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## **Rethinking Education - From Homo Industrialis to Homo Entreprenaurus**

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# **Rethinking Education**

## **-From Homo Industrialis to Homo Entreprenaurus**

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## **Rethinking Education - From Homo Industrialis to Homo Entreprenaurus**

### **Abstract**

*Society is changing and with it the educational needs. In this paper we will present a holistic, socio-cultural and constructivist model concerning entrepreneurship behaviour. The model is based on the perceptions of human behaviour presented by Kurt Lewin. However, the model is expanded to include modern system theories. The central concept or construct is the psychological life space of the individual. This life space is affected by the current life situation, the past activities as well as the potential aspirations or “dreams” about the future. Given this theoretical background we will finally present some ideas concerning how education could be developed in order to foster entrepreneurship. We argue that the individuals’ psychological life space can be influenced in order to enhance entrepreneurship. We also present a few ideas concerning how this can be utilised in education.*

## **1. Introduction**

How can we foster entrepreneurship? This was one of the basic questions to ask when we, like many others, started to consider different approaches concerning how to motivate students to become interested in entrepreneurship. We soon became puzzled by the theoretical approaches to entrepreneurship: A few pieces were still lacking, e.g. how one could educate entrepreneurs. However, as noticed by Landström (2000) and Sundnäs et al (2002), it is through the expansion of the theoretical roots of entrepreneurship, i.e. from the economic, behavioural and business studies to multidisciplinary research, that the picture becomes more understandable, albeit more complex.

The aim of this paper is to present a model concerning entrepreneurial behaviour and to provide some suggestions concerning how it can be utilised in an educational context. Although the model is holistic, socio-cultural and constructivistic, it starts from the notion of a ‘psychological life space’ construct, suggested by Kurt Lewin (1890-1947) in the early 1930s. We will develop the concepts further, thereby expanding the area concerning entrepreneurship and modern theories of human behaviour. The field theory, or as it has also been named; topological psychology, has been more or less forgotten for a long time, or overshadowed by other theories of human behaviour. However, according to Martin Gold (1999), Lewin in recent years has again become one of the most frequently quoted social researchers. Kurt Lewin’s work still seems to be fairly unknown among entrepreneurship researchers, however. An interesting question arises: Why has Lewin’s ideas regained new actuality in social psychology? There is no simple answer to this question. However, it is most certainly related to the ongoing societal changes in the Western World. Another aspect is that several other modern theories include central elements similar to Lewin’s field theory. Since the 1980s the field has been rediscovered and in some sense reinterpreted and developed by several researchers. The more recent developments of the field theory are often called Cognitive Field Theory (see e.g. Bull, 1999). We argue that Lewin’s ‘life space’ can be further developed and serve as a tool for creating and testing new educational methods for fostering entrepreneurship.

Over the years there has been a quest for a unified theory of human behaviour, and also for a comprehensive theory, or even a clear single definition, of entrepreneurship. Both have eluded researchers. Field theory, and subsequent contemporary theoretical constructions (for example, the various theories of self-regulatory or self-organizing behaviour, the theory of *autopoiesis* and the complexity and chaos theories respectively) can serve in the search for the secrets of entrepreneurial behaviour and provide some ideas concerning how to rethink education in order to better foster entrepreneurship. Theoretically, the field theory is in line with social learning theory (see Bandura & Walters, 1970), socio-cognitive theories (see Bandura et al, 1995, Delmar, 2001) and Ajzen's theory of planned behaviour (see Delmar 2001, Ajzen, 2002). Bandura's notion of perceived self-efficacy can be held as a more sophisticated way of expressing or further developing the mechanism of internal motivation described earlier by Julian Rotter (1966) and in accordance with Kurt Lewin's 'level of aspiration'.

Entrepreneurship can hardly be discussed without recognising the role of the culture. The field theory to some extent also allows an explanation as to how environment and culture can form entrepreneurial behaviour. We have, however, decided that an analysis of different cultures and their impact on entrepreneurship is not within the scope of this article.

Among all the theories of human behaviour and learning we can distinguish (at least) two different kinds of human behaviour in the educational context; here, we will call them 'Homo Industrialis' and 'Homo Entreprenaurus'. In the industrial society the former fitted well and the educational systems learned to handle it. This was done in an instructivistic way, i.e. the teacher transferred knowledge to the students. However, in the post-modern society the demands are different. Society is now asking for 'Homo Entreprenaurus', i.e. the active knowledge creating and business-generating individual. However, our educational systems are still largely operating with instructivistic methods. In the words of Peter Senge<sup>1</sup> there is still much to do:

*"Schools may be the starkest example in modern society of an entire institution modelled after the assembly line. This has dramatically increased educational capability in our time, but it has also created many of the most intractable problems with which students, teachers, and parents struggle to this day. If we want to change schools, it is unlikely to happen until we understand more deeply the core assumptions on which the industrial-age school is based."*

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<sup>1</sup> See quote on <http://www.fieldbook.com> 26.6.2002

## **2. Background**

### 2.1 Current changes in society

We should broaden our contextual perspective in order to understand the role of field theory, and the roles of other similar theories in the development of entrepreneurial programs or methods. Human behaviour should be seen not only as a psychological function; the links to sociology, biology, philosophy, modern cognitive science and other scientific disciplines are also important. Last but not least, we should see education as being at the crossroads of all disciplines.

