

# Entrepreneurship Education and Finnish Society

**Paula Kyrö**

*School of Economics and Business Administration at University of Tampere*

*E-mail: [paula.kyro@uta.fi](mailto:paula.kyro@uta.fi)*

## Abstract

The discussion between entrepreneurship and education strengthened towards the end of the 20<sup>th</sup> century due to the increasing impact of small businesses on societies. It is therefore reasonable to assume that present-day students may soon experience the small business context in some form as their future work environment. The supply of entrepreneurship courses is, in fact, one of the fastest growing themes in university teaching in both sides of the Atlantic. The Finnish government has also taken this fact as one of the key issues in its policy programme and committed to entrepreneurship education throughout its school system.

The dilemma will be faced however when it comes to the current contribution of the education to the educational theories. The discussion of how to learn entrepreneurship and develop pedagogy for it has only taken very preliminary steps. So far the focus has changed from the trait theories of biological heritage, i.e. assuming that we are born to be entrepreneurs, towards the belief that we learn to be entrepreneurs and we learn how to behave like entrepreneurs. This education-oriented focus has, however, generated studies in entrepreneurship research rather than attracted education researchers. This article suggests that the lack of this contribution appears as an apparent shortage of pedagogical discussion. In order to encourage this debate as an interplay between these two sciences, this paper delineates some elements of entrepreneurial pedagogy, compares them to the available learning paradigms and thus gives some ideas for further enhancing entrepreneurial learning in different levels of school system.

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## 1. Why Is Entrepreneurship Education Important?

Entrepreneurship education has slightly less than a 30-year history in science. Three findings have stimulated its development since the 1970s. The first was the fact that small businesses and organisations, rather than large firms and institutions, created new work (Drucker 1986). The second was the perception that entrepreneurship is more an

educational than biological issue and, third, that the growth in number of small businesses and entrepreneurial behaviour in organisations had larger cultural roots than previously thought.

These findings have, however, generated studies in entrepreneurship, rather than attracted education researchers. Perhaps this is due to the tendency to perceive entrepreneurship as an individual- and business-oriented rather than educational and social-oriented phenomenon (e.g. Grant 1998; Scott, Rosa & Klandt 1998). Also, research on entrepreneurship education has focused more on curriculum and content questions than on pedagogy and the dynamics of learning. Only recently the need to combine educational studies to entrepreneurial processes has started to attract academics (e.g. Gorman, Hanlon and King 1997; Grant 1998; Scott, Rosa & Klandt 1998).

Along with this development, the number of institutions offering entrepreneurship courses has risen in many western countries (e.g. Mendies & Gasse 1999; Vesper & Gartner 1999). Several international studies have reported an increase in the supply of **university-level** courses on entrepreneurship. For example, the latest Vesper and Gartner's study (1999) identified out that the number of universities offering entrepreneurship courses in the USA had increased from 85 in the 1970s to 383 in the end of the 1990s. Studies from Canada and France reported a similar trend (Fayolle 2000; Mendies & Gasse 1999). **The content** of the courses involved such topics as a new business foundation, business plans, small business management and e.g. project management. A similar study from Finnish universities revealed that in 1996/1997 eighteen universities out of 21 offered various entrepreneurship courses as a major or part of a major in management or engineering and as a minor or separate course also in other fields. The contents were similar to those in other countries.

Regarding the current state of **educational research on entrepreneurship** and especially its pedagogy we have taken only very preliminary steps (e.g. Gibb 2001; Kyrö 2001). Scott, Rosa & Klandt (1998) suggest that so far we have only gathered experiences on various case studies and now there is a need to focus on basic concepts and pedagogy. The first PhD or licentiate level thesis on entrepreneurship education emerged only at the end of the 1990s. The recent Finnish contribution in this is apparent (Erkkilä 2000; Kyrö 1997; Leskinen 1999; Nevanperä 2003; Pihkala 1998; Remes 2003; Soininen 2000).

The European Union has also prioritised entrepreneurship as one of the key factors for enhancing the prosperity of its member countries. The need for entrepreneurial practices is obvious in the Lisbon European Council's aim to develop the Union into the most competitive and dynamic knowledge-based economy in the world, which is capable of maintaining economic growth, generating new and better jobs and creating social coherence. Further the EU Employment Guidelines sets entrepreneurship as a priority in the education system. The European Commission's Green Paper *Entrepreneurship in Europe* assumes encouraging entrepreneurship by fostering the right mindset, entrepreneurship skills and awareness of career opportunities as an entrepreneur.

The report identifying the current situation of entrepreneurship education in the European Union school system was published in 2002 (European Commission 2002). The report indicated considerable differences between countries related to the position of entrepreneurship education in **national educational systems** ending up to recommend that the importance of entrepreneurship teaching should be acknowledged in the **national curriculum** as well as in the curricula for each level of the educational system. This was also recommended to be one of the key qualitative indicators for

entrepreneurship education. In this respect only Finland has extensively included it in the curricula of primary and secondary levels, as well as initial vocational training. Yet ten out of sixteen member countries recognised considerable national policy commitment to promote entrepreneurship in education.

