

Author: Roelofs, Henk

2nd Author: Raut Samplonius, Shilpa

Stenden university for Professional Education, Emmen, The Netherlands

Henk.Roelofs@stenden.com

Shilpa.samplonius-raut@stenden.com

The Edupreneurial method: an authentic environment as a base for effective education

Experiences of demand driven stimulation of entrepreneurial futures in authentic environments

Key words: Edupreneurial, Kolb learning styles , authentic "neutral Kolb" environment .

Introduction

The characteristics of today's society demands a different kind of methods of contemporary professional education. Using network organizations to create effective education in the mindset of the new generation born in the era of internet technology and digital gadgets, showing non-linear learning behaviour. (Veen, Wim, 2009)

The goal of this paper is to point out that an authentic edupreneurial environment is needed as a base for learning entrepreneurship, an educational methodology resulting in an effective and positive mindset towards learning entrepreneurship, driven by successes. A demand driven change in teaching, caused by the demand driven learning of the new generation.



Fig. 1 the new generation

We will postulate that the focus has to be on creating an authentic learning environment based on a pull strategy, since the development of soft skills is far more demand driven than supply driven. The authenticity of the environment is needed to create effective learning, since entrepreneurial teaching is not the same as entrepreneurial learning. The pull strategy of learning is effective by the experience of positive emotions: success drives the success.

Moreover, given that the students have different learning styles, an effective authentic learning environment should be independent from that learning style: a "neutral Kolb"- environment.

Two developed examples of this methodology (authentic edupreneurial environment) will be pointed out:

1. the International Learning Companies
2. the entrepreneurship game-simulation LE Game

Background of 'edupreneurial'

The development of entrepreneurial skills in education has been our major engagement at the Stenden university in Emmen. As the project leader we have experienced the development of entrepreneurship initiated from our educational institution in projects (ACTION1999-2008, European Entrepreneurship, SIFE). ACTION stands for "*ACTivering ONdernemerschap*" (Dutch) which means "activating entrepreneurship". The word "edupreneurial" was used to bridge the gap between education and entrepreneurship since we communicated: "*Ondernemenderwijs: een ondernemende cultuur in het onderwijs.*" which translated means: "Edupreneurial: an entrepreneurial culture in education". (see Figure 2) .



fig.2 ACTION and “ondernemendcrwijs” (= edupreneurial), Henk Roelofs

During these projects we developed at Stenden university entrepreneurial minors like the minor “International Learning Companies, ILC”. In the process we experienced that entrepreneurial teaching is not the same as entrepreneurial learning (Van der Sijde and Roelofs, 2005)

The edupreneurial method is an educational method based on experiencing successes, and learning from failures (Karl Popper, 2006), in learning entrepreneurship. It is “action learning” (Argyris C. Schön D.A., 1978), learning by doing, so the effectiveness of the learning process is better than other learning systems like lectures (Sousa, David. A., 2006).

The difference of such a learning environment with a professional environment is that it is allowed to make mistakes, sometimes even encouraged to make mistakes. Since making mistakes are regarded positive in the acquiring of entrepreneurial competencies.

We will point out that an edupreneurial learning environment should have the dynamics that make it

possible to learn from making mistakes and from experiencing successes. An environment in which there is a “risk” aspect, with the opportunity of each participant to create value and learning by successes of doing it, or not.

Research Questions

While conducting many entrepreneurial projects in ILC’s, it became obvious that in the complexity of the dynamic entrepreneurial processes, participants changed their strategies and positions. What was the key to their success or failure?

The research focused on the following general questions:

1. Why does contemporary education need the edupreneurial method: an educational learning environment that stimulates the context of entrepreneurship?
2. What are the key elements of learning to be entrepreneurial?
3. What are the characteristics of authentic learning environment for entrepreneurship?
4. Why should an authentic learning environment be independent from that learning style?
5. Can we prototype an authentic learning environment?
 - The half a year International Learning Company (ILC) example
 - The half a day learning entrepreneurship game (LEGame) example

Method of the research

The first question on contemporary education is analyzed in desk research: to determine the need for new learning methods is already pointed out in the introduction: our society has changed, requiring other competencies. Wim Veen (in Homo Zappiens and the Need for New Education Systems, 2009) showed the difference in teaching, needed to cope with the learning attitude of students in the world of today.