During the second half of the 20<sup>th</sup> century, and especially in the last two decades, the changes in most western industrial societies have led to serious discussions concerning the role of SME's and the entrepreneur as an agent for development and prosperity. The term post-modern society was coined by the French sociologist and philosopher Jean-Francois Lyotard to label the ongoing paradigm shift (e.g. Beck 1998, Uljens 2001). This paradigm shift implicates that the modern society, i.e. the industrial society, is gradually coming to an end and a new and different type of society is developing. Behind this transition we find several macro-level political, economic, technological and cultural factors. Among the most important factors of this change are; the capitalistic societal model winning by knock-out over the rival socialistic model; the transition from national economies to a global economy; and the development of new technologies along with the emergence and importance of new types of networks (both digital and human).

The German sociologist Ulrich Beck (1998) calls the post-modern society a 'risk society'. He also states that in the post-modern (risk) society risks are redistributed. What could constitute a risk in the modern or industrial society is not necessarily the same in the post-modern society. Entrepreneurship in the industrial era was connected with risk-taking. In the future the situation may well be the opposite. It can be a greater risk not to be entrepreneurial, i.e. not being able to see self-employment as a personal alternative of action.

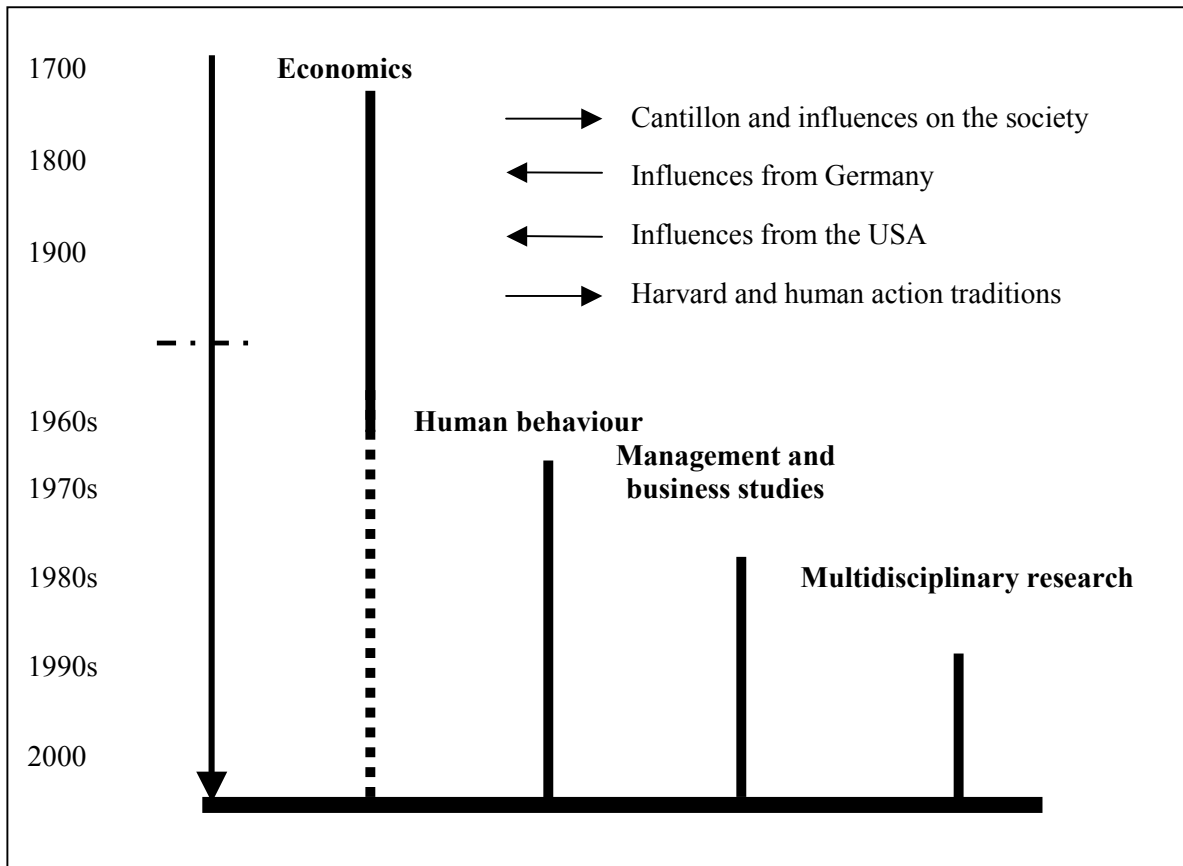
### *2.2 A brief overview of entrepreneurship research*

Richard Cantillon (1680-1734) is considered to have introduced entrepreneurship in an economic context. The entrepreneur could be seen as a risk-taker that transformed investments into profit or

loss. Since Landström (2000) and Sundnäs et al (2002) provide fairly good overviews of the roots of entrepreneurship research, let us thus only briefly touch upon the broadening of the entrepreneurship theories. Joseph Schumpeter (1838-1917) brings forth the importance of entrepreneurs in transforming our society. The entrepreneur commercialises new ideas and brings society forward. The Harvard tradition can be seen as a continuation of Schumpeter's initial ideas. And in brief it stresses that entrepreneurship is crucial for the change of society, and that entrepreneurs create new organisations and profit is an essential driving force. The human action tradition, with Friedrich Hayek and Ludwig Mises as front-runners, in turn stresses the capabilities of the individual. Only a few individuals have what it takes to become successful entrepreneurs. Elements of these different entrepreneurship schools are still valid, however. In the 1960s the theories of entrepreneurship were broadened by behavioural issues. The traditional - equilibrium - economics had left little room for the entrepreneur and thus there were social needs concerning new explanations.