All these three perspectives on entrepreneurship education – the development of the number and content of courses, the recent emergence of educational research and the current state in educational system – reflect an apparent consensus in the need to supply entrepreneurship education and especially its pedagogy. However, the short history of entrepreneurship education indicates that it is not possible to share mutual collective insights, understanding and knowledge on how to do it.

This encourages suggesting that in order to advance educational debate there is a need to combine educational contribution to entrepreneurship studies and address more attention to the dynamics of learning. Since Finland seems to offer the strongest national intention and commitment to that within European community this article first describes these national efforts and their demand on developing theoretical bases for entrepreneurship education and only then delineates the current state of pedagogy on entrepreneurship research and, on the other hand, suggests some basic educational premises for advancing the debate of entrepreneurship pedagogy.

## **2. Entrepreneurship Education in Finland**

Finland has altogether about 226,000 enterprises, of which 99.8 per cent are small and medium-sized employing over 55 per cent of the labour force (<http://statfin.stat.fi>; 2004). In order to anticipate the expectations of the European Community and need to expand the number of entrepreneurs, to increase the competencies of existing and future employees especially for SMEs, as well as to help new generation to take over family businesses, the Finnish Government generated a special policy programme as a part of the Government's economic and industrial policy. The Ministry of Trade and Industry coordinates the programme and the Ministry of Education provided its implementation plan for entrepreneurship education to be adopted in April 2004. This programme assumes measures to promote entrepreneurship at different levels of education, to enhance the attractiveness of entrepreneurship as a career, to take account of the needs of small and medium-sized enterprises (SMEs) in education policy projects, to develop advisory services geared to entrepreneurs who hire employees and to improve business owners' opportunities for apprenticeship training.

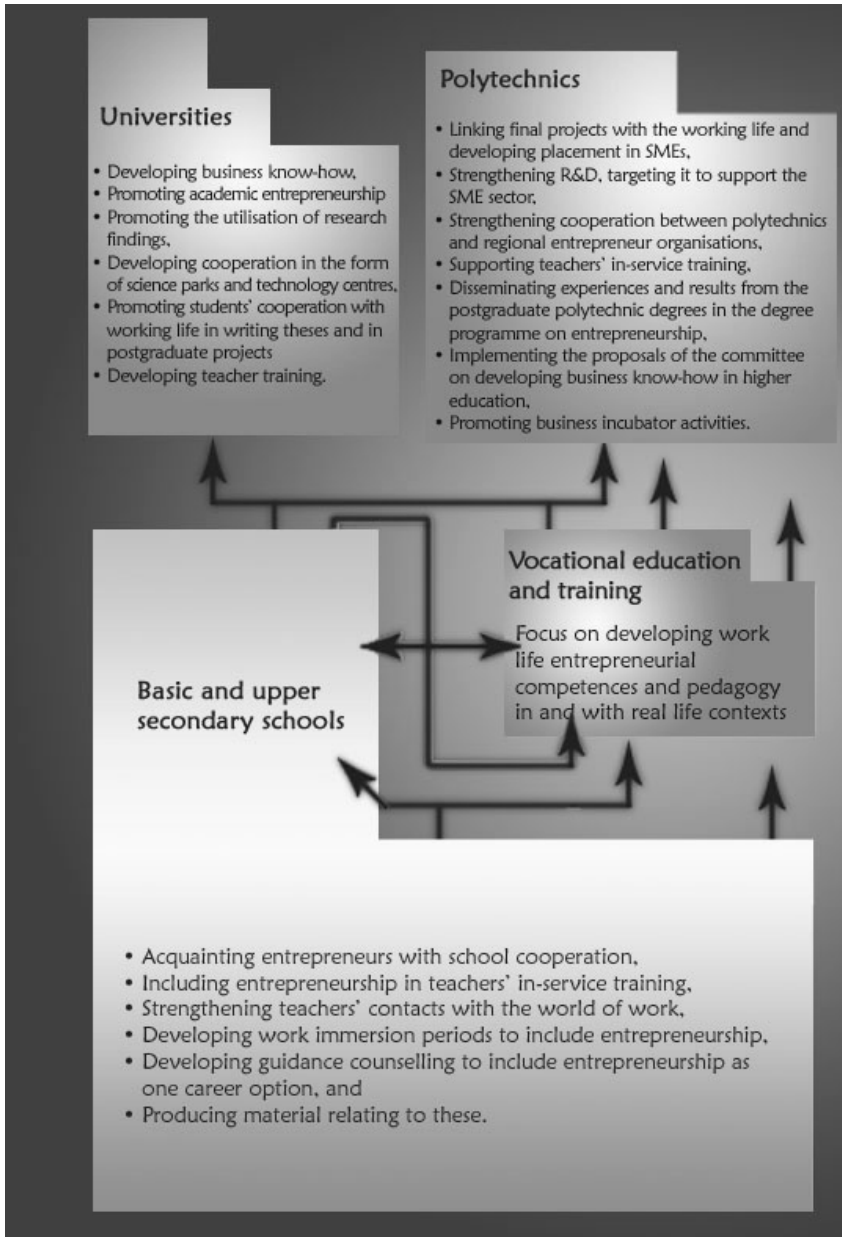
Thus the Development Plan for Education and Research 2003–2008 integrated entrepreneurship education into the education system assuming that a mindset favourable for entrepreneurship creates a basis for it. As a concept, it regards entrepreneurship education as being interdisciplinary. It also stresses the significance and need of new research for widening the knowledge base of the learning processes and pedagogy conducive to entrepreneurial action.