<h2 style="color: red;">Young people learn on a different way...</h2>		<p><i>Figure1: Old and new teaching characteristics</i></p> <p>http://www.scribd.com/doc/2578647/Wim-Veen</p>
<p><i>Old teaching</i></p> <ul style="list-style-type: none"> • conventional speed • mono tasking • linear approaches • stand alone • competitive • passive • separating learning and playing • patience in payoff • reality as context • technology as foe 	<p><i>New teaching</i></p> <ul style="list-style-type: none"> • twitch speed • multi tasking • non linear approaches • connected • collaborative • active • learning by playing • instant payoff • fantasy • technology as friend 	

We have applied Wim Veen's analysis in several new learning concepts, especially for learning entrepreneurship, thereby creating the "edupreneurial method". We analyzed our successes and our mistakes. A process of evaluation of the almost 20 international learning companies (ILC's) and the individual evaluations of the participants. The 5 official versions ILC Handbook shows this iterative process. (Van der Sijde and Roelofs 2005)

Our educational system should change from classical educational approach towards the use of "authentic learning environments" thereby creating a context where the characteristics of the mindset of the new generation is the standard. For example, learning entrepreneurship nowadays is 'connected' and 'collaborative'. So to be effective a context is needed to learn 'connected' and 'collaborative'. The problem of entrepreneurs is that when they are taught in the classical school system and they have finished with school, they face a vacuum.

The second question on the key elements of entrepreneurial learning is analyzed both in desk and field research.

What are the key elements of learning? In literature (Smith, M. K., 1999) we see several approaches to learning: the behaviorist orientation sees learning resulting in behavioral change in a desired direction, cognitivist learning focuses on developing capacity and skills, humanist learning should result in becoming self-actualized, autonomous human beings.

Kolb (Kolb, 1988) in his experiential learning theory sees learning as a cyclic process, expressed as four-stage cycle of experiencing, reflecting, thinking, and acting. Kolb states that different people prefer a certain single different learning style, based according to 2 dialectic fundamental choices: feeling versus thinking and doing versus watching. According to Kolb in learning you cannot do both at the same time. So learning processes are structured by internally decisions whether we wish to do or watch, and at the same time whether to think or feel. Kolb's four learning styles are a result of this 'dialectic' choice:

- Diverging: feeling and watching
- Assimilating: thinking and watching
- Converging: thinking and doing
- Accommodating: feeling and doing

According to Kolb the effectiveness of learning is increased if learning is orientated according to preferred learning style.

Learning in our Stenden university, as in all Dutch universities of applied sciences, is about acquiring "competencies" by students. (HBO Raad 2008). Competencies are described as "knowledge, skills, attitudes and behaviour to be successful in a professional environment". While teaching is mostly

focusing on knowledge and skills, our focus in the learning of entrepreneurship has been on “being successful”.

But how is successful entrepreneurship defined? The minor International Learning Company (ILC) taught us that being successful can be measured as an external element (“outside of the university”): a real customer paying and therefore per definition determining that added value is created.

And the key elements of entrepreneurship? According to Coulther (Coulther, Mary 2003) the presence of opportunities is the major characteristic in the definition of “entrepreneurship”. She analysed many definitions, concluding: *“Our definition of entrepreneurship is the process whereby an individual or group of individuals use organized efforts to pursue opportunities to create value and grow by fulfilling wants and needs through innovation and uniqueness, no matter what resources the entrepreneur currently has.”*

Coulther also describes the key elements of the dynamics of entrepreneurship in “The Entrepreneurial Process”, which she characterises by:

- A context to identify opportunities
- Possible competitive advantage(s) to start
- Engage in activities that are entrepreneurship in action

To answer the third question on the characteristics of authentic learning environment, we researched the topic. According to Herrington (Herrington, Anthony and Herrington, Jan, 2008) the environment should provide:

1. An authentic context that reflects the way the knowledge will be used in real life.
2. Authentic activities
3. Access to expert performances and the modeling of processes
4. Multiple roles and perspectives
5. Collaborative construction of knowledge
6. Reflection
7. Articulation
8. Coaching and scaffolding
9. Authentic assessment

We tested whether this theory was applied in the authentic entrepreneurial environments we developed. Authentic learning implies the learning environment must be meaningful, so the knowledge will be used in real life. Related to entrepreneurship, it implicates that this knowledge is part of a process of creating added value. Otherwise it will not be used.

