

"ENTREPRENEUR WORKSHOP" METHODOLOGY. A NEW WAY OF TEACHING

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Summary

Abstract

This text presents the experience of the Softex¹ Programme, and its developments. It describes and presents the results of applying a methodology of teaching entrepreneurship² at university level, in which one of the key elements is the fact that it is taught not by teachers from the Business Administration field, but by teachers from the undergraduate course in which it is offered. The methodology is based on the visionary theory of Louis Jaques Filion³, and came about as the answer to the needs of a country in which business culture proves rather timid, which shows how urgent it is to multiply the teaching of entrepreneurship⁴. The results obtained in the use of the methodology in around 150 institutions, spread all over Brazil, have proved that teachers of computer science, and those of various other areas⁵ have achieved great success in their teaching of entrepreneurship.

Key words: enterprise culture, entrepreneur workshop, entrepreneur workshop organiser, entrepreneurship; support systems; vision, relationships, energy, leadership, sector knowledge, `godfather`, `jury`.

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• ¹ The methodology described in this paper was developed for the Softex Programme through its core FUMSOFT. Softex coordinates the Brazilian industrial support policy, and encourages the export of software. In order to reach its central aim of increasing the export of Brazilian software, supported by the government through the CNPq (National Council of Technological and Scientific Development), it is developing several activities aimed at strengthening the national ability to export software. One of its aims is to increase the number of companies in the sector, which have technological and market competence, and are capable of standing up to international levels of competition. The teaching programme for entrepreneurship described here was created to stimulate Brazilian computer science students to open companies.

• ² The subject matter of the course described in this paper covers the first emerging idea up to the validation of the idea, through the Business Plan. Gibb (1991)

• ³ Filion, L.J., (1991)

• ⁴ `In less developed countries, the encouragement of entrepreneurial activities is recommended as an avenue to stimulate economic growth`, Harper (1991)

I The Brazilian context – factors relating to the methodology.

University teaching aimed at producing entrepreneurs.

Brazilian university teaching has always been aimed at training businesspeople. In the business administration courses, the curriculum is mainly concerned with training up managers, and the teaching style centres on large companies, mostly ignoring small businesses. In all university courses, the teaching `culture` presupposes that the student is looking for a qualification which will guarantee him⁶ a job.

The beginning of the relationship between university and business.

On the other hand, the country has not yet reached maturity in its interaction between university and business, and has a extremely low index of synergy in this field, due mainly to the fact that businesses in Brazil have traditionally been multinational companies, which have their technological centres of development in their own countries. Thus distanced, the university and businesses in Brazil have not yet been able to achieve a *modus vivendi* which could give rise to the existence of scientific-technology parks, and effective ecosystems with which to face globalisation. As they are isolated, with no channels of communication which could result in significant changes to the economic development, the university and the business world tend to keep a distance from each other, and, what is worse, tend to crystallise their traditional views and prejudices which supposedly justify them. The theme of the integration of the university and the world of business in Brazil, apart from being touched on in some academic forums, has, as a rule, not yet achieved, in spite of innumerable attempts, any other form but simple discussion, with no significant results.

This being so, the institutional dialogue between university and business is still a difficult subject and is only just starting up. On the other hand, noticing this great difficulty in initiating *university-business* communication via official channels, various alternative proposals and projects have come about, indicating that change will happen independently, in spite of the institutional position. The project this paper concerns, is an living example of such actions: it was born outside the university, and found support in financial agencies which are not directly linked to teaching. Moreover, as we

• ⁵ Courses where the teaching of entrepreneurship has already been started, based on this methodology: Physics, Computer Science, Metallic Engineering, Electric Engineering, Geology, Statistics, Librarianship, Administration, Economics

• ⁶ Throughout this text, the student, teacher and businessperson will be referred to as he/him. We do not wish to exclude all the many females concerned, but find the alternative, he/she, him/her too clumsy. Apologies to those females females who may be offended.

shall soon see, it is being implanted without the direct involvement of the university *establishment*, such as the management of the universities, or official organs of federal and state government.

