate knowledge, reflect and engage in assessment processes (McDonald and Savin-Baden, 2004)

The fourth AELEE impacts EE in a general sense, as it affects all other aspects. This ALEE is the institutional context with its micro and macro dimensions, which impose challenges that impact the delivery of EE. Therefore, the institutional context is seen as a transversal theme. This context is addressed in detail under our discussion of RQ2.

Conclusions

This study investigates the state of the art of EE in pharmacy schools and the pharmacy academics' views regarding the relevance of enterprise to their teaching through exploring the endeavours that they apply in this regard, and highlights different challenges for the delivery of EE in pharmacy schools in order to infer a model of good practice.

Findings of this research show that the 'what' dimension of EE is addressed through embedding experiential learning in pharmacy curricula for the development of enterprise skills. This leads to the 'how' dimension of EE, which takes place through the application of various tactics within various learning environments, and encompasses various student and academic roles. Yet, the application of EE is not a straight forward process, and is shown in this research to be significantly impacted by the 'where' dimension. Here, the process of EE delivery is influenced by several challenges that are related to both: students and academics within pharmacy schools (micro-level), and also the wider institution (macro-level). At the micro-level, it can be concluded that despite the need for academics and students to undertake certain roles in EE, and to recognise the importance of investing time and effort in developing enterprise skills, EE can be restricted by various factors related to availability of resources, funding and the number of students available. Similarly, strong challenges operate

at the macro level, which are imposed by more encompassing institutional factors. These are reflected in the lack of discourse of EE, which is reflected in the absence of school philosophy or strategy with regard to EE. Macro-level challenges are also noted in accreditation requirement, which do not always allow enough time for the introduction of EE. Consequently, the application of EE in these schools does not follow a holistic nor coordinated/continuous approach. Rather, EE is applied in a segmented and non-ubiquitous manner that causes frustration amongst academics who are unable to see how their efforts can be brought forward.

Based on these aspects, the four AELEE model is inferred as an example of good practice in EE that links experiential learning aspects to Kolb's (1984) experiential learning theory and this study's framework which is based on Fayolle (2013), while highlighting the significance of the 'where' dimension in the latter (Figure 3). The authors acknowledge the limitations of the proposed model as it is a) based on the views of academics and b) sector-specific, i.e. relating to pharmacy schools in UK HEIs. Yet, it is likely for the proposed model to have wider relevance for delivering EE through embedding experiential learning approaches.

The existing research can be extended in a number of ways. A) a follow up survey targeting a larger number of institutions involving academics and students, also non-pharmacy, to provide further insights into the drivers for EE and the significance/impact of the discourse of enterprise within institutional contexts. B) a study of the perceptions of academics who deliver EE and a cross-sector comparison of the challenges faced, and the perceptions of students who receive EE including how learning happens and what influences it (e.g. Hammel *et al.*, 1999; Hmelo-Silver, 2004; Novak *et al.*, 2006). C) This research would benefit from an international comparison with both quantitative and qualitative dimensions, which

will further test and enhance the generalizability of the findings and of the explanatory model proposed.

References

- Adler, N.J. (2006), "The Arts and Leadership: Now That We Can Do Anything, What Will We Do?", *Academy of Management Learning and Education*, Vol. 5 No. 4, pp. 486-499.
- AGCAS (2011), "Pharmacy-Career areas, at: Prospects, the UK's Official Graduate's Careers Website", Copyright Association of Graduate Careers Advisory (AGCAS) & Graduate Prospects Ltd, available at: http://www.prospects.ac.uk/options_pharmacy_career_areas.htm (accessed 18 September 2012).
- Barrows, H.S. (1986), "A taxonomy of problem-based learning methods", *Medical Education*, Vol. 20 No. 6, pp. 481-486.
- Barrows, H.S. (2000), *Problem-based Learning Applied to Medical Education*, Springfield, Illinois, Southern Illinois University School of Medicine.
- Barrows, H.S. and Tamblyn, R. (1980), *Problem-based learning: An approach to medical education*, Springer, New York.
- Béchar, J. & Grégoire, D. (2005), "Entrepreneurship Education Research Revisited: The Case of Higher Education", *Academy of Management Learning & Education*, Vol. 4 No. 1, pp. 22-43.
- Béchar, J. and Toulouse, J.M. (1998), "Validation of didactic mode for the analysis of training objectives in enterprise", *Journal of Business Venturing*, Vol. 13 No. 4, pp. 317-332.
- Blenker, P., Dreisler, P., Faergeman, H.M. and Kjeldsen, J. (2006), "Learning and teaching entrepreneurship: dilemmas, reflections and strategies", in Fayolle, A. and Klandt, H. (Eds),