The answer to fourth question, why should an authentic learning environment be independent from that learning style, we used Kolb’s learning styles and tested the individual preferred learning styles. The experiments until now show no specific preferred learning style, by the participants. This process is still ongoing since we are developing a “response” and a “basic” learning style scan, based on our behaviour style scan.

The realistic dynamic of the learning processes in both the ILC’s as LE Game create opportunities for cyclic learning processes where each students is experiencing, reflecting, thinking, and acting and starting his learning process from his preferred learning style. Whether the learning process is indeed cyclic: so follows the steps 1)experiencing, 2) reflecting, 3) thinking, and 4) acting in a regularly order, we don’t know yet. Nevertheless an authentic environment should be “neutral Kolb” to be effective for all participants, since entrepreneurial learning is effective collective learning

The fifth question whether we can prototype a “short term” and a “long term” authentic learning environment showing the edupreneurial learning method is presented in case study 1 and case study 2

Case study 1: ILC, international learning companies.

A learning company is a multidisciplinary consultancy team made up of six to eight higher professional education students (sometimes) of different nationalities and different disciplines, who work together to carry out projects on a commercial basis for one or more client(s). The clients are real companies that pay for the services provided. The students work on a real assignment issued by a real company, working within the confines of a real budget.

Learning companies are enterprising: the customer determines whether the assignment has been satisfactorily carried out by paying – or refusing to pay – the bill. The projects that learning companies work on take six months. Working for a learning company is a ‘full-time job’, the pay is: 30 ECTS study

points plus a fee paid by the client. To earn this fee students have to devote maximum effort and have to achieve optimal results. That's the way it works in business - 'no cure, no pay'.

Adapting Herrington's (Anthony Herrington, Jan Herrington, 2006) definition for the ILC's, all criteria were firmly met. We provided an authentic context that reflects the way the knowledge will be used in real life; since Learning companies work on *real* assignments issued by *real* companies. Students who take part in learning companies gain first-hand experience of what is really involved in producing quality, managing costs, generating revenue, and assuming responsibility for results. Students learn by doing.

The client assesses the performance of the learning company in the same way that he assesses in the market: he simply decides whether he is willing to pay for the services provided or not.

The activities were at all ILC's authentic, since to be defined and negotiated with a real customer and affirmed by this customer in a signed quotation. The organization of an Advisory Board of entrepreneurs and experts who monitored the process bi-weekly and used their network for expert performances. A series of workshops is provided to help the development of knowledge and skills and the network of the Advisory Board provides expert support when needed.

Since the ILC's are multisectoral (international students of different disciplines: economics, pedagogics, technics, etc) it provided a multitude of perspectives for students. Also a large variety of cultural differences were present, with remarkable results. The collaborative construction of knowledge was a key element: working together at the assignment was crucial for each ILC-team. The ILC creates a learning process in which students develop their skills step by step. As they develop their skills the students create their own international personal network, that encourages engagement in enterprise.

The reflection took place using digital portfolio's.

Articulation was organized during bi-weekly group presentations where all members of the ILC's presented parts of the development of the assignment, using the signed quotation as the guideline. A bi-weekly opportunity to articulate and justify his/her activities.

The behavioural background of the theory of Kolb (Kolb, D. A., 1984) is applied by using a behaviour scan to create a better communicative environment for participants to accept the behaviour of their fellow participants.

While monitoring the development, the Advisory Board provided for coaching at critical times (risk reduction in the entrepreneurial process).

The assessment could not be more authentic: the customer paying the bill as a crucial element of the learning process. In our experience customers are reasonable, but they also insist that assignments are reasonably well carried out.