Technology in the Brazilian company and the impacts of globalisation on Brazil

For their part, the companies starting up in Brazil, have never, due to lack of capital, been able to set up a relationship with the centres of research in universities. For various reasons outside the scope of this text, national businesses have, up to now, tried to obtain at times the protection of the Brazilian government, through means of the setting up of market reserves, which bar imports in their area, and at other times the importation of technology.

There are many factors in common with all other countries, but the urgency of setting up small businesses in Brazil also comes from the uncertainty of the abrupt opening up of the national market to the globalised world, making the national companies, which have traditionally operated within a protected market, start to compete internationally, with no previous preparation, and no tradition in the area of technology to fall back on.

Support systems and public policies relating to Small and Medium Businesses (SMB)

It is not surprising that, in the face of Brazil's institutional set-up, the support systems are still acting rather timidly. National organs which aim at providing support for the SMB, such as Sebrae and IEL,⁷ although acting effectively in certain areas, have not been able to meet the needs of the SMB and emerging companies, precisely because this is not their aim. And this is in a country like Brazil, where resources are scarce, there is a very bad distribution of income, the regional disparities are deplorable, the rate of generation of jobs is incapable of absorbing the emerging work-force, and unemployment is also fed by the strong policy of privatisation. Due to many factors, risk capitalism has not yet emerged in Brazil as an attractive economic activity, being restricted to few initiatives. The SMB have suffered terribly in the face of the extremely low availability of financial resources for the financing of their activities.

The public policies are extremely unfavourable to the SMB. The absence of effective financing policies, and the high level of taxation are strong factors which inhibit the birth and growth of businesses.

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● ⁷ Sebrae: Brazilian Support Service for Small Businesses, an organisation with strong influence over the whole of Brazil. IEL – Euvaldo Lodi Institute, an organ of CNI – National Confederation of Industry, which deals with the relationship between university and business, and has an important support role in entrepreneurship all over the country.

The social image of the businessperson

A last, but very relevant point, is that in Brazil, being a businessperson is not seen by society in a totally positive light. In fact, the Brazilian businessperson is, in general, seen as someone who gets rich under the protection of the government, exploiting its employees and using other illicit means. Due to its negative connotation, the term `businessperson`, referring to someone who has a business, has been substituted in our teaching methodology by the expression `entrepreneur`, which, although this is a generally acceptable term, does not have a restrictive meaning.

The questions thrown up by the present situation of Brazil.

The present economic disorganisation provides potential for opportunities to set up companies, mainly for those leaving university, but also for those finding themselves unemployed. This whole context leads one to the conclusion that the teaching of entrepreneurship at Brazilian universities cannot be restricted to the classroom. It should also involve, raise awareness of, and mobilise the support systems, which are often unaware of their role. Furthermore, this work also involves the awareness-raising of the population in general, moving towards the creation of a better name in society for the activity of entrepreneurship.

We can, thus, formulate the proposed needs for the Brazilian situation in terms of a programme of teaching of entrepreneurship:

- Starting the teaching through the university, due to this institution's ability to disseminate information, and in order to `officialise` entrepreneurship as a serious subject
- Teaching on a large scale, in order to serve the continental dimensions of Brazil
- Teaching on all undergraduate courses, not just courses of business administration.
- The urgency of the introduction of this teaching: speed should be a priority.

In this context, the following questions emerged::

- How to implement the discipline from outside to the inside of universities?
- How to raise awareness of, persuade, incentivate and train the teaching staff?
- How to overcome the obstacle of university – business integration?
- How to involve the support systems?

Furthermore, due to the proposed methodology, as we will see below:

- How to bring the businessperson to the classroom, transforming him into a true master of teaching, and, more important, how to convince the university to accept this situation?
- How to leave space in the classroom for emotion, dreams, the ego, the undefined and the uncertain? How to prioritise the person above the knowledge? as these principles are not included in traditional teaching.
- Where to recruit the teacher for this area?