- International Entrepreneurship Education – Issues and Newness*, Edward Elgar Publishing, Cheltenham, UK, pp. 21-34.
- Boud, D. & Feletti, G. (1998), *The challenge of problem-based learning*, 2nd edn, Kogan Page, London.
- Braun, V. & Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology*, Vol. 3 No. 2, pp. 77-101.
- Broad, J. (2006), *Enterprising Skills: A Literature Review*, White Rose Centre for Excellence in Teaching and Learning (CETL) Enterprise Research Report, coordinated by The University of Sheffield.
- Centre for Workforce Intelligence (2012), Pharmacy workforce – education commissioning risks summary from 2012, available at: <file:///C:/Users/Radi/Downloads/WRO%20ECRS%202012%20Pharmacy%20workforce.pdf> (accessed 29/3/2016).
- Chi-Wan, L.Y. and Lopez-Nerney, S. (2005), "Using case-based learning to enhance awareness of communication principles: An exploratory study", *Reflections on English Language Teaching*, Vol. 4, pp. 47–65.
- Clemens, E.S. & Cook, J.M. (1999), "Politics and Institutionalism: Explaining Durability and Change", *Annual Review of Sociology*, Vol. 25 No. 1, pp. 441-466.
- Coase, R. (1937), "The Nature of the Firm". *Economica*, Vol. 4 No. 16, pp. 386-405.

- Dacin, M.T., Goodstein, J. & Scott, W.R. (2002), "Institutional Theory and Institutional Change: Introduction to the Special Research Forum", *Academy of Management Journal*, Vol. 45 No. 1, pp. 45.
- Deakins, D. and Freel, M. (1996), *Developing and using case studies of SMEs in a learning environment-Small and Medium Sized Enterprises in a Learning Society*. University of North London, London.
- Denzin, N.K. and Lincoln, Y.S. (2000), "Introduction The discipline and practice of qualitative research", in Denzin, N.K. and Lincoln, Y.S. (Eds), *The handbook of qualitative research* (2nd edition). Sage, London, pp. 1-28.
- Dodd, S.D. and Hynes, B.C. (2012), "The impact of regional entrepreneurial contexts upon enterprise education", *Entrepreneurship and Regional Development*, Vol. 24 No. 9-10, pp. 741-766.
- Draycott, M. and Rae, D. (2010), "Enterprise Education in Schools and the Role of Competency Frameworks", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 17 No. 2, pp. 127-145.
- Easterby-Smith, M., Thorpe, R. & Jackson, P. (2012), *Management research*, 4th edn, SAGE, Los Angeles, [Calif.], London.
- Ellis, L.B. and Crookes, P.A. (2004), "Philosophical and theoretical underpinnings of research". In Crookes, P.A. & Davies, S. (Eds.), *Research Into Practice: Essential Skills for Reading and Applying Research in Nursing and Health Care*, Bailliere Tindall, London, pp. 51-68.
- Etherington, K. (2004), *Becoming a reflexive researcher: Using ourselves in research*, London: Jessica Kingsley Publishers.

- Fayolle, A. (2013), "Personal views on the future of entrepreneurship education", *Entrepreneurship and Regional Development*, Vol. 25 No. 7-8, pp. 692-701.
- Fayolle, A. and Gailly, B. (2008), "From craft to science", *Journal of European Industrial Training*, Vol. 32 No. 7, pp. 569-593.
- Feldmann, B.D. (2014), "Dissonance in the academy: the formation of the faculty entrepreneur", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 20 no. 5, pp. 453-477.
- Fiet, J.O. (2001), "The pedagogical side of entrepreneurship theory", *Journal of Business Venturing*, Vol. 16 No. 2, pp. 101-117.
- Garud, R. and Karnoe, P. (2001), "Path creation as a process of mindful deviation", in Garud, R. and Karnoe, P. (eds.), *Path Dependence and Creation*, Lawrence Earlbaum Associates, pp. 1-38.
- Garud, R. & Rappa, M.A. (1994), "A Socio-Cognitive Model of Technology Evolution: The Case of Cochlear Implants", *Organization Science*, Vol. 5 No. 3, pp. 344-362.
- Gedeon, S.A. (2014), "Application of best practices in university entrepreneurship education: Designing a new MBA program", *European Journal of Training and Development*, Vol. 38 No. 3, pp. 231-253.
- Gibb, A.A. (1987), "Enterprise Culture - Its Meaning and Implications for Education and Training", *Journal of European Industrial Training*, Vol. 11 No. 2, pp. 1-38.

