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Entrepreneurship versus E-learning: Empirical evidence from Tunisia

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Abstract: Open and distance learning is a new research field for the involvement of trainees and the development of their entrepreneurial action. In fact, E-Learning strengthens knowledge transfer and enables support to future entrepreneurs.
The purpose of this article is to elucidate the relationship between entrepreneurship and e-learning through the identification of entrepreneurs' needs in order to improve the functionalities of the e-learning device. ¶In the same way, we attempted, starting from a sampling, to understand and explain the dynamics and to identify the means of interventions able to make a success of training in entrepreneurship through a platform of e-learning.

Keyword: Entrepreneurship, E-Learning, collaboration, platform

1. Introduction

The underlying difficulties to the implementation of a training in entrepreneurship result in interrogations about the effectiveness of the accompanying actions to the young entrepreneurs, within a limited period. However, during the last years, all businesses were radically affected by the Internet; the trainings in entrepreneurship and the broadcasting of the entrepreneurial culture is no exception to these changes. The e-learning can from now on provide service to us, while at the same time be a tool of recognition and motivation which transforms the access to the knowledge into tool of piloting [BEN HASSEN & JAZIRI 2006].

Indeed, undertaking a new project is a process, which requires the creativity, autonomy, the determination as well as a high level of constancy in solving the various problems and difficulties. Such qualities and skills must be tested through a long learning process. The success of this process supposedly relies on bringing together the external conditions related to the environment to which the individual belongs but especially an accompaniment and a follow-up, so that the young person is not intimidated by the complexity of work situations [GASSE & D'AMOURS 2000].

The installation of a device with variable geometry, connecting the result of the transmission of knowledge to the experience of lived feedbacks, will make it possible to accompany the new entrepreneur in his quest of knowledge and know-how to better diffuse the entrepreneurial culture [JACQMOT, MILGROM, 1999].

In addition to the availability of information, the flexibility of space and the possibilities of exchange and collaboration, using such a device will allow a learning that proposes "an active and constructive process through which the learner strategically handles the cognitive resources available in order to create new knowledge by extracting information from the environment and by integrating it in its informational structure already present in memory" [KALIKA 2000].

The aim of this research is to clear the fact that the entrepreneurship can develop with people in the virtual environment, as it is a facilitator and valorizing for the entrepreneurs. The distribution of "collaboration" and the flexibility of space, in its spatial and temporal dimensions, undoubtedly promotes the moving of the learner (the future entrepreneur) from the individual focus to the collective focus being distributed [GASSE, DIOCHON., MENZIES, 2002], which makes it possible to systematize a continuous process of collection, treatment, storage ,information flow and expert knowledge.

To weigh the challenges, we started by putting forward an analogy between a training in entrepreneurship and the e-Learning, being based on the work of SENICOURT and VERSTRAETE (2000).

Then we tried, starting from a sampling, to understand and explain the dynamics and to identify the means of intervention capable of stimulating an entrepreneurial culture within the framework of a device of remote teaching. This was performed to show that the entrepreneurs involved in a business incubator of the area are far from being a homogeneous population and that they belong to a much-diversified entrepreneurial landscape. Thus, the assumption that shows the limits of the strategies of accompaniment in trainings based on traditional models.

Last, we attempted to better understand and to determine the needs of the young entrepreneurs regarding trainings and accompaniment in the light of interviews that followed the experiment of some remote teaching devices,. At the end of this analysis, we will present the specifications of an remote teaching device and the essential functionalities to the accompaniment of the creators and the diffusion of an expert knowledge.

2. Entrepreneurship and e-Learning

The entrepreneurship according to Gartner is "the study of the mechanisms by which the organization starts to exist". The entrepreneurs, thus, are considered in their activities. So the knowledge transmitted to the candidates with creation must make emerge a behavior which will make it possible the organization to exist [FOUNTAIN, SAPORTA & VERSTRAETE; 1999]. It must allow the orientation of the disciples towards "realities of the entrepreneurship for a training achieved through action". The training must, also, enable the development of the capacities of the entrepreneur in order to incite to the related behavior, or, to form to the «entrepreneurial process, for better seizing of evoked realities". So the distribution of the training thanks to the ICT can result in a more effective and efficient training process.

