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The Significance of Problem-Based Learning in Developing Enterprise Skills for Pharmacy Students in UK HEI

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Abstract

This research focuses on enterprise education '*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, 2007, p.5) and its role in developing enterprise skills. Previous literature has identified several methods and objectives of enterprise education. On one hand there is formal education which is concerned with developing students' functional skills that affect their ability to perform actions and carry out different tasks, whereas on the other hand there is informal enterprise education which is concerned with developing students' behavioural skills that involve enterprise skills and affect the way by which different tasks are carried out.

Many aspects of informal enterprise education and its role in developing the necessary enterprise skills require further investigation, especially the contextual boundaries of specific methods and objectives. Previous literature has called for researching enterprise skills with a special emphasis on examining the specific discipline-based approaches; this is important since many of the enterprise skills recognized in literature as core skills are not expected to be equally evident or applicable across different disciplines, which makes it important to research the specific objectives and methods of enterprise education applicable in specific academic contexts as pharmacy, engineering, medicine...etc. Now at the end of the first year of a three year programme of doctoral research; this research aims to investigate the informal enterprise education methods applied within the context of pharmacy education, and the specific enterprise skills that this education aims to develop for pharmacists. More particularly it will focus on the contribution of Problem-Based Learning (PBL) to this process, along with an evaluation of whether these skills match the needs of the pharmacy marketplace. To-date, the development of pharmacists' enterprise skills has been primarily carried out by their employers as part of career development, and it is not yet clear whether Higher Education (HE) could contribute to this process, and if so whether the development of enterprise skills should be embedded as part of HE curricula or remain as optional. Is it seen as an opportunity or will it add more constraints to the educational process?

The significance of this research is emphasized in light of globalisation which has brought about rapid changes in economies, technologies and competitive environments. Such changes have promoted the need for lifelong learning skills, and emphasized the need to link theory with practice in the educational process. It is no longer sufficient to have knowledgeable employees to drive the success and growth of organizations; employees who could meet major challenges of skills development are essential for the sustainability of their organizations. This has shifted the market demand toward HE graduates who are capable of exhibiting enterprise skills and competing on an international level.

Introduction

Recently, the importance of entrepreneurship education and its relation to the development of enterprise skills has grown significantly. Nevertheless, the words entrepreneurship and enterprise are used rather interchangeably, and many questions about entrepreneurship itself and its relation to the development of entrepreneurial and enterprise skills remain unanswered. In the research reported in this paper, the term 'enterprise skills' refers to generic transferable skills that are related to employability and can be utilized in various situations and contexts. These skills are necessary for demonstrating an enterprising behaviour which is essential for success at the personal and career levels. Such skills involve being up to responsibility, showing initiative, creativity, organization, communication, as well as motivation and commitment. The term 'enterprise education' refers to the processes or series of activities used to enable students to demonstrate these skills.

The focus of entrepreneurship definitions is on '*process and content*' (Henry, Hill & Leitch, 2005a). Entrepreneurship has been described as a process of creating an economic entity that is built on a new or at least different product or service than those available in the market (Curran and Stanworth, 1989). Entrepreneurship is also defined as the starting up of new Small and Medium-sized Enterprises (SMEs) (Low and McMillan, 1988). Bruyat and Julien (2000) observed entrepreneurship to be "*concerned first and foremost with a process of change, emergence and creation: creation of new value, but also, and at the same time, change and creation for the individual*" (p. 173).

Accordingly, it becomes clear that, unlike entrepreneurship education, enterprise education is relevant to all students in all disciplines because not everybody can become an entrepreneur but everyone can learn to become more enterprising. The questions remain: which skills are relevant to each discipline and how are they best developed? Which of these skills could be developed as part of HEI education?