- Gibb, A.A. (1993a), "The enterprise culture and education. Understanding EE and its links with small business, entrepreneurship and wider educational goals", *International Small Business Journal*, Vol. 11 No. 3, pp. 11-34.
- Gibb, A.A. (1993b), "Key factors in the design of policy support for the small and medium enterprise (SME) development process: an overview", *Entrepreneurship and Regional Development*, Vol. 5 No. 1, pp. 1-24.
- Gibb, A.A. (1993c), "Small business development in Central and Eastern Europe: opportunity for a rethink", *Journal of Business Venturing*, Vol. 8 No. 6, pp. 461-486.
- Gibb, A.A. (1999), "Can we build 'effective' entrepreneurship through management development?", *Journal of General Management*, Vol. 24 No. 4, pp. 1-21.
- Gibb, A. (2002), "In pursuit of a new 'enterprise' and 'entrepreneurship' paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge", *International Journal of Management Reviews*, Vol. 4 No. 3, pp. 233-269.
- Gibb, A.A. (2005), *Towards the Entrepreneurial University: Entrepreneurship education as a lever for change*, A Policy Paper for the National Council for Graduate Entrepreneurship (NCGE) UK.
- Gibb, A.A. (2007), "Creating the entrepreneurial university: do we need a different model of entrepreneurship", Chapter 4 in Fayolle A (Ed.), *Handbook of research in Entrepreneurship Education*, Vol. 1, Edward Elgar, Cheltenham, UK, pp. 67-104.
- Gibb, A. (2011), "Concepts into practice: meeting the challenge of development of entrepreneurship educators around an innovative paradigm: The case of the International Entrepreneurship

- Educators' Programme (IEEP)", *International Journal of Entrepreneurial Behaviour & Research*, Vol. 17 No. 2, pp. 146-165.
- Gibson, D., Harkin, A. and Scott, J.M. (2009), "Towards a pedagogical model of new venture based learning", paper presented to the European Foundation for Management Development (efmd) Entrepreneurship Conference, Barcelona, February.
- Gorman, G., Hanlon, D. and King, W. (1997), "Some research perspectives on entrepreneurship education, EE and education for small business management: a ten-year literature review", *International Small Business Journal*, Vol. 15 No. 3, pp. 56-77.
- Greif, A. (1994), "Cultural Beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies", *Journal of Political Economy*, Vol. 102 No. 5, pp. 912-950.
- Guirdham, M. and Tyler, K. (1992), *Enterprise skills for students*, Butterworth-Heinemann, Oxford.
- Hammel, J., Royeen, C.B., Bagatell, N., Chandler, B., Jensen, G., Loveland, J. and Stone, G. (1999), "Student perspectives on problem-based learning in an occupational therapy curriculum: a multiyear qualitative evaluation". *American Journal of Occupational Therapy*, Vol. 53 No. 2, pp. 199-206.
- Hannon, P. (2007), "Enterprise for all? The fragility of enterprise provision across England's HEIs", *Journal of Small Business and Enterprise Development*, Vol. 14 No. 2, pp. 183-210.
- Hardy, C., and Maguire, S. (2008), "Institutional entrepreneurship", in Greenwood, R., Oliver, C. Sahlin, K. and Suddaby R. (Eds.), *The Sage Handbook of Organizational Institutionalism*, London: Sage, pp. 198–217.