II – The corner-stones of the teaching methodology

The use of the concept of culture to create an entrepreneurial atmosphere in the classroom.

Hofstede defines culture as : `a collective programming of the mind which distinguishes the members of one group or category from people of others`.⁸ Allan Gibb sees `entreprise culture` as ``a set of values, beliefs and attitudes commonly held in a society, which support the notion that an entrepreneurial `life system` is desirable, and that, in their turn, strongly support the search for `effective` entrepreneurial behaviour by individuals or groups``⁹

Everything points to the entrepreneur being the fruit of a culture. On the other hand, if there are doubts about the possibility of teaching someone to be an entrepreneur, it is known that is possible for someone to learn to be one in certain circumstances which are favourable to self-study. This context could be defined with a metaphor, which could be taken as one of the foundations of the proposed methodology, in which the teaching aims at `injecting the virus of entrepreneur in Brazilian students`.¹⁰ Thus, the atmosphere in the classroom, the `entrepreneur workshop`, should be

“a `culture` favourable to the propagation of the entrepreneurial virus, and its consequent contamination of students who have not yet been inoculated, and the acceleration of the manifestation of the virus in students who have already been inoculated in other settings. The most effective contagious vehicle is the

• ⁸ In Russell (1997)

• ⁹ Gibb (1998)

• ¹⁰ An expression coined by Professor Eduardo Moreira da Costa, creator of the Softex 200 Programme

*entrepreneur*¹¹ who goes to the classroom and establishes direct contact with the students.¹²

This metaphor creates the image of the classroom transformed into an atmosphere where entrepreneurship is highly contagious. Here, the pre-entrepreneurial student can learn within the same guidelines as the real entrepreneur learns: in a self-sufficient way, developing his own method of learning, learning by trial and error, defining visions, searching out knowledge in a pro-active way, and all this within a favourable culture in which the emotional context is important.¹³ In this text, we have called this culture the `Entrepreneur Workshop` (EW), and we propose that the most suitable role for he who offers this teaching be that of `Entrepreneur Workshop Organiser` (EWO).

The visionary theory of L.J.Filion as a support for the methodology.

According to Filion¹⁴, the entrepreneur is seen as someone who imagines visions, and then develops these, and puts them into practice. The vision is an idea, often a set of ideas (images), which one wishes to achieve (projected into the future). Filion mentions three categories of vision. The emerging (initial), the central, and the complementary. Emerging visions are formed around ideas and concepts of products and services, imagined by the entrepreneur before he starts up a company. The central vision is the result of one, or a combination of, emerging visions. The external central vision refers to the place that the products/services occupy on the market, and the internal concerns the type of organisation necessary to reach one's objectives. The complementary visions are management visions, aimed at providing support for the central vision. The vision is sustained by four elements. The main support factor of both the creation and the development of the vision is, apparently, the entrepreneur's system of connections. The other factors which influence the process of structuring the vision: leadership skills, energy levels, his self-image, and sector knowledge, all interact dynamically among each other, and are worked on in the classroom, by means of exercises. These make up the base elements for the process of modelling, which consists

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• ¹¹ Modelling process: the students pick up, and take on board behaviours and attitudes of the entrepreneur giving testimony.

• ¹² The aim of the teaching is to contaminate the student, so that he feels prepared to open his own business at some time in his life, and not immediately after leaving university. Thus, he who opens a company soon after graduating would be highly contaminated. However, the normal case is that the virus becomes active some time after inoculation.

• ¹³ Of the three levels of relationships referred to by Filion (1991), (*primary*: family, connections around more than one activity, acquaintances; *secondary*: connection around a determined activity, network of connections; *tertiary*: courses, books, trips, trade fairs and conferences) the primary group has the highest influence on the formation of the culture. In the proposed methodology, the secondary and tertiary levels contribute to the formation of the `culture` by transforming the classroom.