This research aims to help UK HEI in developing enterprising pharmacists. The research will investigate how and to what extent enterprise education is embedded within pharmacy disciplines in UK HEI, and the role of this education in equipping pharmacy graduates with the necessary enterprise skills – as per the needs and requirements of the increasingly more complex pharmacy working environment. The research will also focus on the contribution of PBL to the process of enterprise education and the development of necessary enterprise skills. More specifically, this research aims to address the following broad research objectives:

- To study the significance of enterprise education in relation to pharmacy students in HEI
- To study the employer's perception of needs and expectations of enterprise skills in pharmacy graduates
- To establish the value of the contribution that PBL can make for pharmacy students in HEI

The Significance of Enterprise Skills

Due to the rapidly growing demands of today's global economy; major changes are being introduced to the ways economies are operated and the ways organizations are established and managed (Best, 2001; Child and McGrath, 2001). Accordingly, the need has never been greater for HE graduates who could compete on an international level, and demonstrate a level of thinking and behaviour that allows for developing various business ideas and achieving effective enterprising environments and organizational growth in various contexts. Such skills are essential not only for graduates planning to become independent entrepreneurs and start their own business, but also for those who simply want to successfully compete in the employment market. This is important since whether starting a new enterprise, or behaving as an employee in an enterprising way that leads to new or improved products, services or processes; the word enterprise would still incorporate the meaning of having an idea and making it happen.

In light of the current economic environment it is also becoming increasingly difficult to secure a life-long job especially with the degree of organizational 'downsizing' (Nabi and Bagley, 1999), and the increasing number of graduates competing for a limited number of job openings in the marketplace (e.g. Singh, 2008). This situation has shifted many graduates away from the traditional life-long jobs toward 'portfolio careers', 'intelligent careers' or 'Boundary-less careers' where they build up the skills and traits that add up to their reputation as indispensable organization resources. This is basically done by changing few jobs, becoming self employed for a while or seeking new opportunities within the same organization. All this added to the need for enterprise skills that allow for better handling of changes and uncertainties of the dynamic environment (Handy, 1985; Moss-Kanter, 1989; Driver, 1994; Arthur *et al.*, 1995; Winsborough *et al.*, 1997; Collins *et al.*, 2004; Hytti and O'Gorman, 2004; Galloway *et al.*, 2005).

Additionally, employers are increasingly focusing on and valuing the skills demonstrated by graduates. For example, one UK 3M representative argued that without such skills it is not possible for organizations to innovate and successfully market their products and services. Hiring is no longer an issue of filling vacancies but more about investing in individuals who are capable of demonstrating the skills necessary to fulfil organizational tasks effectively (Mallon, 1998; Templer and Cawsey, 1999; Sullivan, 1999). Therefore, it is argued that the financial stability of individuals is relying more and more on their ability to learn and demonstrate the skills necessary for handling the requirements of the dynamic work environment (Handy, 1985).

Subsequently, the need to deliver enterprise and entrepreneurship education has grown significantly over the past years, and a growing trend toward applying such education is seen in HEI. The following section highlights the methods and objectives of enterprise and entrepreneurship education that have been identified. In doing so it illustrates the needs and value of each.

How is Enterprise and Entrepreneurship Education Delivered?

A three-category framework has been suggested to categorize the objectives of enterprise education. Here a distinction is made between education about, for and into enterprise. The first type basically deals with creating awareness about enterprise and entrepreneurship. Education for enterprise has the specific objective of preparing entrepreneurs and encouraging participants to start up their own business. Whereas education into enterprise deals with providing the skills necessary for carrying out various organizational tasks effectively. Such

categorization is important to understand the different roles that enterprise education plays. This is further discussed in the following paragraphs.

Teaching about enterprise is primarily a theoretical approach to introduce students to the concept of entrepreneurship and the management aspects of starting a business and running it. This area of teaching focuses as well on the role that entrepreneurs and entrepreneurship plays in the development of economies and societies (Jameison, 1984, Gibb, 1999). This education is usually provided by business schools to those interested in entrepreneurship education, and may be provided to students in primary or secondary education levels or included as undergraduate entrepreneurship modules (Jameison, 1984). It is argued in literature that such education about enterprise can influence students' future decisions about becoming entrepreneurs since they come to realize the availability of entrepreneurship as an option (Oakey *et al.*, 2002; Vesalainen *et al.*, 1999).