- Hassan, S. (2011), "Teaching ethics to pharmacy students using a team-based learning approach. Pharmacy Education", *Pharmacy Education*, Vol. 11 No. 1, pp. 99-106.
- Hmelo-Silver, C.E. (2004), "Problem-Based Learning: What and How Do Students Learn?", *Educational Psychology Review*, Vol. 16 No. 3, pp. 235-266.
- Hoffman, A.J. (1999), "Institutional Evolution and Change: Environmentalism and the U.S. Chemical Industry", *The Academy of Management Journal*, Vol. 42 No. 4, pp. 351-371.
- Honig, B. (2004), "Entrepreneurship Education: Toward a Model of Contingency-Based Business Planning", *Academy of Management Learning and Education*, Vol. 3 No. 3, pp. 258-273.
- Jack, S.L. and Anderson, A.R. (1999), "Entrepreneurship education within the enterprise culture: Producing reflective practitioners", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 5 No. 3, pp. 110-125.
- Jamieson, I. (1984), "Schools and Enterprise", in Watts, A.G. and Moran, P. (Eds), *Education for Enterprise*, Careers Research and Advisory Centre (CRAC), Ballinger, Cambridge, pp.19-27.
- Jones, S. (1985), "The Analysis of depth interviews", in Walker, R. (ed.) *Applied Qualitative Research*, Gower, Aldershot, pp.56-70
- Jones, C., Matlay, H., Penaluna, K. and Penaluna, A. (2014), "Claiming the future of enterprise education", *Education & Training*, Vol. 56 No. 8/9, pp. 764-775.
- Jungnickel, P.W., Kelley, K.W., Hammer, D.P., Haines, S.T. and Marlowe, K.F. (2009), "Addressing competencies for the future in the professional curriculum", *American journal of pharmaceutical education*, Vol. 73 No. 8, pp. 156.

- Kahn, P. and O'Rourke, K. (2004), *Guide to Curriculum Design: Enquiry-based Learning*. Higher Education Academy, York, available at: <http://78.158.56.101/archive/palatine/files/1009.pdf> (accessed 30/5/2011).
- Kassean, H., Vanevenhoven, J., Liguori, E. and Winkel, D.E. (2015), "Entrepreneurship education: a need for reflection, real-world experience and action", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 21 No. 5, pp. 690 – 708.
- Klapper, R. and Neergaard, H. (2012), "Five steps to heaven: from student to entrepreneur - an agenda for innovative pedagogy", European Summer University conference paper, Kolding, Denmark, 19-25 August.
- Klapper, R. and Refai, D. (2015), "A Gestalt model of entrepreneurial learning", in Rae, D. and Wang, C. (eds), *Entrepreneurial Learning: New Perspectives in Research, Education and Practice*, London, UK: Routledge, pp. 156-177.
- Klapper, R. and Tegtmeier, S. (2010), "Innovating entrepreneurial pedagogy: examples from France and Germany", *Journal of Small Business and Enterprise Development*, Vol. 17 No. 4, pp. 552-568.
- Kolb, D.A. (1984), *Experiential learning: experience as the source of learning and development*, Prentice-Hall, Englewood Cliffs, N.J., London.
- Kyrö, P. (2015), "The conceptual contribution of education to research on entrepreneurship education", *Entrepreneurship and Regional Development*, Vol. 27 No. 9, pp. 599-618.
- Lackéus, M., Chalmers University of Technology, Chalmers tekniska högskola, Department of Technology Management and Economics, Management of Organizational Renewal and Entrepreneurship – MORE & Institutionen för teknikens ekonomi och organisation,

- Management of Organizational Renewal and Entrepreneurship - MORE (2014), "An emotion based approach to assessing entrepreneurial education", *The International Journal of Management Education*, Vol. 12 No. 3, pp. 374-396.
- Lawrence, T. B. and Suddaby, R. (2006), "Institutions and institutional work". In Clegg, S.R. Hardy, C., Lawrence, T.B. and Nord W.R. (Eds.), *Handbook of organization studies* (2nd ed.), London, UK: Sage, pp. 215-254.
- Mason, J. (2002), *Researching your own practice: the discipline of noticing*, RoutledgeFalmer, London.
- Maguire, S. and Hardy, C. (2006), "The Emergence of New Global Institutions: A Discursive Perspective", *Organization Studies*, Vol. 27 No. 1, pp. 7-29.
- Nabi, G.R. and Bagley, D. (1999), "Graduates' perceptions of transferable personal skills and future career preparation in the UK", *Education + Training*, Vol. 41 No. 4, pp. 184-193.
- Nabi, G., Linan, F., Krueger, N., Fayolle, A. and Walmsley, A. (2016), "The impact of entrepreneurship education in higher education: A systematic review and research agenda", *Academy of Management Learning and Education*, published online before print March 10, 2016, doi: 10.5465/amle.2015.0026.
- Novak, S., Shah, S., Wilson, J.P., Lawson, K.A. & Salzman, R.D. (2006), "Pharmacy students' learning styles before and after a problem-based learning experience", *American journal of pharmaceutical education*, Vol. 70 No. 4, pp. 74.
- North, D.C. (1990), *Institutions, institutional change and economic performance*, Cambridge University Press, Cambridge.