First, remote teaching devices fall under an approach of permanent leveling making it possible to concretize the formal field through the use of learning environments which confront learning concrete problems similar to real-life situations. When "the learner-entrepreneur" is placed towards simulated situations, "it is possible to tackle complex problems in an intuitive way and to pass to formalization thereafter when the needed tools are mastered enough" [BAUJARD 2004].

Then the ICT in general and the e-Learning provide the possibility to the young entrepreneurs "of being formed starting from their computers while being based on individual and advanced steps of training" [JACQMOT, MILGROM, 2000].

In the same way, the solutions and the platforms, abundant in the Internet, can support any training device favoring "a process of encoding of the routines from the behavioral point of view" [March, 1991]. The distribution of the training on the Web is not only one instrument of broadcasting the information "it is also a true intellectual technology, a cognitive tool with a strong direction, something which organizes reality and provides an instrument of thought" [Anderson, 1988].

The e-Learning can thus improve the content of a training course in entrepreneurship thanks to a process of capitalization, valorization and broadcasting of knowledge. Indeed, by favoring access to resources and services as well as the exchanges and possible collaboration remotely, the e-Learning can become of valuable help to ensure the unity of the device of training in entrepreneurship by supporting the assimilation of knowledge "to treat the professional event met and to integrate the resources in the construction of the courses of the training" [JACQMOT, MILGROM, 1999].

Research and the practices of the teaching entrepreneurship show that the success of any learning device will depend on its capacity to integrate the four levels of broadcasting of an entrepreneurial culture: the sensitizing, training, counseling and the accompaniment [Senicourt & Verstraete; [2000]. The taking into account of these four levels can be performed only through one device with variable geometry articulated around the Information and communication technology (ICT). It will allow as follows:

- to manage the process of knowledge acquisition by the young disciple and the setting at his disposal of adapted contents (training phase).
- to facilitate the identification of his needs and to direct it throughout the learning process (counseling),
- to overcome isolation and to manage the distance factor by developing essential cognitive and emotional qualities related to the entrepreneur (accompaniment),
- to give media coverage to the experiences in order to revalorize and highlight the entrepreneurial culture (sensitizing).

Training in entrepreneurship, also requires that we provide "answers to the questions of the person who decides to undertake a new business or already started one" [KALIKA 2000]. It is about counseling which returns to a relation requiring of competences, availability and a quality of listening generally exceeding the provisions of the trainers. Only a device centered on ICT will make it possible to circumvent such a difficulty. It will allow in the first time to generate instantaneously the information, then to synchronize it and finally to broadcast it effectively and this thanks to the setting "in contact with realities of the entrepreneurship, and whose forms of expression are multiple and singular" [MARCH 1991].

3. Methodology of research

The interest of this qualitative, exploratory and descriptive research is to show that the entrepreneurs in the two business incubators located to the governorate of Sousse, are far from being a homogeneous population and that they belong to a much-diversified entrepreneurial landscape. This explains the limits of the strategies of accompaniment and training based on the traditional models. Then we tried to better include/understand their needs through a maintenance and an experimentation for some remote teaching devices in particular the platform INES (INteractive E-learning System): an experimental open source platform developed by the teachers of the ISET.

To perform this, we addressed a questionnaire to 72 entrepreneurs accompanied in the two business incubators in question (hosted and/or incubated). The questionnaire was structured in order to identify the following elements:

- Profile of the entrepreneurs;
- Motivations;
- Characteristics of the companies created;
- Encountered difficulties;
- Needs;
- The quality of the accompaniment and the assistance;
- Training needs.

We carried out the experimentation thereafter. We tried via discussions, to identify the means of interventions able to stimulate an entrepreneurial culture within the framework of a device of remote teaching and to present the specifications and the functionalities essential to the diffusion of an expert knowledge.