In its own sector the Ministry of Education sets the following aims for entrepreneurship education:

- 1) The creation of an entrepreneurship culture and a mindset and climate conducive to entrepreneurship;
- 2) The promotion of internal and external entrepreneurship, the creation of new business, and innovation; and

3) Support to entrepreneurs and their businesses and to generation changes in businesses.

*Figure 1. The Finnish School System and Entrepreneurship Themes in Education in the Sector of the Ministry of Education*



The first and second aims concern all pupils and students in the education system. The aim is that schools, together with other stakeholders, raise pupils' awareness of the significance and potential of entrepreneurship.

The third aim concerns especially the development of vocationally and professionally oriented education (such as apprenticeship training; further and specialist qualifications for entrepreneurs) with a view to enhancing entrepreneurs' professional skills and business development and supporting generation changes in businesses.

These aims of Finnish society not only challenge but demand to develop and to investigate education- and pedagogy-oriented approaches to entrepreneurship education. The crucial points of this demand are highlighted by first delineating the entrepreneurial qualities and then comparing them to the available learning paradigms.

### **3. Entrepreneurship Research Provides Bases for Entrepreneurship Education**

Three scientific discussions offer different approaches to entrepreneurship education.

1. The dialogue between firms and innovations
2. The human individual-oriented approach
3. The broader cultural approach to entrepreneurship

#### **3.1. The Dialogue between Firms and Innovations**

This first approach focuses on new venture creation, opportunity recognition, new economic activities and innovativeness (e.g. Timmons 1994). Growth is often combined with the debate on newness or is taken as a measure of it (e.g. Davidsson, Delmar & Wiklund 2002; Venkataraman 1997). Basically, the focus in this debate is on the dialogue between innovation, growth and firms and/or businesses. Consequently, entrepreneurship is defined as a new economic activity.

The contribution of this dialogue to entrepreneurship education is not so obvious, since it is easy to argue that both education and entrepreneurship are human sciences or fields of science and, thus, the human being, the **entrepreneur and his/her behaviour, are the points of departure and the centre of the education.** If we forget this, we lose our phenomenon and the whole debate on entrepreneurship education becomes useless.

As a point of departure and focus of this definition is activity, not the actor. It emphasises identifying new economic activities and focuses less on those creating these activities.

On the other hand, the qualities or outcomes of this dialogue can refer to both individuals and businesses or firms, thus providing attributes for entrepreneurial learning. Thus, entrepreneurship education contains qualities that are related to new venture creation and an opportunity recognition involved in it.

However, this view has also been challenged, for example, by Carland and Carland (1991), who suggest that it is, indeed, difficult to define entrepreneurship without entrepreneurs. A similar conclusion can be drawn also from Groen's writings (Groen 2003). He defines entrepreneurship as a context dependent process, through which individuals and teams create wealth by bringing together unique packages of resources to exploit market place opportunities. This definition expands the scope and content of entrepreneurship in two respects; first the definition combines it to individual

activities and their context and, second, its focus is on wealth creation instead of growth. This leads us to the second category of dialogues, which is focused on human beings.

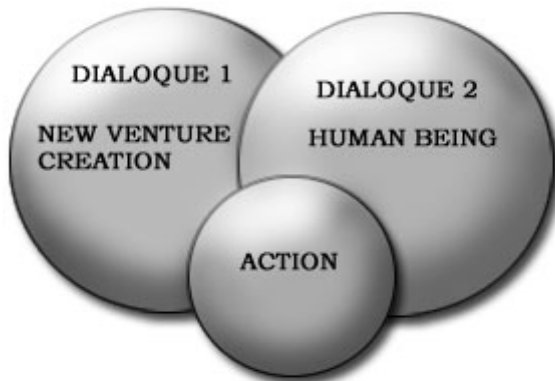
### 3.2 The Human Individual-oriented Approach

Since the 1950s, the individual, entrepreneur-oriented discussion has focused on trait-theories with efforts to identify those biological features that differentiate entrepreneurs from non-entrepreneurs. However, a more recent debate has left behind the biological interpretations and, through behavioural theories, started to inquire into educational discussion that focuses on the learning aspects of entrepreneurial behaviour (e.g. Gibb 1993). Especially in the 1990s, the human individual, and also collective processes of creating new activities, has started to attract European researches.

This recent dialogue poses such questions as how human beings learn to be entrepreneurial, and more specifically, how they learn to be creative, learn to recognise opportunities, learn to combine opportunities and resources in a novel way and, finally, how they create new activities from these possibilities.