- Patton, M.Q. (2002), *Qualitative research & evaluation methods*, 3rd edn, Sage, Thousand Oaks, Calif, London.
- Pittaway, L. & Hannon, P. (2008), "Institutional strategies for developing enterprise education: A review of some concepts and models", *Journal of Small Business and Enterprise Development*, Vol. 15 No. 1, pp. 202-226.
- Polit, D.F. and Beck, C.T. (2006), *Essentials of nursing research: methods, appraisal, and utilization*, 6th edn, Lippincott Williams & Wilkins, Philadelphia, Pa, London;.
- Price, B. (2003), *Studying nursing using problem-based and enquiry-based learning*, Palgrave Macmillan, Basingstoke.
- Pring, R. (2000), *Philosophy of educational research*, Continuum, New York.
- Rae, D. (2000), "Understanding entrepreneurial learning: a question of how?", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 6 No. 3, pp. 145-159.
- Rae, D. (2003), "Opportunity centred learning: an innovation in enterprise education?", *Education + Training*, Vol. 45 No. 8/9, pp. 542-549.
- Rae, D. (2005), "Entrepreneurial learning: a narrative-based conceptual model", *Journal of Small Business and Enterprise Development*, Vol. 12 No. 3, pp. 323-335.
- Rae, D. (2007), "Connecting enterprise and graduate employability: Challenges to the higher education culture and curriculum?", *Education and Training*, Vol. 49 No. 8-9, pp. 605-619.
- Refai, D. and Higgins, D. (2015). "Learning from within in EE – the role of a metagogy perspective to self", paper presented at the ISBE conference, 10-12 November 2015, Glasgow, UK.

- Refai, D., Klapper, R.G. and Thompson, J. (2015), "A holistic social constructionist perspective to enterprise education", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 21 No. 3, pp. 316-337.
- Refai, D. and Thompson, J. (2014), "Using EE to Prepare Healthcare Professional Graduates for the Real-world", *Industry and Higher Education Special issue*, Vol. 28 No. 6, pp. 427-438.
- Revans, R.W. (1982), *The Origins and Growth of Action Learning*, Bromley, U.K.: Chartwell-Bratt.
- Richards, P.S. and Inglehart, M.R. (2006), "An interdisciplinary approach to case-based teaching: does it create patient-centered and culturally sensitive providers?", *Journal of dental education*, Vol. 70 No. 3, pp. 284-291.
- Rideout, E.C. and Gray, D.O. (2013), "Does entrepreneurship education really work? A review and methodological critique of the empirical literature on the effects of university-based entrepreneurship education", *Journal of Small Business Management*, Vol. 57 No. 3, pp. 329-351.
- Sarasvathy, S. (2008a), "What makes entrepreneurs entrepreneurial", Social Science Research Network, Social science electronic publishing inc., available at: <http://ssrn.com/abstract=909038> (accessed 30/3/2016).
- Sarasvathy, S. (2008b), *Effectuation: Elements of Entrepreneurial Expertise*, Edward Elgar, Cheltenham.
- Savery JR (2006), "Overview of problem-based learning: definitions and distinctions". *The Interdisciplinary Journal of Problem-based Learning*, Vol. 1 no. 1, article 3, available at: Available at: <http://dx.doi.org/10.7771/1541-5015.1002> (accessed 11.1.2014).