David McClelland (1961) was one of the first to stress the importance of human behaviour in explaining why some societies were more successful than others. He argues that the individual is formed by both society and the individual's own performance and achievement needs. Julian Rotter (1966) expands the behavioural school with the introduction of the concept 'locus of control'. He stresses the importance of a feeling of control of the actions of the entrepreneur. This behavioural school can be divided into several subgroups, however. More importantly, starting from the 1970s, entrepreneurship research gained a growing interest among business researchers. And today, most of the influential business schools are including entrepreneurship in their curriculum. The broadening of entrepreneurship research into business studies has led to openings concerning organisation building, management, networks and the marketing of small enterprises. As noticed by Swedberg (2001) and Sundnäs (2002), the entrepreneurship models are further expanded (in particular in the 1990s) into multi-disciplinary approaches. Lee and Peterson (2000) utilises the concept of entrepreneurial orientation while stressing the role of culture. However, they argue that: *"There is a need for an entrepreneurship model that acknowledges the individual person without discounting the portion of the external environment that is beyond the individual or the firm's control ... The study of entrepreneurship under a cultural umbrella seems appropriate"* (Lee & Peterson 2000, p. 403).

**Figure 1. The roots of entrepreneurship research; expanding to multi-disciplinary research**



Source: Based on Landström (2000: 137) and Sundnäs et al (2002: 28)

In the research field of human behaviour, during the first part of the 20<sup>th</sup> Century, two traditions became dominant – the behaviourist and the psychodynamic. The former, apparently due to its (simplistic) methodological approaches, corresponded well with the more or less reductionist tradition of analytical rationalism or logical positivism. Consequently, this was the tradition largely adopted by the natural sciences from the late 18<sup>th</sup> century onward. These traditions then also influenced entrepreneurship research after this field started to broaden from economic research into other disciplines.

The early psychological theories of entrepreneurship were more or less based on a “trait chasing” approach, i.e. a search for the optimal combination of relatively stable personality factors that together could form or explain entrepreneurial behaviour. These theories were profoundly influenced by behaviourist thinking, and research was supported by new tools in the form of mathematical methods such as factor analysis. A good example of such an approach is McClelland’s research and *The Big Five -theory*. An example representing the psychodynamic



tradition is in the entrepreneurship research and theory of Kets de Vries (see e.g. Leskinen, 1999). Kets de Vries and other psychoanalytic researchers often see the entrepreneur as an “innovative rebel” or a misfit. Seen through the lens of the industrial society this is not surprising. ‘Homo Entrenaurus’ is certainly different from ‘Homo Industrialis’. In society he may have been tolerated, but within the schools of the industrial era, ‘Homo Entrenaurus’ was a problem.

### *2.3 Aspects concerning learning and knowledge*

Learning is not only a matter of the memorizing and retention of facts or learning to master practical (vocational) skills. It is widely agreed today that learning is connected with the formation of individual cognitive, social and behavioural patterns. Furthermore, we must acknowledge that education is both a formative and a transformative process, regardless of the age of the student. The environment influences learning both at home and at school.

Learning is a highly individualized process and modern research has formed a variety of different theories and typologies of individual learning styles. On the one hand, in most western countries, these new elements are gradually finding their way into everyday educational practice. On the other hand, we need to accept that education is a conservative business and that education still retains much of the thinking of the modern industrial society. The origin of this thinking is old. Most of it stems from the 17<sup>th</sup> and 18<sup>th</sup> century era of Enlightenment and is basically equivalent to the ideas of René Descartes, his contemporaries and followers.

The Russian psychologist, Lev S. Vygotsky (1896-1934), was among the first to challenge the behaviouristic thoughts of human action and his ideas have often been classified as cultural psychology. Today, Vygotsky, usually together with Jean Piaget, is referred to as one of the first constructivists. Vygotsky, who focused on children’s cognitive development and the mediating function of language in human behaviour, concluded that human language is a double-functioning process. In small children it allows communication to take place with their immediate environment, thus making socialization possible. Later on, language develops into a central element in human thought, consciousness and cognitive functions, see e.g. *Consciousness as a problem in the psychology of behaviour* (1925). Vygotsky’s texts have only been widely spread in the western hemisphere long after his death and there have been some discussions concerning the accuracy of

the translations of his texts from Russian<sup>2</sup>. Alfred Lang (1994) has compared the ideas of Kurt Lewin and Lev Vygotsky and found some similarities and classifies them both as meta-theorists. Lang has suggested that their ideas would deserve a closer comparison and that this should be done through a semiotic analysis in order to avoid misinterpretations regarding their use of words and terminology. Vygotsky's ZPD<sup>3</sup> ('zone of proximal development') construct is especially interesting for educators (Wells 1999), since it is easy to link to and compare with Lewin's 'life space' construct.

In the industrial era education has focused on two types of knowledge: a) technical and theoretical knowledge and b) practical (vocational) skills. Coincidentally, these types of knowledge are those easiest to articulate, transfer and evaluate. They also correspond well with the behaviourist (or positivistic-analytic), ontological and epistemological traditions that have prevailed in most western societies, especially in vocational education (see Doolittle & Camp, 1999). In the post-modern society this may not be enough. Equipped only with these types of knowledge a person may not be able to be entrepreneurial and self-sustaining. We therefore suggest that education, in order to support the development of a more entrepreneurial behaviour, will have to add more tacit knowledge, i.e. social and emotional skills to the curricula. Innovation and intuition are also often mentioned when speaking of entrepreneurship, which leads us to believe that schools should start preparing for how to deal with intuition<sup>4</sup> (sometimes called "hidden intelligence").