From historical perspective, the role of human actor and his behaviour is also evident, for example, in Barreto's historical analyses (Barreto 1989). Barreto claims that entrepreneurship disappeared from microeconomic theories. He actually draws a line between entrepreneurship research and microeconomic theories in the disappearance of the role of an entrepreneur. Combining of these two dialogues offers another dialogue for the entrepreneurship education, which identifies the elements of entrepreneurship education and the relationship between these elements. These are delineated in Figure 2. The basic question might be formulated, for example, how do individuals learn to create new ventures by recognising opportunities.

*Figure 2. The Elements of Entrepreneurship Education*



Following these hints we reach the third category of entrepreneurship dialogues that combines these two dialogues and offers a key to understanding the bases of entrepreneurial behaviour.

### 3.3 The Broader Cultural Approach to Entrepreneurship

The broader cultural approach to entrepreneurship is linked with economic development, liberalism and democracy. It is based on cultural transitions, which differentiates it from a more familiar, evolutionary approach (evolutionary approach Schumpeter, transitional approach Kyrö 1997, 2002). The cultural approach suggests that entrepreneurship has been found important in two cultural transitions, at times when the ideas of freedom and need for a new kind of reality have been especially essential for society's success (Kyrö 1997, 2002). In both transitions the role of entrepreneurship relates to change in its broad sense by creating new practices and breaking down old systems and institutions. Since the concept of culture at the same time refers to human individual and collective behaviour, it combines both previous dialogues and also provides an opportunity to combine the time span to the discussion of entrepreneurship education.

The first, modern transition, took place in the beginning of industrialisation from the 18th to the beginning of the 20th century when the traditional era ended (e.g. Dillard 1967; Beck et al. 1995; Harvey 1990; Turner 1990). The descriptions of entrepreneurship followed the industrialisation and liberalisation processes from country to country. The modern transition developed into a modern era, which, for its part, started to draw near to its close in the 1970s, when the post-modern transition occurred.

The first transition began when the scientific descriptions of entrepreneurship were born in France during the Enlightenment. At the end of the Middle Ages in France, two institutions, feudalism and the crafts system, were coming to an end. The roots of this broader approach in science can be found from the ideas of the French physiocrats during the 18th century. They opposed mercantilism, feudalism and the craft system. For them, entrepreneurship referred to a farmer and farming in free circumstances

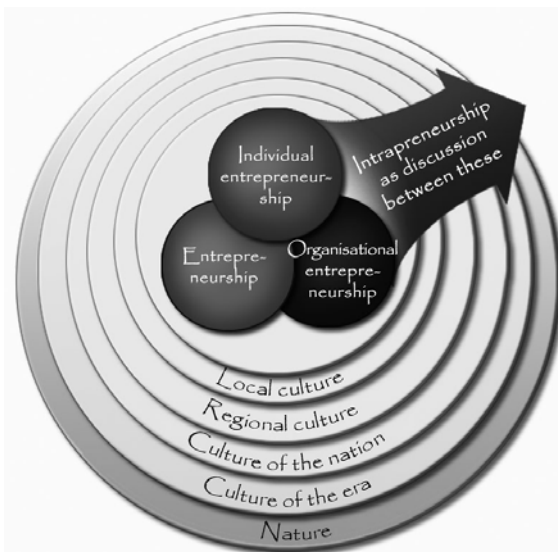
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24.3.1999). Instead of the hereditary system, privileges and institutions, citizens started to demand freedom for trade and industry: in general, freedom to decide how to earn their living. (Dillard 1967; Lindeqvist 1905).

Thus, the early contributors of entrepreneurship focused on the right and ability of free human beings to create their own welfare and living. This was supposed to be achieved through creative human action by combining resources in a novel way, applying new knowledge and taking risks in this process. It

**Figure 3. Cultural Approach to Different Forms of Entrepreneurship**



was often described as a special kind of management and ownership combined together in the same entity. These early discussions were then addressed to different contexts. First, during the modern transition, they were attached to the dynamics between an individual and society and then, during the modern era, to small businesses and finally during the post-modern transition, to larger organisations (Kyrö 2000). As an outcome, these practices broke old systems and hierarchies and created new practices. The qualities used in these early discussions have also been used in contemporary dialogues.

From historical perspective, each era produced its own models of entrepreneurship according to its specific needs. In each era, the descriptions of entrepreneurship focused attention on new, emerging phenomena. In the transition from traditional to modern, this target was, on the one hand, the economic process at the macro-level and, on the other hand, the extraordinary individual producing this process. The macro-level was lost in the modern era and attention was directed to the small enterprise, where management and ownership are manifested in the same entity. In the transition from modern to post-modern, entrepreneurship again found a new object, now a product of the modern era, the organisation. Thus, time itself has produced three different kinds of present-day entrepreneurship: 1. The small enterprise, meaning the individual entrepreneur and his firm; 2. Intrapreneurship, meaning an organisation's collective behaviour; 3. Individual, self-oriented entrepreneurship, meaning an individual's self-oriented behaviour. The framework of this approach is delineated in Figure 3.

Figure 3 indicates

- that it is possible to view entrepreneurship education as an individual and collective learning process, but
- also that these two are interactive and, thus, inseparable processes.

The cultural, transitional approach also provides qualities for entrepreneurial behaviour, thus generating the bases for entrepreneurial learning.