- Savin-Baden M (2000) *Problem-based Learning in Higher Education: Untold Stories*, Open University Press/SRHE Buckingham, Buckingham.
- Savin-Baden, M. (2003), *Facilitating problem-based learning: illuminating perspectives*, 1st edn, Open University Press, GB.
- Savin-Baden, M. (2004), "Understanding the impact of assessment on students in problem-based learning", *Innovations in Education and Teaching International*, Vol. 41 No. 2, pp. 221-233.
- Savin-Baden, M. (2007), "Challenging models and perspectives of problem-based learning", in De-Graaff, E. and Kolmos, A. (ed.), *Management of Change: Implementation of Problem-based and Project-based learning in Engineering*, Sense publishers, Rotterdam, Taipei, pp. 2-29.
- Schindehutte, M., Morris, M.H. and Kuratko, D.F. (2000), "Triggering Events, Corporate Entrepreneurship and the Marketing Function", *Journal of Marketing Theory and Practice*, Vol. 8 No. 2, pp. 18-30.
- Scott, R. (1995), *Institutions and organizations – Ideas, Interests and Identities*. Thousand Oaks, CA: Sage.
- Shane, S., Locke, E.A. & Collins, C.J. (2003), "Entrepreneurial motivation", *Human Resource Management Review*, Vol. 13 No. 2, pp. 257-279.
- Shotter, J. (2006), "Understanding Process From Within: An Argument for 'Witness'-Thinking", *Organization Studies*, Vol. 27 No. 4, pp. 585-604.
- Shrivastava, P.A. (2010), "Pedagogy of Passion for Sustainability", *Academy of Management Learning and Education*, Vol. 9 No. 3, pp. 443-455.

Silverman, D. (2000), *Doing qualitative research: A practical handbook*. London: Sage Publications.

Solomon, G.T., Duffy, S. and Tarabishy, A. (2002), "The state of entrepreneurship education in the United States: a nationwide survey and analysis", *International Journal of Entrepreneurship Education*, Vol. 1 No. 1, pp. 65-86.

Sosabowski, M.H. and Gard, P.R. (2008), "Pharmacy education in the United Kingdom", *American Journal of Pharmaceutical Education*, Vol. 72 No. 6, pp. 130.

Srinivasan, M., Wilkes, M., Stevenson, F., Nguyen, T. and Slavin, S. (2007), "Comparing Problem-Based Learning with Case-Based Learning: Effects of a Major Curricular Shift at Two Institutions", *Academic Medicine*, Vol. 82 No. 1, pp. 74-82.

Stewart, D.W., Brown, S.D., Clavier, C.W. and Wyatt, J. (2011), "Active-learning processes used in us pharmacy education", *American Journal of Pharmaceutical Education*, Vol. 75 No. 4, pp. 68.

Survey of Entrepreneurship Education in Higher Education in Europe (2008), NIRAS Consultants, FORA, ECON PÖyry. The European Commission, Directorate-General for Enterprise and Industry, available at: http://ec.europa.eu/enterprise/entrepreneurship/support_measures/training_education/index.htm#survey (accessed 5/6/2009).

The Expert Group Report (2008), Entrepreneurship in higher education, especially within non-business studies, European Commission – Enterprise and Industry Directorate-General, available at: file:///C:/Users/Radi/Downloads/entr_highed_en.pdf (accessed 12/1/2011).

- Valliere, D., Gedeon, S.A. and Wise, S. (2014), "A comprehensive framework for entrepreneurship education", *Journal of Business and Entrepreneurship*, Vol. 26 No. 1, pp. 89-120.
- Walton, H.J. and Matthews. M.B. (1989), "Essentials of Problem-based Learning". *Medical Education*, Vol. 23 No. 6, pp. 542-558.
- Ward, J. and Lee, C. (2002), "A review of problem-based learning". *Journal of Family and Consumer Sciences Education*, Vol. 20 No. 1, pp. 16-26.
- Weick, K.E. (1979), *The Social Psychology of Organizing*, Second Edition, Reading, MA: Addison-Wesley.
- Weinrauch, J.D. (1984), "Educating the Entrepreneur: Understanding Adult Learning Behavior", *Journal of Small Business Management*, Vol. 22 No. 2, pp. 32-37.
- Welter, F., IHH, Centre for Innovation Systems, Entrepreneurship and Growth, IHH, ESOL (Entrepreneurship, Strategy, Organization, Leadership), Internationella Handelshögskolan & Högskolan i Jönköping (2011), "Contextualizing Entrepreneurship—Conceptual Challenges and Ways Forward", *Entrepreneurship Theory and Practice*, Vol. 35 No. 1, pp. 165-184.
- Williamson, O.E. (1975), *Markets and hierarchies: Analysis and antitrust implications: A Study in the Economics of Internal Organization*, University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship, available at: SSRN: <http://ssrn.com/abstract=1496220>.
- Young, J.E. (1997), "Entrepreneurship education and learning for university students and practising entrepreneurs", in Sexton, D.L. and Smilor, R.W., (Eds), *Entrepreneurship 2000*, Upstart Publishing, Chicago, IL, pp. 215-238.