4. Interpretation of results

Before thoroughly scrutinizing the results of the investigation, it seems necessary to present the business incubator. It is a reception facility temporarily proposing of premises, assistance and the services adapted to the specific needs of the newly created companies or in the process of creation ". The center thus represents an "environment of reception and accompaniment for the entrepreneurs having to provide a support to the formalization of their projects and an aid to their companies in the first years of their activities. This reception includes counseling activity and a strong logistic support with an aim to significantly improve the chances of success for the creator of a company". However, the difficulties of supervision persist in relation to the heterogeneity of the incubated population.

A) Profile of entrepreneurs

The results of the investigation show that the entrepreneurs accompanied by the business centers, are in majority young and single people having no engagements apart from the management and the development of their companies. They are graduates of higher education and have a perfect command of new technologies of information and communication. They are in majority [75%] from the rural zones and live with more than 40 km of the town of Sousse. [See table 1].

However, the detailed analysis of the profiles shows that the entrepreneurs are far from being a homogeneous population. The reading of the courses of continued formations shows that they are varied and differ from a contractor with another [GASSE, DIOCHON. MENZIES, 2002]. Such a result seems to have a consequence on the knowledge to transmit and the choice of the suitable device for the formation and the accompaniment.

The analysis of the geographical origins also shows that the needs vary from an area to another. In the same way, these young entrepreneurs find difficulties of managing their timetable since they are obliged to leave their areas to incubate their companies in the seedbeds. Such a step seems to be according to them a constraint moreover to manage cost of transport, management of time, etc.

Table 1: Profile of the entrepreneurs accompanied in the business incubator

Characteristics of the entrepreneurs		***Size***	***F*(%)***
Area	Rural	54	75
	Urban	18	25

Age	Less than 25 years	5	7
	[25;30[years	46	63,9
	[30; 40] years	20	27,7
	More than 40 years	1	1,4
Marital status	Single	48	66,7
	Married	24	33,3
Studies level	Baccalaureate and less	3	4,7
	BTS [bac+2]	11	15,2
	License and DEST [bac+3]	21	29,1
	Bachelor [bac+4]	21	29,1
	Master and more [bac+5]	15	20,9
Nature of the diplomas	Letters and social sciences	6	8,3
	Law, economy and management	17	23,8
	Technology and data processing	24	33,2
	Structure and fine arts	12	16,6
	Biology and medicine	7	9,8
	Other specialties	6	8,3

**Frequency*

B) Motivations of the entrepreneurs

The investigation revealed that the majority of the young entrepreneurs come directly after having obtained their diplomas, they do not have a professional experience and control only certain theoretical aspects step "to undertake it". All are with their first creation of company (table 2)

Table 2: **Motivations of the young entrepreneurs**

Motivations		*Size*	*F* (%)*
Variables of influence	The family	21	29,2
	Former studies	9	12,4
	The idea of the project and underlying opportunities	21	29,2
	Personality of the entrepreneur	21	29,2
Objectives	To be owner of one's business	18	25
	A way of forming part of the active life	14	19,5
	To reproduce a family diagram	28	38,9
	To be developed and promoted socially	8	11,1
	To improve one's financial standing	4	5,5

**Frequency*

We noted that 42% of the entrepreneurs have a relative who succeeded in creating or to take over a company. They benefit from family support and have an idea about the business world; 39% of them tend to reproduce parental diagrams by creating companies within the framework of the spin off or quite simply to develop and innovate the family company. In the same way, 25% of the young entrepreneurs are motivated by the idea to be the owner of one's business and think of having found an idea of project, which will enable them to achieve this goal. They are strongly influenced by their respective environments and regard the creation of company as essential act their self-fulfillment and their integration with the active life. However, 19,5% seem not to share this opinion. They consider the creation of company as being their last chance to be able to be part of the active life after having failed to find a work, which meets their needs and corresponds to their competences. The investigation also showed that certain people fell under this process of creation by chance: a combination of circumstances leading to make this choice.