From the educational perspective, the core of learning is human being, the entrepreneur. The cultural approach views him/her as a holistic, extraordinary human being who, by combining resources in a novel way, by applying new knowledge, taking risks and making decisions involved in that, creates something new (Barreto 1989; Dahmen et al. 1994; Kovalainen 1993; Kyrö 1999; Lovio 1993; Weber 1969)<sup>1</sup>. Actually, the major differences between contributors focus on the target of the entrepreneurship and the role of a human being, rather than the qualities of the phenomenon. Consequently, it is possible to search for pedagogical bases that characterise entrepreneurship from those qualities.

If we look at the assumptions concerning the idea of human existence involved in entrepreneurial qualities, we can identify three basic elements: **1. perceiving opportunities in environment and being able to combine and attract needed resources requires a holistic attitude towards the world; 2. being a holistic individual refers to a holistic view of human being; 3. the special qualities of this human being are manifested in an extraordinary, risk-taking, creative, free and responsible actor.** These three elements can be regarded as the principles guiding entrepreneurial learning i.e. the principles of entrepreneurial pedagogy. From an educational perspective, the way these qualities are perceived is manifested in learning paradigms.

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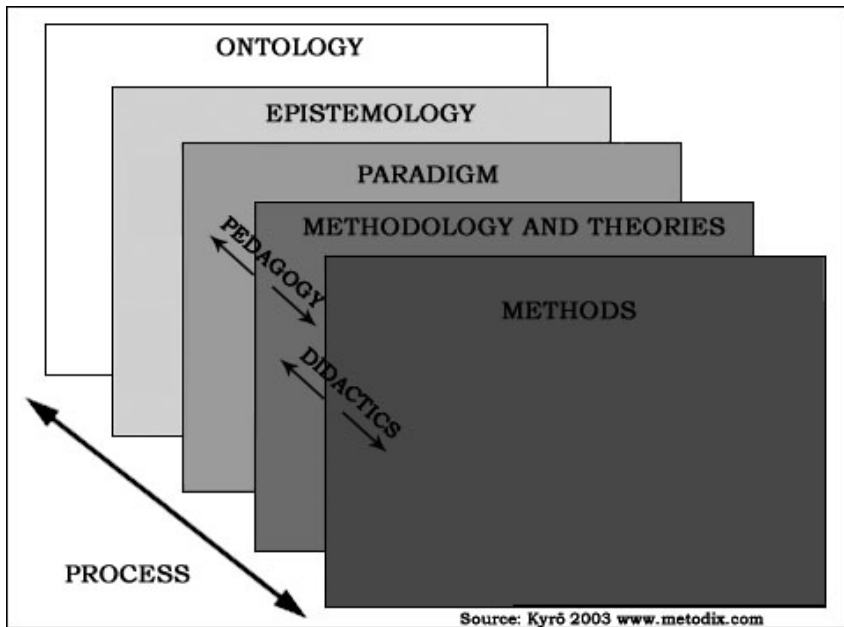
<sup>1</sup> For a different approach to entrepreneurial learning and learning from entrepreneurship see e.g. Fiet 1999



## 4. Entrepreneurial Qualities and Learning Paradigms

Education is society's media for manifesting its ideas (i.e. Bowen 1981). Thus, the adopted learning theories reflect society's ideas about its success. Each learning theory involves society's ideas of the world, human beings, knowledge it values, the way this knowledge is supposed to be acquired, and, finally, to what kind of action it is supposed to lead. In the science studying human behaviour, these levels are called ontological bases and epistemological bases, while leading further to different learning theories which are organised into paradigms, leading us to methodological bases for research and action; finally, there is action itself called methods. According to the continental approach to education, levels 3 and 4 involve pedagogy and level 5 didactics. These levels are illustrated in Figure 4.

*Figure 4: The Levels of Learning Theories*



In Western countries, three different learning paradigms have dominated educational ideas during the history. In chronological order these are behaviourism, cognitive and constructive/social constructive paradigms. Each of these has their time and place in history. Education, as the right of all citizens is a product of the modern transition. In the 17th and 18th centuries there was no formal education for ordinary people. For them, education meant life-long learning by doing in the context into which they were born. The essential idea of the Enlightenment was to create an educational system for all, not only for those of noble birth. However, only in the 19th century were an educational system and theoretical bases for learning created and the first paradigm, behaviourism started to dominate learning theories. Before that there was no unified paradigm, but rather different ideas and tensions.

Next I will delineate these paradigms according to the levels of learning theories, then elaborate them to the elements and qualities of entrepreneurship and, finally, reflect them to the conceptual debate on entrepreneurship education.

#### 4.1 Behaviourism - Empiricism and Order in Learning Theories

Behaviourism is based on empiricism, which claims that sense impressions and observations are the criteria for truth and knowledge (e.g. Niiniluoto 1984, p. 140; Sarvimäki 1988, pp. 16-19). The justification of knowledge is provided by observations and deduced from them (e.g. Boyd 1991, p. 5). This could be called the Aristotelian truth. Following the ideas of Charles Darwin (1809-1882), it was not important to differentiate man from animal in behaviourism.