In modern (industrial) society, the educational system has focused on the easily recognisable and measurable types of skills, i.e. theoretical and practical knowledge. However, the hidden types of skills will also have to be considered in order to support an entrepreneurial orientation and creative individual. Both tacit and intuitive knowledge should be recognised in the educational system. Bringing in new types of knowledge into the curricula should not be allowed to weaken the already established and well-working educational structures. Much of the knowledge needed in the industrial society will still be needed in post-modern society. This may be the biggest dilemma for

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<sup>2</sup> Nikolai Veresov in 1999 re-translated Vygotsky's article "*Consciousness as a problem in the psychology of behaviour*", see Veresov's appendix article (<http://www.marxist.org/archives/>)

<sup>3</sup> Vygotsky's construct '*zone of proximal development*' (ZPD) can be described with the following: "children's ability to learn and achieve at a higher level, when learning happens in the company of or assisted by an adult"

<sup>4</sup> Definitions of *Intuition* according to Principia Cybernetica Web:

1. The immediate knowing or learning of something without the conscious use of reasoning (Webster's)
2. In its cognitive function it is a psychic organ or means to apprehend reality. It is a synthetic function in the sense that it apprehends the totality of a given situation or psychological reality. It does not work from the part to the whole -- as the analytical mind does -- but apprehends a totality directly in its living existence.
3. There is some evidence that intuition does not proceed along analytical lines but apprehend experiences wholistically. "It is by logic that we prove, but by intuition that we discover". (Poincare)

education: how can new types of skills and knowledge be added without destroying or weakening what already functions?

**Figure 2. Types of knowledge**

<b>Articulated knowledge</b> (Easily recognisable and measurable)	<i>Theoretical knowledge (factual)</i>	<i>Practical knowledge (vocational skills)</i>
<b>Unarticulated knowledge</b> ("hidden", hard to measure)	<i>Tacit knowledge (social and emotional skills)</i>	<i>Intuitive knowledge (paranoesis<sup>5</sup>)</i>

Many efforts to foster entrepreneurship in educational settings are tied to some kind of courses (usually elective), practice enterprises, entrepreneurial projects or business incubators. These approaches, however, have at least one serious problem. They seem to require a pre-selection of the student, and thus, exclude a majority of them. Ultimately this can constitute a problem of equality. The current changes in society indicate the need for all students to get some amount of entrepreneurship education in order to prepare them for self-employment. The ecological validity<sup>6</sup> of elective courses and business incubators as a mean of fostering entrepreneurship in larger student populations can likewise be doubted or at least discussed. Our view is that entrepreneurship should be integrated into the regular curricula, which will raise a need for both new instructional methods and a new epistemology.

In business education (vocational education) in Ekenäs, some small-scale experiments mixing entrepreneurship elements into the regular education programs have been conducted in selected student groups during the years 1992-2000 (Ehrstén, 2001). The results of these experiments indicate that, when allowed or requested to work with virtual or "real" practice enterprises during a learning period, student's behaviour gradually changes and become more goal-oriented, self-

<sup>5</sup> See Tom Brown (1999) *Intuitive Thinking – Paranoesis* (<http://www.hyponoesis.org/html/essays/e004.html> 12.6.2002)

<sup>6</sup> *Ecological validity* refers to the discussion whether results from laboratory experiments can be generalised to explain natural behavior (Schmuckler 2001).

regulated and self-organized. The entrepreneurial elements in these groups have been 15-25 % of the total time spent and the length of the projects have varied from 2.5 to 7 months. Unfortunately, these experiments have been too short-termed to observe and conclude if the observed behavioural changes become generalized and more permanent. In four groups, students' perception or meaning of the word entrepreneur and some other occupational categories were tested with a semantic differential. The results from the testing with the (proto-type) semantic differential gave almost identical profiles on the 15 variable bipolar scales, regardless if the students tested were engaged or interested in entrepreneurial activities or not. The results indicate that, although there is no single or definite definition of entrepreneur/entrepreneurship, students perceive the word and the phenomenon quite the same.

### **3. Linearity and causality versus nonlinearity and dynamics**

The traditional Cartesian view of man and knowledge, which has influenced education for several hundred years, is based on a notion of linearity and causality. In this view every action and behaviour is explainable and has a specific cause. In this tradition it has more or less been standard procedure that, if something is not explainable along this empirical logic-rationalist line, it does not exist, or it belongs to the domain of "unscientific phenomenon".

When seen from the perspective of field theory (Lang 1979, 1981), system theory (Flint, 1997), complexity theory (Ferdig 2000, Markowsky 1999) second-order cybernetics (Heylighen and Joslyn 2001), the autopoiesis theory, (sometimes called "theory of observing systems") or synergetics (Coulter 2002, Knyazeva 2001), Open systems are seen as being non-linear and changes are often said to happen "on the edge of chaos" and follow the principle of equifinality<sup>7</sup>. If we consider humans as open living systems, we will have to rethink both the linearity and the simple causality and will need a totally new equation of human behaviour. But, we may as well use the old formula from Kurt Lewin's field theory:  $B = f(P, E)$ , where human behaviour (B) is a function of the person (P) and the environment (E).

Yet another interesting concept related to system or complexity theories, which leads us even closer to the world of business and entrepreneurship, is Economy Nobel Laureate Friedrich von Hayek's concept of Connectionism. v. Hayek derived his idea partly from biologist D.O. Hebb's theory of

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<sup>7</sup> *Equifinality* is a term used in System Theories to describe an outcome of similar nature preceded by totally different development processes

neural feedback. Cognitive Scientist Barry Smith (1997) writes: “*the central idea behind the connectionist paradigm is at home not only in psychology and neurology but also in the sphere of economics*”. This indicates that human behaviour and the market process, to a certain extent, are similar or analogous processes.