A) Needs of the entrepreneurs

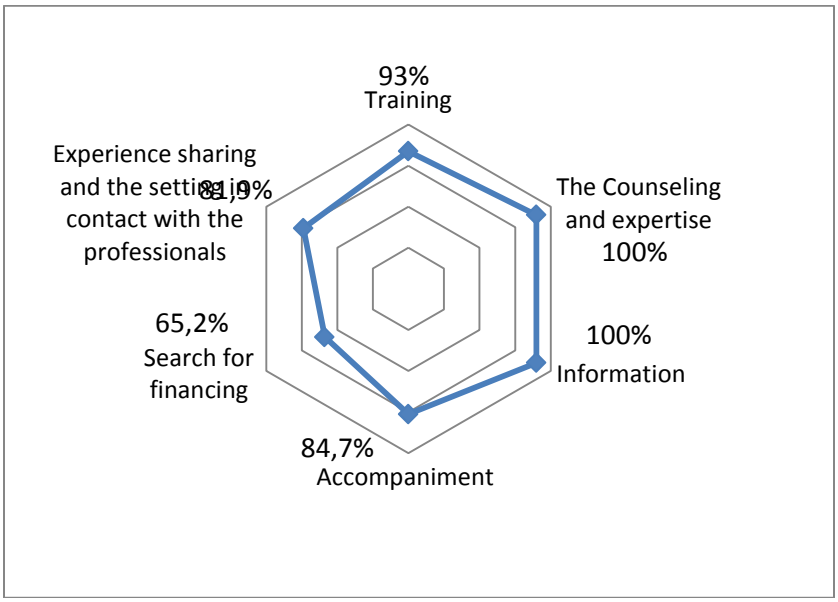
The young entrepreneurs are petitioning of training in creation of companies. What explains the weak rate of absence to the seminars and the cycles of formation. However, 55% of the entrepreneurs seem not to be satisfied of the formation and the accompaniment on the level of the seedbeds. A majority (67%) stresses that the contents are very a general practitioner and does not allow refining their plans of businesses. (Figure 1)

Moreover, 87 % of the creators propose to especially revise the plan of formation by requiring more flexibility of the level of the schedule. They explain why they have a timetable very charged and that it is difficult to reconcile formation and steps on the ground. It should be noted that the duration of formation as regards creation of companies is generally spread out over three weeks at a rate of 4 hours per day.

Figure 1: Satisfaction in respect to the training, the accompaniment and the counseling at the level of the business incubator

On the level of expectations (Figure 2), the young entrepreneurs hope that the business incubator ensures to them an accompaniment and a training comparable to their competences but especially comparable to their projects. They estimate that the personalization of the training and the accompaniment will make it possible to better help them in their process of company creation and will increase the chances of success of their companies. Nearly 82% of them estimate that the experience sharing and the setting in contact with the experts will make it possible to improve the quality of the accompaniment and to complement the training.

Figure 2: Needs of the entrepreneurs



In short, our young entrepreneurs have a strong need for personal fulfillment; they rely on themselves, like to take risks and are full with energy and motivation. However, the analysis of the motivations shows that it is difficult to determine the needs of the training accompaniment and to move them in a traditional device, because of the heterogeneity of the study backgrounds and motivations of each entrepreneur. In the same way the typology and the characteristics of the created companies (see table 3), are diversified so much that no teaching protocol can claim to standardize it at the level of the contents. However, it is possible to overcome this difficulty by providing the possibility of sharing experiences between pairs and of collaboration via a device with variable geometry.

The interest on such a step is to bring together the entrepreneurs and the experts (synchronous or asynchronous) and to enable them to combine their competences through the exchange of the experiences. Such a step will undoubtedly produce a common effect maximizing the chances for each one to make a success of his company; from where interest of our experimentation.