The knower in empiricism is an externally observed object, whose world is restricted to the part of the world he can observe. This approach often assumes that knowledge increases linearly and is diversified. It is evaluated through quantitative measures.

*Table 1. Entrepreneurial Learning Principles in Different Learning Paradigms*

TIME	Beginning of the Modern era 18 <sup>th</sup> century	Towards the end of the Modern era 20 <sup>th</sup> century	Post-modern transition 1970s -	Post-modern era?
<b>ONTOLOGICAL BASES IDEA OF THE WORLD IDEA OF THE HUMAN BEING</b>	Aristotle – empiricism Human being is an animal among other animals in hierarchical order 1. White man 2. His wife and family 3. Other races 4. Monkeys  World can be controlled through reason based on observations	Platon – rationalism  From animal to a machine or a part of a system. Man as an information producer and processor Women as equal workforce but not as valuable as men World and nature are constructed through order and organising and controlled by technology	Still rationalism but with some questions Challenges the cognitive paradigm and its idea of the human being. Human being is more complicated and so is the environment. Truth is also something a person experiences. World is polarised and complex, not linear, there are different truths. Woman as a human being among other human beings	Pragmatism – world is made. Holistic approach to the world and the human being. Uniqueness as a universal feature in human being. He/she is a feeling entity and social actor with other human beings. He/she is an extraordinary, risk-taking, creative, free and responsible actor. Truth changes according to action.
<b>EPISTEMOLOGICAL BASES IDEA OF KNOWLEDGE</b>	<b>Knowledge is based on sense impressions and reached through observations. It increases linearly and is diversified. It is evaluated through quantitative measures</b>	Knowledge is accomplished through reasoning and memorising. It is still diversified and delivered as pieces isolated from environment	Individual him/herself constructs knowledge based on his/her past experiences, later also other people involved in this process (social dimension)	Knowledge is created through action and interaction with others  Knowledge changes

<b>LEARNING PARADIGMS</b>	↑ BEHAV- IOURISM ↓	↑ COGNITIVE PARA- DIGM ↓	↑ CONSTRUC- TIVISM, LATER SOCIAL CONST- RUCTIVISM ↓	↑ <b>EXPECTATION FOR A NEW EMERGING POSTMODERN OR ENTREPRE- NEURIAL PARADIGM</b> ↓
<b>METHODOLOGY/ PEDAGOGY WHERE AND HOW TO LEARN</b>	Learner is an object of indoctrination and control Learning is a sum of reactions Takes place in classrooms Can be studied in laboratories	Learning takes place inside a person first through memorising, then by giving much organised information Learning treated as changes in information structure Analogies to an edp machine or programme	Learning is individual and social phenomenon It is not dependent on place and time Individual her/himself is in the centre of learning, deciding where and how to learn	Learning as a complex and diverse process dependent on action taking everywhere
<b>METHODS/ DIDACTICS HOW TO ACT AND HOW TO TEACH</b>	Teacher tells what to do and how to do it, teacher gives questions and the right answers for them	Teacher tells what to know and what is right knowledge Teacher gives much organised knowledge	Teacher supports learning and creates resources and contexts for it	People around and a person her/himself create possibilities for learning Person her/himself decides how to learn and how to act

The learner as an object of learning could be controlled and organised. Learning was a sum of reactions – more reactions meant more learning. Behaviourism as a learning paradigm emphasised formal education assuming that learning takes place in classrooms and it could be studied in laboratories.

For teacher, this paradigm leaves the role of telling what to do and how to do it. He/she gives questions and the right answers.

#### **4.2 The Cognitive Paradigm – Rationalism and Knowledge in Learning Theories**

During the modern era the ideas of organisation and technological development changed the idea of the human being. In the cognitive paradigm he was regarded as part of a machine or system (e.g. Bowen 1981; Fiske & Taylor 1984). This was followed by the notion that the world can be controlled and changed through order and technology. This was also applied to human beings and society (e.g. Etzioni 1968; Halsey et al. 1997; Morgan 1986; Zuboff 1988). As Etzioni (1968) expressed it “society produced individuals suitable for organisation”. The cognitive paradigm, following the ideas of rationalism, assumes that it is possible to accomplish true knowledge through intellectual intuition or reasoning. There exists an 'a priori' truth, which does not need empirical support (Niiniluoto 1984; Sarvimäki 1988). The knower in rationalism is a rational, isolated thinker. Whereas behaviourism thought that learning takes place outside a person, the cognitive idea placed it inside a person. Learning meant much

memorising and, later, much information. The early cognitive ideas regarded the learner as an information producer. Learning was seen as producing changes in the information structure. Analogies were sought either from edp-machines or programmes.

For teacher this means that his/her role was to organise knowledge, to tell what to know and what is right knowledge.

### **4.3 Constructivism – the Human Being and Complexity into Learning**

In the current post-modern transition the complexity of the world has brought not only the re-emergence of entrepreneurship, but also changed the dominating learning paradigm. There is much similarity between this conversation and that in France during the transition from traditional to modern.