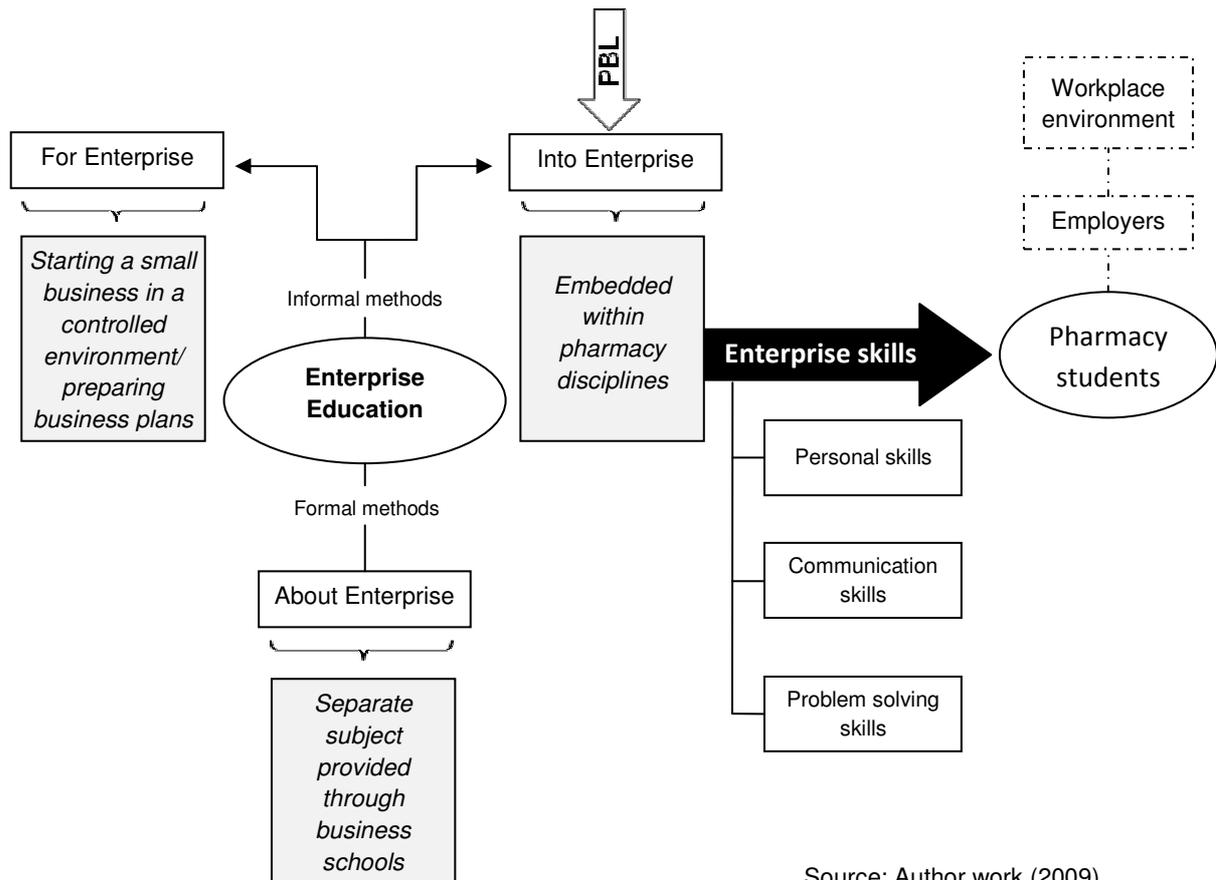
Teaching for enterprise deals with preparing entrepreneurs who look up to becoming self employed with a specific objective of motivating students to start up and run their own business (Jack and Anderson, 1999; Solomon *et al.*, 2002; Henry, Hill & Leitch, 2005a). This is basically done by enhancing students' business and managerial skills mainly through exposing them to real experiences and encouraging them to prepare business plans. Gibb (1999) described this objective as learning for the objective of 'how to' become an entrepreneur by learning the different aspects of starting and running a new business. The objective of teaching for enterprise is better understood by encouraging students to try to become entrepreneurial by manipulating various ideas. For example, this can be done by starting a small business in a controlled environment and explaining the skills and knowledge needed to manage the business and be an entrepreneur (Hytti and O'Gorman, 2004).