This authentic environment showed the effectiveness of a pull strategy, initiated by a real customer and effective by the experience of positive emotions: success drives the success.

The ILC's made clear that the authentic context of the learning process of entrepreneurship is realized by the key (risk)characteristic: creating added value.

One of the students expressed this beautifully: "In education there is a critical dividing line between sufficient (pass) and not sufficient (fail), but in business there is a critical dividing line between good and not good. That is something entirely different." (Van der Sijde and Roelofs, 2005)

Case study 2: LE Game, a business role game.

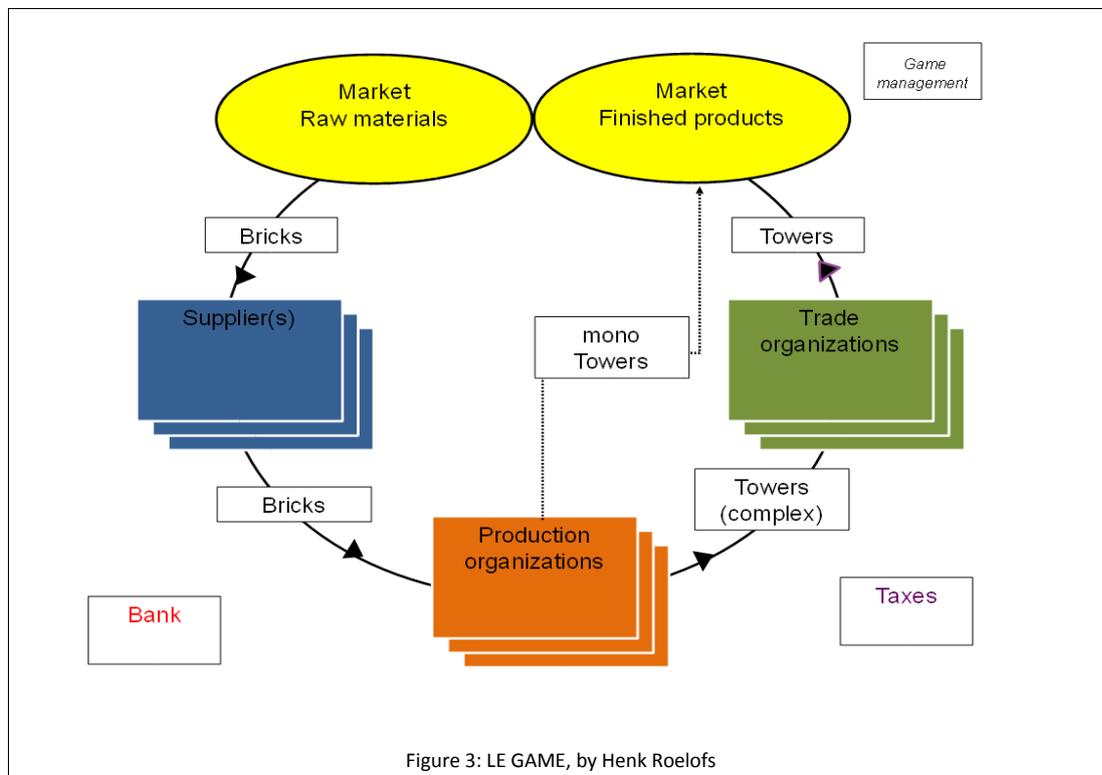
The entrepreneurial qualities can be enhanced by playing the entrepreneurship role game LE Game focusing on the market dynamics along with the ethical and human behavioural aspects in business transactions. The values and essence of the entrepreneurship can be taught by learning by doing (Sousa, 2006). A demand driven learning system which contributes to the development of entrepreneurial skills.

In the game simulation LE Game, participants are exposed to real uncertain market situations which are complex and unpredictable. The essence of the simulation game LE Game lies in the conflict of interests among the different market players. Participants are exposed to the market transactions and the risk during the game. This taking into account the pressure of the scarcity of money and time and of course the possible competitors. All the participants want to earn money by optimizing their business opportunities.

Three types of products are made: simple mono coloured towers, fixed multicolour towers and on demand specific coloured towers. Everybody is entrepreneur in his/her role.