In this transition the cognitive paradigm first gathered itself together and, after that, found more complex forms. Efforts to reach a holistic approach recalled the humanistic ideas of learning. The humanistic tradition, however, has not formed a separate paradigm. It has rather questioned the mechanistic ideas of the human being in other paradigms. The latest paradigm, constructivism, at the same time both follows and questions cognitivism. Its main point is that information is not transferred, but that the individual him/herself constructs information. He/she chooses and interprets information, assimilates and accommodates it, constructing new knowledge based on previous experiences. This learning process is always situational, tied up with the culture the learner lives in and with (Von Wright & Von Wright 1998). The latest version – social constructivism – also recognises that learning does not take place inside the individual but rather in interaction with other learners and environment.

A comparison of these three paradigms to the qualities of entrepreneurship leads to paradoxes between the knower and what is supposed to be known (Mozer & Vander Nat 1987, pp. 186-190), between the learner and what is supposed to be learnt and, finally, the idea of the human being and surrounding reality.

The first two paradigms represent a dualistic idea of the world. Dualism claims that reality consists of two disparate parts such as appearance and reality, mind and body, spirit and nature, and with knowledge, consequently, being guided by binary thinking. This either/or approach leaves little room for a holistic human being and his own action as the creator of reality. It is also hard to find any signs of an extraordinary, risk-taking, creative, free and responsible actor in other levels of the analyses. In practice, this means that leaning on the existing learning paradigms provides little help for entrepreneurial learning. Thus, instead of studying existing practices entrepreneurship education challenges us to advance generating a new paradigm for learning. When it comes to the interplay between education and entrepreneurship research the question is not only how to study and contribute to the existing debate, but rather how to generate a new approach and debate. The next chapter elaborates on a few questions this debate should confront.

## **5. Toward Entrepreneurial Learning Paradigm**

The first question concerns **ontological and epistemological levels** – the idea of the world and the human actor. In this respect there is a need to find a solution for dualism. Deduced from this, the second question concerns the role of the human action and actor as active participants in constructing the world and generating new knowledge. The

third question concerns the relationship of this actor with other actors and the surrounding world.

One solution for non-dualism and its relationship to human action might be found from **pragmatism**, a tradition born out of the criticism towards dualism. Pragmatism has not been identified as a base for learning; pragmatists are, however, often quoted in the context of learning. Instead of claiming that reality consists of two disparate parts, pragmatists strive to understand reality through action. For pragmatists, truth is born through action and justified through the consequences. How this happens and what precedes it differs according to the contributor (Dewey 1951; James 1913; Rorty 1986; Thayer 1968). For Dewey (1951) it is something that is happening to an idea while verifying it, while for James (1913) it is the same as a process of verification. According to Sarvimäki (1988), "in his action, interaction and co-action with the world man gets to know the world and his knowledge guides his further action". Thus, the relationship between the actor and the world is dialectical and interactive.

Meanings and subjective interests guide the action and evaluation. These are represented in the ideas of Charles S. Pierce (1839-1914), William James (1842-1910), John Dewey (1859-1952) and C.I. Lewis (1883-1964), early contributors to pragmatism (Dewey 1951; James 1913; Rorty 1986; Thayer 1968). The problem with these ideas in a holistic approach concerns other knowers. There are not many ideas about that. Dewey (1951) saw man as a living being in interaction with the world. There is a confrontation with things in the interaction process. This is how meanings, emotions and interests are born. In a holistic approach we must assume that interaction with the world concerns other human beings as well. Meanings are like culture, at the same time collective and individual. From this perspective knowing is also a social and collective phenomenon. This means interaction with other people. However, it is difficult to find answers from pragmatism for **the social and collective aspects of learning** due to its individualistic orientation. It might be something we could learn from social constructivists.

In a changing reality, we are facing the fact that what one is supposed to know and learn is also changing<sup>2</sup>. The problem in the complex reality is how we are able to attain a holistic view of the world. Pragmatism's answer is that we choose the factors we are interested in. This means that we are also actors in this knowing and learning process and our interests guide it. Parting from social constructivism, pragmatism not only believes that when the environment changes the human being changes his/her reality, but also that he/she has a proactive role in constructing the reality. This brings along the idea that reality is relativistic and partial. Each actor might see the same phenomenon as different and provide different solutions for his/her action. Applied to learning, this means that there is not just one way of learning but rather a diversity of ways and diversity of solutions.

How can we create a holistic attitude towards the world, when the actors' subjective interests are involved and guiding that process, which might be different for different actors? Constructivists have strived for this by claiming that each individual is

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<sup>2</sup> In the modern times these ideas were accompanied by stability. What was supposed to be true and known was stable, as was development toward it; both knower and known were regarded as stable. According to Niiniluoto (1984) "Truth and untruth are stable, characteristics independent of time... Pragmatists, however, consider truth as an acquired quality. According to Dewey, truth is something that is happening to an idea while verifying it. According to James, truth means ultimately the same as the process of verification."

different, since he/she constructs knowledge according to his/her individual past. Another angle to this problem is offered by Lyotard (1984). He suggests that in the post-modern transition the nature and position of knowledge, especially scientific knowledge, are changing. He offers narrative knowledge as a solution (Lyotard 1984). Instead of telling us how things are, narratives tell us how to speak, how to listen and how to act. The criteria for a narrative lie in its competence to be presented. It is valid if it will be transmitted, that is, if it has some meaning for others. This has actually occurred in learning methods during the post-modern transition. Instead of one explanation, we have started to use simulations and cases (Altman et al. 1985; Engel et al. 1979; Minzber & Quinn 1991; Paliwoda 1993; Timmons 1994). These are small holistic pictures of the world, signals of the need in complex reality to construct entities, which we can understand and handle in order to be able to act. We do this consciously or unconsciously, intentionally or unintentionally.