Field theory, complexity theory and autopoiesis theory have long been connected with social systems in general (Markowsky 1999, Coleman Jr. 1999). One of the foreground scientists applying these thoughts is sociologist Niklas Luhmann (Whitaker 1995, Manuel-Navarette 2000). From here it is a short step to organizational and management theories and theories of organizational learning and learning organizations. In this context we will find Chris Argyris’ theory of “single-loop” and “double-loop” learning (see Smith M.K. 2001). When considering human learning we can conclude that both kinds of learning exist. Simpler learning schemes, such as conditioning and social modelling, can be seen as single-loop learning, while more complex or higher-level cognitive behaviour most certainly must follow the principle of double-loop learning. Perhaps this is the ultimate difference also between ‘Homo Industrialis’ and ‘Homo Entreprenaurus’?

Russian researcher Helena Knyazeva (2001) refers to both the founders of the autopoiesis theory and to Kurt Lewin in her essay *The Self as a Nonlinear Dynamical Structure-Process*:

*...Every personality is autonomous and all-sufficient ...If we apply the term from the theory of autopoiesis ... may say that a personality is operationally closed, i.e. a man derives his strength and intentions of his activity from himself, makes his own plans, actualises himself, devotes himself to the world. ... At the same time the self is a polylayer many-dimensional formation, which is dissolved in situations, actualised in different social and family roles, distributed in a topological way. The self has its own space of life with borders that are fragile and mobile. An individual landscape of personality is built into a landscape of his family as well as of the corresponding social group, nation, and noospheric reason.*

Knyazeva concludes on the individual mind, that cognition is embodied, situational and enactive and that these notions are strikingly close to the ideas of Kurt Lewin. This conclusion is almost identical with the views of most so-called constructivists. The differences between constructivists are mostly tied to the role of the environment. Social constructivists stress, like Lewin, the importance of the social environment while radical constructivists, like Maturana and Varela or Heinz von Förster, sometimes seem to exclude the environment and see the self as enough.

The schools of the industrial society have no doubt contributed to the creation of 'Homo Industrialis' and they have effectively produced the skilled and semi-skilled workers for the industrial society. Can education be transformed to create 'Homo Entreprenaurus'? To express this in other words: Can the 'Enigma of Entrepreneurship' (see Carland, Carland & Stewart, 1999) be solved by studying human behaviour and how could we alter educational practice to be more effective in fostering entrepreneurship? Our conclusion is that the post-modern society will need a new ontology and a new epistemology. This is particularly important in order to understand entrepreneurship and entrepreneurship education.

#### **4. An entrepreneurial model based on field theory**

To our knowledge, Lewin's view of human behaviour, a view that was influenced by the gestalt psychologists, has not been largely utilized by entrepreneurship researchers. Also in general, as stated by Swedberg (2001), social psychology still has much to contribute to in the field of entrepreneurship research. Lewin's untimely death in 1947, a fate that he shared with Lev Vygotsky who died even earlier (Wells 1999), may have contributed to the fact that his field theory has been more or less forgotten since the 1960's. Psychological theories of entrepreneurship only started to develop after his death. Lewin influenced, both in his German and American years and still after his death, a great number of other behavioural scientists (Marrow 1969). Over the years, ontological and epistemological elements of a similar nature to those in the field theory have found their way into many theory constructions of human behaviour. Similar elements can also be found in various other disciplines, not only in psychology.

The field theory so to speak covers - or touches on - several different scientific disciplines. The Swiss scholar Alfred Lang (1979, 1981), for instance, suggests that the field theory could be considered as being a for-runner of the general system theory, created by Ludwig von Bertalanffy in the late 1950s. Lang also comments that similarities can be found comparing the theory with Bronfenbrenner's theory of ecological psychology.

It is important to broaden our perspective quite a bit if we are to understand the field theory itself and its implications for entrepreneurship research. We will have to bring in to the discussion both elements of modern and post-modern Sociology and Philosophy. Without these elements our approach to use the field theory to help the understanding of entrepreneurship formation (i.e. how an individual becomes, chooses or develops into being an entrepreneur) and how to use education to

influence this process, cannot be understood. We also find it necessary to clearly point out that Lewin's field theory is only the starting-point, and serves as an instrument and a method of analysing and understanding causal relations. The field theory is, as Kurt Lewin (Cartwright /ed. 1951, p. 43-45) himself pointed out, not a theory in the usual sense of the term:

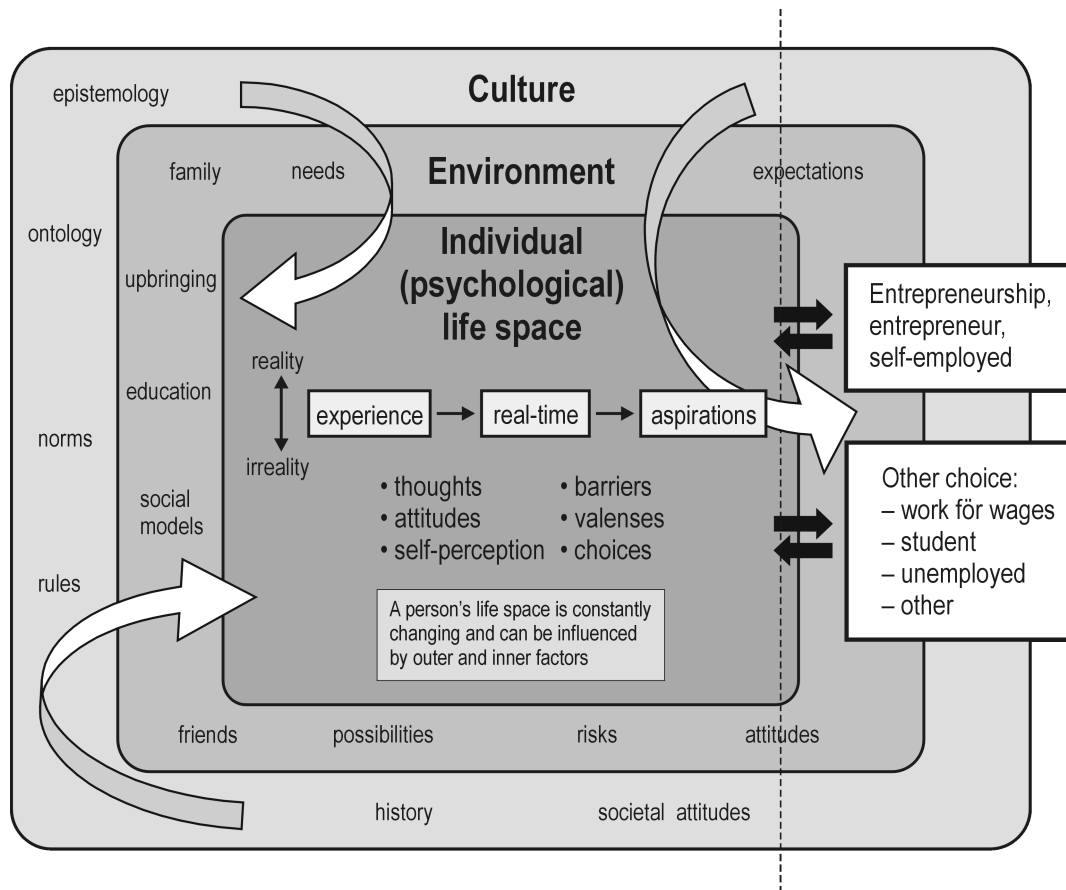
*... methods like field theory can really be understood and mastered only in the same way as methods in a handicraft, by learning them through practice. ... Field theory, therefore, can hardly be called correct or incorrect in the same way as a theory in the usual sense of the term. Field theory is probably best characterized as a method: namely, a method of analysing causal relations and of building scientific constructs. This method of analysing causal relations can be expressed in the form of general statements about the "nature" of the conditions of change."*

The central concept in Lewin's field theory was his construct concerning the psychological life space. Lewin defined the 'psychological life space' as "*the totality of coexisting facts, which are conceived of as mutually interdependent*" (Cartwright 1951, p. 240). To Lewin, learning was synonymous with the expansion of the life space. Egon Brunswik, a contemporary with Lewin, criticized Lewin's notion of the life space for not considering enough the significance of the outside environment and its impact on the psychological life space. Their ideas of human psychology were otherwise astonishingly similar, but in their dialogue the border zone between an individual's life space and the environment seems to have been a detail they could not agree on (Wolf 1986). Yet some other contemporary scientists criticized Lewin for not developing the formula  $B = f(P, E)$  further. This, however, has to be seen in the context of the mathematical science of that time (1930s). Kurt Lewin did not have the powerful instruments of today. The Finnish scholar Kullervo Rainio (1986) showed later in the 1980s with his stochastic field theory of human behaviour that human behaviour can be mathematically explained.

We have expanded Lewin's psychological life space (see Figure 3) by adding two peripheral fields, i.e. the environmental and the cultural aspects. The centre of our model still contains what Lewin called the temporal dimension of the individual life space. The temporal dimension can be divided into three parts: i.e. the past (experience), the present (real-time) and the future (aspirations). All actions and changes happen in the present, although they are affected by the past and the aspirations for the future. Thus, these three parts will continually affect the individual's decision-making. In other words the life space is never static, but constantly changing over time. By influencing this dynamic process, we argue that education can affect the choice of the individual. Obviously this

process also varies from individual to individual. Thereby, several supportive strategies or methods concerning entrepreneurial learning will most likely be needed.

**Figure 3. Lewin’s ‘life space’ redrawn**



The model (see Figure 3) suggests that the individual choice of becoming an entrepreneur or making other choices will be affected by situational factors, the “here and now”. Some individuals may never come into a situation where entrepreneurship or self-employment is a logical option. The educational task is to mentally prepare individuals to recognise and handle potential entrepreneurial opportunities, not only to prepare them to technically run a business. We need to prepare the individuals so that they can see upcoming opportunities, and act upon them. It is in this process that the individuals will need different types of knowledge, i.e. theoretical, practical, tacit and intuitive knowledge. If the individual only has factual and practical knowledge, he will probably walk by an upcoming opportunity, while a potential entrepreneur will be better mentally prepared to identify and act upon given opportunities.



Other scientists and philosophers have also used concepts or terms similar to Lewin's life space. One example is Zygmunt Bauman (1995). Bauman uses terms like 'social field' or 'social room'. It is important to clearly point out the differences. As we have perceived it, Lewin's 'life space' is directly connected to the Self, while Bauman's concept is more connected to the social environment and the social roles individuals adopt in their environment. Kjellman et al (2004) have further developed the concepts to also include the issue of entrepreneurial international orientation when it comes to explaining internationalisation of small firms.