Teaching into enterprise is however the focus of this research. It deals with preparing people and helping them in adopting an enterprising approach in different areas of life. Such education is provided for established entrepreneurs to train them about various managerial aspects, with a focus on how to ensure the growth and future development of the business (Henry, Hill & Leitch, 2005a). This teaching is also directed generally to people for the purpose of enhancing their skills, knowledge and attitudes that would help them in building their own futures, handling their own problems and tackling solutions of the real marketplace (Jameison, 1984). Therefore teaching into enterprise is not considered to be related only to the business world, but also to courses that aim to develop people who are capable of adopting an enterprising approach within different types of organizations in such a way that would create and add value to available careers and organizations (Jack and Anderson, 1998; Gibb, 1999; London and Smither, 1999, Henry, Hill & Leitch, 2005a).

In this type of education PBL is frequently applied as a vehicle, this type of learning has been defined in literature as '*Learning that is centred around a problem, a query or a puzzle that the learner wishes to solve*' (Boud, 1985). Here students are provided with a problem based on which they would have to list facts and figure out possible ideas in order to identify what they need to learn, seek the relevant information and come up with an action plan to solve the situation. Thus, the problem acts as the context and driving force for learning.

Figure (1) represents the conceptual framework of this research. Among the three types of enterprise education, the figure represents education into enterprise as part of informal enterprise education, where embedding enterprise into pharmacy curricula results in the development of a range of generic transferable enterprise skills for pharmacy students. PBL represents one way to embed enterprise in curricula, where the problem acts as the context and driving force for the learning process. The enterprise skills developed vary between personal skills, communication skills and problem-solving skills which are all essential as employability skills that are highly valued by employers in the workplace environment. Thus these skills are expected to help graduates pursue their career path more easily, and act as effective employees who will support the growth and survival of the organizations they work for.

Figure (1): Developing enterprise skills through embedding enterprise education within disciplines