There are 3 variations in the roles: Trading organisations, Production organisations and Suppliers. The added value is created by the entrepreneurs by trading the raw materials, which can be bought at the

Market Raw Materials and the finished products which can be sold at the Market Finished products. Besides there are “supporting roles” like a Bank, and Tax authority. All entrepreneurs are limited in their resources, have a (small) comparative advantage in their stock and have the same starting capital: € 2500 in cash and in kind.



In the simulation, several markets are created, where Lego products are traded. Participants buy and sell commodities, produce and /or trade Lego towers or Lego parts. Each participant is challenged to guide his company in the best way to make as much profit as possible. The success drives the success.

In LE Game the objective is learning entrepreneurship, but there is also a winning element: the one who scores the most profit, wins. The dynamics caused by pressure of the scarcity of money and time and of the possible competitors, create both linear and non-linear processes. Also, it showed the effectiveness of a pull strategy, initiated by customer(s).

LE Game is an authentic context of the learning process of entrepreneurship that focuses on two key characteristic: creating added value and pursuing opportunities.

The participants develop their skills by using the market opportunities: so a demand oriented learning method to develop entrepreneurial competences in an authentic learning environment. The experience acquired provides the confidence to bridge the uncertainty caused by the necessity of creating added value while being exposed to competition. (www.legame.nl)

Conclusions

Contemporary education needs the entrepreneurial method, where students have to acquire competences in a setting that has all the characteristics of new teaching: twitch speed, multitasking, connected, collaborative etc.

Nowadays this is the standard context for any entrepreneur. Communication is more complex, visual, and faster and more complete. The globalized society uses network organizations and information systems to create added value.

The edupreneurial method allows the making of mistakes to be a positive element in a learning process since making mistakes is rewarding in terms of the entrepreneurial experience.

The key elements of learning to be entrepreneurial, imply that the Entrepreneurial process (Coulther,

Mary, 2003), should be embedded in the learning environment: so imply a context in which opportunities can be identified. When learning entrepreneurship, each student should be in a starting position where he/she has at least a possible competitive advantage(s) to start.

The learning environment should also have the dynamics to make decisions and to engage in activities that are entrepreneurship in action. This means an environment with a “risk” aspect, with the dynamics to experience the positive emotions of being successful in coping with these risks.

The characteristics of an authentic learning environment for entrepreneurship is, that in order to be an authentic context, it has to reflect the way the knowledge will be used in real life. Related to entrepreneurship, it implicates that this knowledge is part of a process of creating added value. Otherwise it will not be used.

We have tested participants on their learning style to check whether there are specific differences: there weren't. Nevertheless when learning is considered as a cyclic process according to Kolb, to increase the effectiveness of learning, the context of the learning process should be independent of the individually preferred learning style. This implies a necessity of a “neutral Kolb” environment.

To prototype an authentic learning environment on teaching entrepreneurship effectively we stepwise developed an “authentic edupreneurial” environment that has the characteristics of the Entrepreneurial Process (Coulther, Mary, 2003): with opportunities of each participant to create value, have a (small) competitive advantage and learning by successes of entrepreneurship in action.

International learning companies is such an edupreneurial environment.

Another is LE Game, because it exposes the participants to market risks, identifying opportunities and use the competitive advantage to create added value. You need the “demand pull” for added value, you need the competition to create success or failure.

An edupreneurial environment shows that the development of soft skills is far more demand driven than supply driven. We recently tested the changes in behavior styles and discovered a change towards more extrovert behavior of participants after playing LEGame (Roelofs and Samplonius, 2011).

Participant used entrepreneurial successes and mistakes as a positive element in developing new opportunities and thereby changed their mindset towards learning entrepreneurship.

In essence: since entrepreneurial teaching is not the same as entrepreneurial learning, an authentic edupreneurial environment is needed to activate entrepreneurial competences.

Because competences are combinations of skills attitude and knowledge to be successful in a professional environment, a demand driven learning process should focus on being successful. The pull strategy of entrepreneurial learning is effective by the experience of positive emotions.

You need successes to learn to be successful.

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