Reflecting this on entrepreneurial action, entrepreneurship involves the idea that a human being, by looking around him and combining various elements, creates holistic realities, which have their consequences in action. In the environment full of paradoxes and inconsistent events, the entrepreneur chooses those suitable for his ideas. He does not select his elements from a single environment; on the contrary, his ideas can spring upon him anywhere. By combining different elements he creates something new. Thus, he creates reality in interaction with the world. Consequently learning does not take a special place or time, but rather is a part of the human existence and life. This offers a **challenge to expand learning environment and include informal learning as an essential part of the pedagogy**. It also means that holistic reality is always relativistic and individualistic. Something that individuals experience as, for example, phenomenology assumes (Marton 1981).

Finally, if we turn to those qualities and circumstances that define entrepreneurship we meet some difficulties with the existing paradigms. **Innovativeness and freedom** are not among the guiding principles in any of them. This has a special meaning in the transition. We are used to thinking, comparing and legitimating our knowledge with the past, with what has been known before (Lyotard 1984). In stable conditions, this means that in the course of time we can obtain more and better knowledge, which strengthens the behaviour we expect in order to achieve success. However, when circumstances change, this behaviour turns against us. For example, Lyotard suggests that we should be more interested in inventing new games and rules, instead of verifying our knowledge against the past. Lyotard's suggestion has received some support from futurology. But it is still a dilemma in entrepreneurial pedagogy. The most exciting dilemma, however, is our chances of inventing new things when we are supposed to justify our existence through the past. The tool for that in entrepreneurship has again been action. Instead of arguing, entrepreneurs have applied knowledge into practice. If they have not succeeded they have been responsible for the consequences. This is called risk. **Risk-taking** has probably received least attention in learning theories so far. How to learn to fail? Failure and innovation are related to each other. If we want to create something new, risk is always present. In the modern era and even today, I believe, we are used to evaluate learning through success, which means something else than failure.

Finally, the freedom of individuals and organisations in learning context has attracted contemporary education and entrepreneurship researchers amazingly little, compared to the early contributors. Studying its relationship to pedagogy would open a new direction to advance the debate on entrepreneurial pedagogy.

The last column of Figure 3 summarises these bases for entrepreneurship pedagogy. It also exposes it to the comparisons between existing learning paradigms. As a result it seems obvious that there is a greater need to develop new ideas for pedagogy than to learn from existing paradigms. Delineating the bases for this new paradigm, on the other hand, indicates that it is not easy to find solutions for the essential elements and qualities of entrepreneurship pedagogy, but rather there is a need to combine different elements and solutions.

These solutions focus especially on the following themes:

- Finding ontological and epistemological bases for non-dualistic, action-oriented approach to learning, the learner, the surrounding reality and the dynamics between these three.
- Combing the dynamics between individual and collective learning
- Expanding learning environment to include informal learning as an essential part of pedagogy
- Combining the aspects of innovativeness, freedom and risk-taking to pedagogy.

These questions provide challenges for developing entrepreneurship pedagogy in the future. They mean that the learner has an active part in learning and in constructing the world, the relationship between learner and environment is interactive and dialectical, learning is always at the same time an individual and a collective phenomenon, informal learning and open learning environment are essential concepts for the pedagogy. Innovativeness, risk and freedom are in the core of entrepreneurship pedagogy.

Since there are no ready-made solutions, this means collaboration between the science of education and entrepreneurship by recognising opportunities, combining resources in a novel way and creating new bases and methods for entrepreneurial learning.

Comparing this, for example, to the categories of studies Scott, Rosa and Klandt (1998) identified in the current state of entrepreneurship education – education about, through and for enterprise – this means that it is not enough to have some of these, but the dynamics between all of them. Compared to different learning paradigms, learning about denotes cognitive aspects, learning for might lead to behaviourism and learning through might provide constructive or social constructive results, but to combine them gives us the keys for entrepreneurial pedagogy. This dynamics is in the core of the education as a science and, on the other hand, entrepreneurship as a field of science is less familiar with it. Consequently, the future discourses on entrepreneurship education and its pedagogy requires a lively dialogue between education and entrepreneurship researchers, since it seems to me that neither of them will solve future challenges alone.

The lack of entrepreneurial qualities in the existing learning paradigms indicates that it will be an extra challenge to the formal educational system to adopt entrepreneurial learning. We are lucky however to share these problems with our colleagues in other countries, which means that most obviously there are many of us looking for solutions in this task.

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