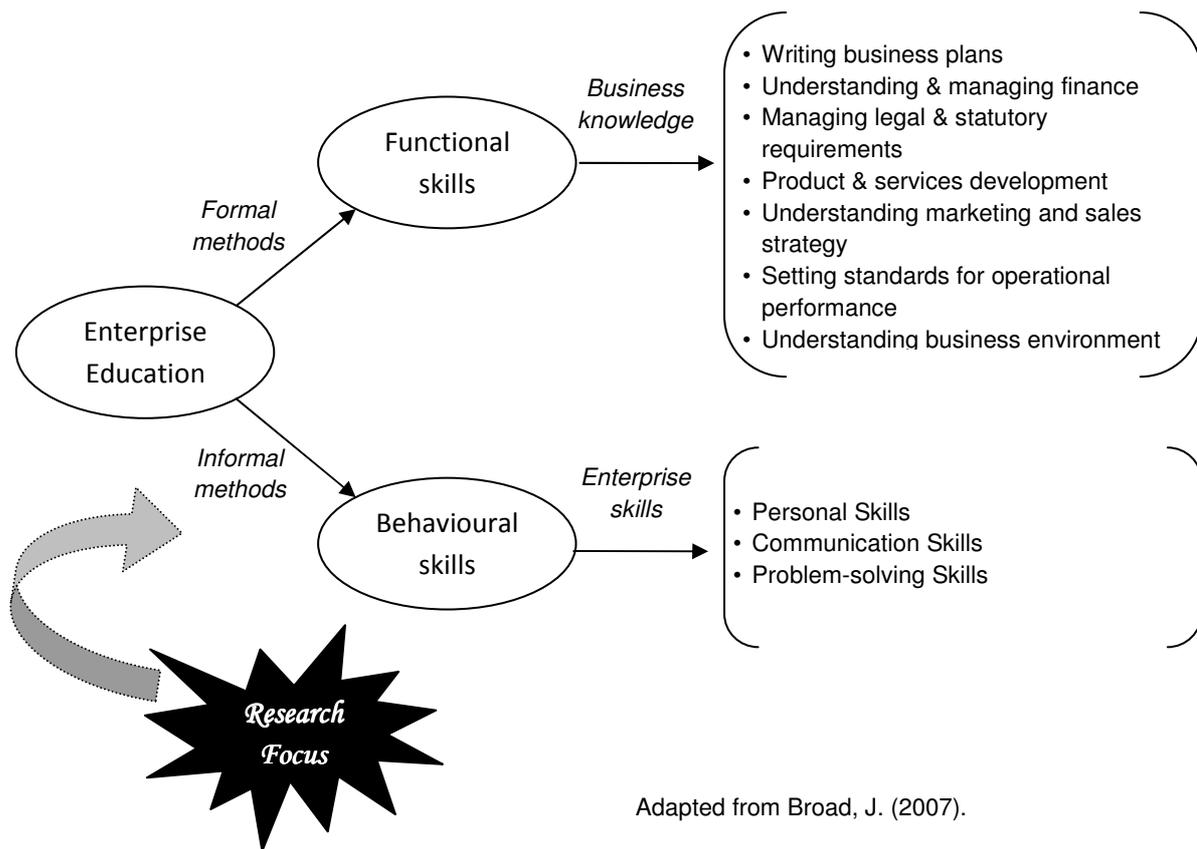
Source: Author work (2009).

There have been a lot of debates regarding what skills fall under enterprise skills, and it is recognized that not all are applicable or equally evident in different disciplines. This research will investigate the generic transferable skills related to employability, with a focus on those skills applicable in the pharmacy context. The following section discusses the skills identified for this purpose.

Skills Identified

Nabi and Bagley (1999) argued that it is possible to develop a template of enterprise skills for students through education into enterprise where they summarized such skills into a range of personal skills, communication skills, and problem-solving skills. Figure (2) below represents how the two types of formal and informal education methods are responsible for the development of two sets of distinctive skills. The focus of this research will be on informal education methods that are responsible for developing student's behavioural skills among which are enterprise skills that affect the way by which different tasks are carried out. Such education is provided through embedding enterprise within the students' curricula through – for example – case studies, workshops and practical trainings. This of course differs from the other type of formal education methods which are applied with the objective of developing a range of functional skills that affect students' ability to perform actions and carry out different tasks that are essential for entrepreneurs planning to start up a business.

Figure (2): Providing enterprise education through formal and informal educational methods



A number of enterprise skills have been identified, but for purposes of this research the following range of skills in table (1) was compiled from several sources (see, for example, Guirdham and Tyler, 1992; Nabi and Bagley 1999; Broad, 2007) to reflect this research interpretation of enterprise skills.