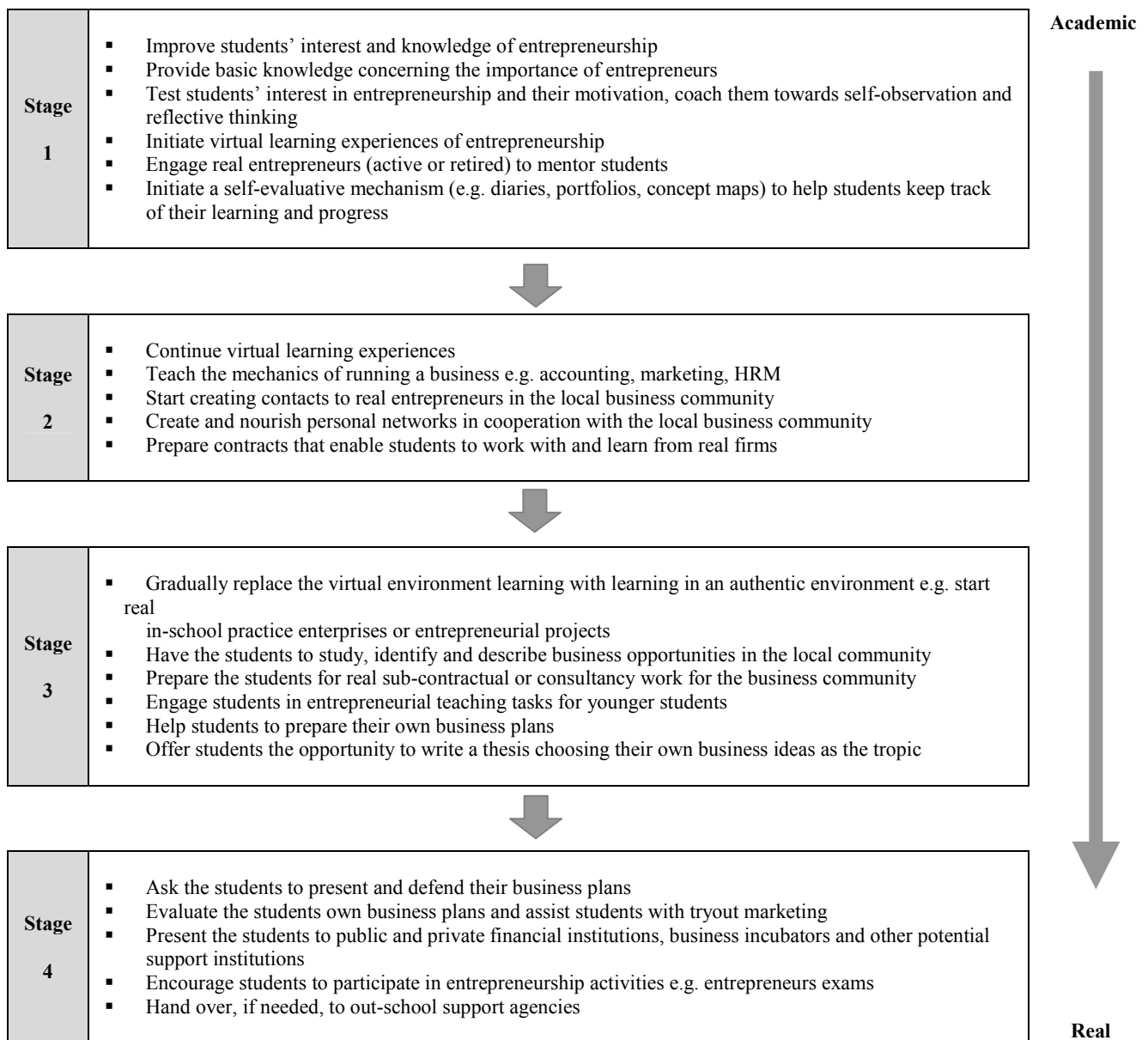
## **5 Towards a new model for entrepreneurship education**

How to foster entrepreneurship in education has been a popular topic since the mid 1980s and a challenge education has taken up. Vesper & Gartner (1999) report that different kinds of entrepreneurial programs in universities have rapidly increased worldwide during the last decades. Marilyn Kourilsky (1995) notes that 'Generation-X' in the USA has already adopted an attitude of "creating-a-job" rather than "taking-a-job". In almost every western country business incubators and science parks are created to support new entrepreneurs and help them develop their firms. However, little has been done to create a pedagogy for fostering entrepreneurship in larger student populations.

Drawing from the fact that entrepreneurship seems to evolve more effectively in an environment where entrepreneurship already exist (Uusitalo 1999), we propose an educational model where students are directly exposed to entrepreneurship during their whole time in (vocational) education. Petri Uusitalo's longitudinal research shows that in Finland young males have a 3-4 times greater chance of becoming entrepreneurs if they grow up in a family with at least one of the parents being an entrepreneur. The unanswered question is why?

Building an entrepreneurship education program more on the basis of experiential learning and situated cognition (see Brown, Duguid & Collins 1995, Sperber & Hirschfeld 1999) will, as we see it, also provide good opportunities to take students to deeper and/or higher learning levels than what is possible in traditional theoretical education. Obviously we also have to confront students with real entrepreneurs and authentic entrepreneurial situations. However, replacing part of the traditional instructional teaching with first hand personal learning or experimental learning means that we will need to develop a new set of pedagogical methods and probably alter the educational environment and the structure of curricula.

**Figure 4. A cumulative process of entrepreneurial education**



In this work we cannot afford to compromise on the already effective parts of vocational education and training. Becoming a successful entrepreneur in any given field will require both specific skills and knowledge of the field in question as well as entrepreneurial skills. The post-modern society will demand both the competences of ‘Homo Industrialis’ and ‘Homo Entrepreneurus’ in the same person. Although certain elements or methods (i.e. enterprise simulations, practice enterprises, work practice, individual entrepreneurial projects, etc) of fostering entrepreneurial behaviour have already been invented and tested, new combinations will have to be created. We therefore propose a

new structure, not to replace but to run parallel to and be integrated in content-based education (see Figure 4).