Table 3: Characteristics of the created companies

Characteristics of the created companies		***Size***	***Frequency***
Branches of industry	Agricultural	1	1,4 %
	Industrialist	47	65,3 %

	Services	24	33,3 %
Legal status	SA	0	0
	SARL	34	47,2 %
	SUARL	18	25 %
	Individual	20	27,8 %
Authorized capital	*K < 10000*	10	13,9%
	[10000; 20000 [	24	33,3%
	[20000; 50000]	18	25 %
	K > 50000	20	27,8%
Estimated sales turnovers	*CA < 10000*	2	2,8 %
	[10000; 20000 [	8	11,1 %
	[20000; 50000	34	47,2 %
	CA > 50000	28	38,9 %
Profitability of the project	Low	2	2,8 %
	Average	44	61,1 %
	Good	26	36,1 %

B) Training needs

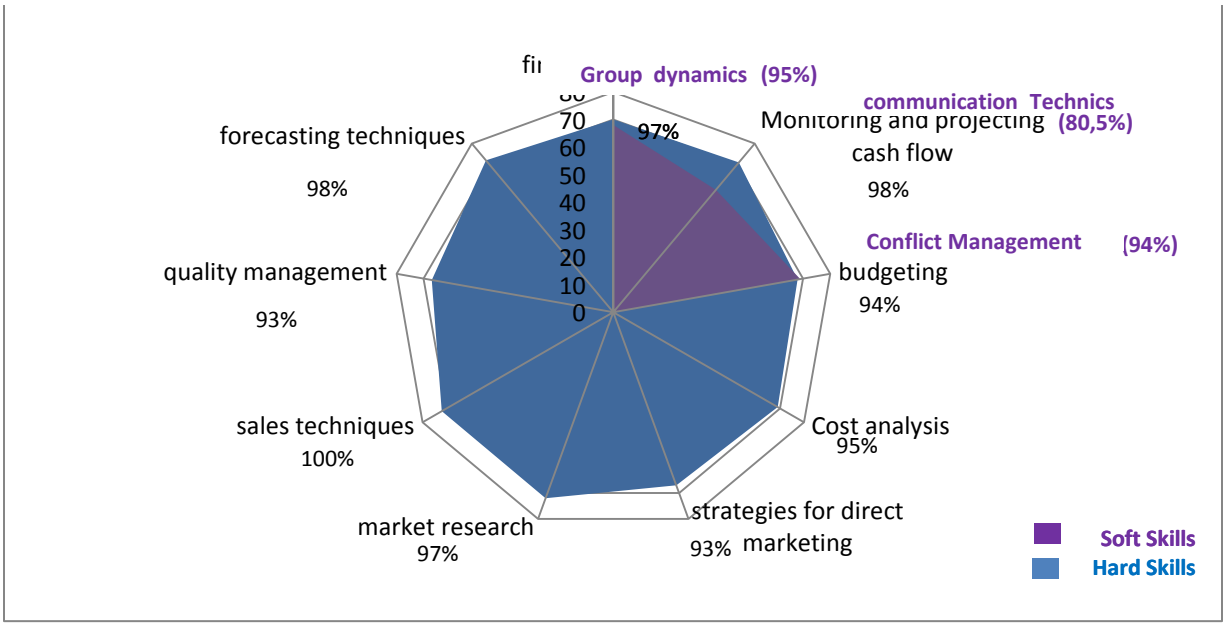
The majority of entrepreneurs surveyed showed two types of training needs including hard skills and soft skills.

Therefore, we must take into account these needs identified by entrepreneurs during the implementation of E-Learning Methodology in Teaching Entrepreneurship.

A good proportion of interviewed entrepreneurs have expressed a series of priority hard skills such as: financial analysis (97%), Monitoring and Projecting cash flow (98%), budgeting (94%), cost analysis (95%), strategies for direct marketing (93%), market research (97%), sales techniques (100%), quality management (93%), and forecasting techniques (98%) (Figure 3).

Similarly, the entrepreneurs have expressed a need for soft skills that are considered as diffuse and informal. In fact, soft skills as more oriented towards human skills and interactions that involve emotional intelligence. these skills are available in 4 forms : personal (efficiency, reliability), communicative (ability to engage in a discussion , to build a social network, etc.), interpersonal (sense of responsibility , team spirit awareness hierarchy, etc.) various (resourcefulness, passions, etc.) .