Table (1): A list of enterprise skills and attributes

Skills	Personal Skills	Communication Skills	Problem-solving Skills
Attributes	<ul style="list-style-type: none"> • Being up for responsibility and a leadership role • Confidence and self awareness • Ability of self-assessment • Team skills and working with others • Ability to assess situations/ ideas and achieve results • Time management • Planning and organizing, establishing priorities • Flexibility in doing things • Assertiveness, persistence and tenacity • Working well under stress • Creative thinking, idea generation and thinking outside the box 	<ul style="list-style-type: none"> • Good written communication • Ability to explain, influence and persuade others (including stakeholders) • Presentation and negotiation skills • Listening skills • Networking, and building and managing relationships 	<ul style="list-style-type: none"> • Finding information • Assessing information • Decision making (with reflective thinking) • Numeracy • Judgement • Conceptual thinking • Computer literacy

Source: Author work (2009)

Therefore, education needs to be associated with more enterprising approaches that would encourage students' active involvement in the learning process. Education should focus on developing graduates' generic transferable skills that would benefit them throughout their lives in today's dynamic work environment.

Accordingly, enterprise education is important to support graduates' employability and career development since it focuses on developing enabling skills and not just passing of knowledge. Following is a summary of some of the aspects that added to the significance of enterprise skills for pharmacy graduates in specific.

The Significance of Enterprise skills for Pharmacists

Whether working in the clinical, industrial, retail or sales and marketing field; pharmacists will be exposed to a dynamic environment. For example, the knowledge acquired in the pharmacy field is related to continuously changing information about drugs, their processing methods and indications, which necessitate developing students' life-long learning skills in a way that would help them cope with such changes. Pharmacists also face various industrial problems and critical clinical incidences that need to be addressed with a high level of problem-solving skills. Additionally, besides dealing with patients, pharmacist in the retail field will have to deal with different customer complaints and requests that add to the need for having the suitable communication skills.

The Continuous Professional Development (CPD) requirement – which helps pharmacists keep up-to-date regarding what is new in the pharmacy field – is another issue that emphasizes the need for enterprise skills for pharmacists. Here, life-long learning skills play a major role in helping pharmacists achieve the required level of development. This is now a mandatory requirement for pharmacists to maintain their registration as practicing pharmacists in many formal associations at different parts of the world; as the Royal Pharmaceutical Society in UK (Shaw, Lacey, Leighton and Warner, 2006).

These among other factors – as regulatory and legal affairs, Good Manufacturing Practices (GMP) issues and other – add to the need for pharmacists who have the necessary enterprise skills to help them deal with the various needs of the dynamic market they operate in.

In brief, the main intent behind enterprise education is not only to leave pharmacists with a theoretical mastery of relevant concepts, but more importantly to equip them with the necessary skills and personal qualities. To understand the contribution of this research more clearly; the following section explains the research potential and contribution to this area of knowledge.

Research Potential

This research will contribute to knowledge by adding more clarity to the enterprise education process, and helping pharmacy academics in HEI decide more specifically on what needs to be taught to pharmacy students and how. Opinions of employers, academics and students will be considered to shed more light on the importance of enterprise skills to pharmacy students and more specifically the significance of problem solving skills. In addition to the significance of the educational process in developing students' knowledge and ability to carry out tasks, the research will begin to fill the gap in literature by concentrating on the significance of the educational process in HEI on the development of students' skills and the way they carry out different functions. The research will give more attention to the educational methods by which PBL is delivered and the specific skills developed by this type of learning. Thus, the research is expected to help pharmacy academics in HEI understand the process and significance of enterprise education more clearly, and decide on the best means by which enterprise skills could be developed for students by embedding the appropriate educational vehicles within the curricula.

As highlighted in this report; enterprise education is about enterprising people and not just entrepreneurs, and thus should be available for everyone. Enterprise education helps students engage with the needs of the real-world economy, and is thus capable of helping pharmacists become more effective managers and leaders regardless of the route they choose in their career path. Such an issue is receiving more attention by governments, companies and Higher Education Institutions (HEI). Gordon Brown, UK PM, said '*if we want enterprise in our boardrooms we need to start in our classrooms*'. Through its focus on real-life knowledge and understanding of business and working environments; enterprise education can provide the opportunity to develop a strong and skilled workforce with the necessary level of skills needed to enhance businesses' global competitiveness, which is essential for the survival and sustainability of any organization.

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