We suggest that curricula, especially in vocational education, are redesigned in such a way that they support the formation of entrepreneurial knowledge and skills accumulatively under longer periods of time. For those raised in an entrepreneur family, entrepreneurship becomes a natural part of their life already in the family. However, for those without natural entrepreneurial influences education with a focus on entrepreneurship could be a good option. Because education is an integral part of every person's 'psychological life space' for long periods of their lives. We argue that Kurt Lewin's construct, and contemporary developments of his theory (i.e. the Cognitive Field Theory), gives us a workable instrument or a tool to help us focus on the individual dimensions of learning. Thereby, these instruments could be used to rethink education in order to foster entrepreneurship.

## 6. Conclusions

Education has proven to be able to produce the knowledge and the skills for 'Homo Industrialis'. In the future though, we will need complementary educational techniques and structures to create 'zones of proximal development' in every individual's 'life space'. The purpose would be to enable the development and formation of 'Homo Entreprenaurus' in all individuals.

Entrepreneurship can, as we see it, be characterized as a complex behaviour and this fact will place entrepreneurship in the research field of complexity theories (see Whitaker 1995, Ferdig 1999, etc). Albert Bandura's theory of self-efficacy on the other hand leads us towards the reasoning of social cognitive theories. Bandura's theory of social learning, and later his theory of self-efficacy are now classified as social constructivist theories, although they stem from a neo-behaviouristic tradition. The theory of autopoiesis is usually considered to belong in the category of radical constructivism. We also find some interesting elements regarding entrepreneurship in Lev Vygotsky's socio-cultural theory, especially in his construct ZPD. All these theories have much in common and can be utilized to develop effective entrepreneurship programs.

We assume that the process of becoming an entrepreneur is not a simple or linear process. Many separate theories point in the same direction. Each individual's perception of himself (perceived self-efficacy) and motivational structure are central element in the process of becoming an entrepreneur. The way they develop may not be the same in different persons; it may be that entrepreneurs are cases of equifinality (a term adopted from system theory), self-observation and self-organizing (terms adopted from autopoiesis theory) and results of nonlinear dynamic development (a term adopted from synegetics). The fact is, that there may be just infinite sets of behavioural complexity needed to be shaped or supported. This gives us different possibilities with regard to educational planning and pedagogy, rather than simply assuming that there is one single mode for entrepreneurs. Perhaps, there is an entrepreneur in all of us, and it is up to educational researchers, planners and educators to develop schools, methods and curricula to support this development in a multitude of ways. We find the field theory most practical and fruitful to work with in this sense. As Kurt Lewin himself put it: "*there is nothing as practical as a good theory*".

With this reasoning we end up at a point where constructivist theories fit better into the picture than the traditional content and skills based view of vocational education. Constructivism<sup>8</sup> is, however, not always easy to communicate to educators. Constructivist thinking and theories are based on a different philosophical perspective than the familiar instructivism. Constructivist ideas easily become fuzzy and can be misunderstood. It is therefore crucial that we can also coach (vocational) teachers, who are perhaps more focused on and familiar with their own field of expertise than with educational philosophy, in constructivist thinking.

In designing educational programs fostering entrepreneurship we may run into problems, not only with ontology and epistemology, but also with problems of terminology and allocating sufficient resources. We will have to loosen the boundaries between schools and the outside world. Educational entrepreneurship research has traditionally concentrated on content and curricula, not on the philosophical questions of human behaviour (Kyrö, 2001). Therefore we must be prepared to cut loose from the old thinking traditions of knowledge, learning and instructional education. We will have to prepare and coach students to learn and to use other kinds of knowledge than the traditional and familiar types, i.e. social, emotional and intuitive knowledge. We believe that such a program will increase students' self-confidence and self-efficacy. In the long run this will prepare them for self-employment and entrepreneurship, but we will probably experience problems with evaluating the outcome of the program since we do not anticipate that students will start up firms immediately.

Our approach would be, without any kind of pre-selection of participants, to expose the students to entrepreneurship over a period of a minimum of three to four years. In Vocational Education Programs (the lower vocational education level in Finland) this would implicate an exposure to entrepreneurship of approximately two and a half to three years. This long-term exposure could well be more effective than the present short-course type programs (5 to 10 credits) often offered in educational settings today.

In essence, brutally simplifying, what this model suggests is that reality is personal and subjective and that creating an active individual is part of a learning process. Thus, we suggest that entrepreneurship is infused into the 'life space' of the students during their entire time of education. Entrepreneurship elements should be integrated in the curricula in such a way that it allows long-

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<sup>8</sup> An easy-to-read document on constructivism is Australian Martin Dougiamas' (1998) *A Journey into Constructivism* available on the Internet.

term formative learning. It should be done by using a variety of experimental learning methods to match different learning styles and not be allowed to disturb the content-based education. Students shall be coached to use self-monitoring and self-evaluative techniques and reflective thinking. In order to create 'zones of proximal development' for every student, real entrepreneurs functioning as mentors, will support entrepreneurial learning. Hence, students can learn issues that are not possible to teach using traditional methods. With this approach, in large based on the theoretical view of a cognitive field theory, we believe that students will leave the schools with a better 'perceived self-efficacy' and that they will be better mentally prepared later in life to become entrepreneurs or self-employed. If, however, they choose not to be entrepreneurs or self-employed, we think that their future employers will also benefit from the self-observing and self-organizing way of working and learning they have developed.

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