Figure 3: Training needs of the entrepreneurs



5. Development of serious game on INES

The results of our survey led us to develop a serious game called "Play *& Startup*" which will be administered on INES platform to help learners how to start their business. This serious games has taken into account all the needs stated by interviewed entrepreneurs.

The player takes the role of a candidate for the best innovative project award for contactor. Therefore, he will be capable to design the business plan of his project! Thus, he became a consultant in a consulting office that controls all the steps and concepts related to business plan: market research, strategic choices, budgeting, financial analysis, marketing, stress management and many other topics.

The serious game offers several mini-games covering these topics. Sometimes, the learner have to simply answer questions, other times he must select statements, classifying words, at the end of the mini-games, the player receives a score sheet. He then sees if he got full marks, or only a part.

The game is very interesting. Learners using computer games can make this game in about an hour, the others take longer. But the game offers especially the ability to replay missions to get better scores and collect trophies that have not been obtained in the first test. finally, it is a learning tool quite credible to advise all those who want to become familiar with the steps of creating a business.

Acknowledgment

At the level of the exchanges and collaboration, the young entrepreneurs appreciated much the forums and the chat rooms for discussion. The recorded rates of participation were very high in the two platforms and lead us to believe that the tools of communication answered the expectations of the entrepreneurs. At the same time , the broadcasting of the accompaniment contributed to consolidate knowledge and to develop "collaboration between pairs". Moreover, even if divergences between "learning entrepreneurs" appeared, they managed to get along thanks to the availability of the experts.

In the same way, the young entrepreneurs were motivated to communicate and collaborate while progressing in their steps and procedures of creation. The functionalities and the tools of

the device made it possible to revalorize the collaboration aspect of the training and to found an in-depth co-operation based on the argumentation and the creativity. This made it possible to generate:

- Cognitive effects: of own skills, possibility of decentring itself, application of concepts and facility of transfer.
- Effects of an emotional and social nature: improvement of the interpersonal relations, ease in work in-group, acceptance of the individual and cultural differences and reduction of the fear of the failure and the anxiety.

The level of competences, the device made it possible to improve quality of the "business planning» and much reduced the time for their formulations (it passed from 6 to 2 weeks). It should be noted that these results are due, partly, to the availability of the tutors (teachers, professionals and experts) synchronous or asynchronous. However, it is necessary to dwell on certain failures, which can hinder in the long term and in a broader context, the completion of the training. The two platforms and especially their interfaces do not seem to support the interactivity between pairs. The means used must be re-examined to offer choices that are more varied to the entrepreneur and to personalize his workspace. In the same way, the confidentiality of the files of creation obliges us to re-examine the safety of the device (criteria/ factor).

It should not be forgotten that the results obtained relate to a particular experiment and that the context can skew the behaviors of the various speakers. Indeed, at the time of implementation the effective, certain factors must be taken into account especially:

- Conditions and procedures of access to information: it is fundamental to lodge the device and to conclude from the agreements with the companies for the diffusion of the data. In parallel, it is necessary to help the learning entrepreneurs to connect itself under the best conditions in their offering the material necessary.
- The organization of the scenario: the groups will multiply what requires more follow-up, of framing and control.
- The device proposed must be supported by a bibliography and a database significant and targeted in order to accustom learning how it to document, to inform themselves and learn by itself and thus to reinforce the process of training.

At the end of this work, we can conclude that the training in entrepreneurship (broadcasting of the entrepreneurial culture) is best prepared with the remote teaching tool. Indeed, the analogy of the both traditional learning and e-learning processes reveals more advantageous at the cognitive as well as emotional level for the learning entrepreneur.

In addition to the results obtained, considering the constraints exerted by the environment, the heterogeneity of the entrepreneurial landscape and the broad variety of the requirements in terms of training and accompaniment, is enough to justify the recourse to the ICT in the training in entrepreneurship. It is important to note of the importance to be careful that the e-Learning tool can take into account the variety of the concerns of the entrepreneurs and to integrate it in an adapted and evolutionary media device.

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