• ¹⁴ Filion, L.J. (1991)

in capturing, in a structured form, the experiences of entrepreneurs which are related in the classroom.

The role and profile of the Entrepreneur Workshop Organiser (EWO)

The contribution of the EWO to the construction of the network of connections and sector knowledge..

The elements of support for the visionary process : *connections, sector knowledge, one's self-image, energy level, and leadership skills* , are the main ingredients which make up the `culture` , into which the classroom is transformed, one that is suitable for training the entrepreneur, the latter understood here to mean someone who is born, grows and develops in an autonomous way in a favourable atmosphere.

In this atmosphere, what is the role of the `Entrepreneur Workshop Organiser`?

Among the elements of support of the visionary process, *self-image, energy and leadership* are personal characteristics, which the student-entrepreneur is expected to develop, by means of exercises and self-study processes. In this case, the contribution of the EWO is indirect, as these characteristics are subjective, and take on individual forms. The EWO may make suggestions, but not contribute directly.

On the other hand, with the other two elements of support, *sector knowledge, and network of connections*, the contribution of the EWO should be direct and effective, as both refer to phenomena which are external to the personality of the entrepreneur, and it is possible to learn these by reasoning.

It is important to mention how the campus of the entrepreneur is inverted: no longer is it a university atmosphere, but the market, where businesses operate. The EWO then has to introduce into the classroom elements of contamination. The EWO is someone who is prepared to set up a *network* in the atmosphere of business, and take this into the classroom. To this end, the EWO must be familiar with the area of business, that is, with the business utilisations of the area in which he is specialised. For example, on an entrepreneur course for veterinary undergraduates, the EWO should be someone who, knowing the technology which applies to that area, endeavours to understand the ways the relevant market functions, its tendencies and the way it is changing. As he is a specialist in veterinary science, he will certainly find this task easier than any business administration teacher who might teach this course. We do not wish to imply that the business administration teacher would not be the most suitable one to teach entrepreneursim, but rather to assert that specialists from many different areas of knowledge can also carry out this function successfully.

But how will a veterinary specialist approach subjects which are so distant from his area of academic interest, but which are essential for the new entrepreneur, subjects such as marketing, finances and organisation?

The answer to this question can be found in the principles of the teaching of entrepreneurship, in which, in this `favourable culture`, the student entrepreneur learns in the same way as the real entrepreneur: in a self-sufficient way, by trial and error. In this context, the EWO is not someone who is specialised in giving good answers, but, on the contrary, someone who is able to formulate the questions which can set off the creative processes, identify opportunities, analyse viability, and adopt measures to minimise risk.

In this way, in the EW, the providing of ready answers, formulas, and prescriptions, talking about right and wrong, are all seen as doing harm to the learning process of the entrepreneur: in fact, in his daily work, in everything concerning the core of his work, (identifying, getting hold of and searching for resources to generate opportunities), the only source the entrepreneur has for answers is within himself, in his experience, as in the *chunk* syndrome discussed by Herbert Simon¹⁵. It is important that, in his role of EWO, the teacher who is used to teaching in a traditional manner, relinquishes his position of the source of all knowledge, and his paternalistic attitudes, which are common in the classical style of Brazilian university teaching.

Instrumental knowledge is essential, but in the phase of the teaching of entrepreneurship that we are talking about, the person comes before the knowledge, that is to say, the person who is capable of setting up a business must have the attitudes and abilities which will enable him to work, and survive, in the business world. From this point on, and as a consequence of his position as a human being, his instrumental knowledge will be learnt in a self-sufficient way, within a context of pro-activity.

Furthermore, as will be seen below, the methodology has adopted the figure of the `godfather`¹⁶, who, apart from representing one of the student-entrepreneur's first steps in the building up of his network, also serves the purpose of putting him in contact with an adviser, who can discuss instrumental content, and set him on the path of self-study in this area.

In fact, as he is trying to understand the line of business to which his area of academic interest can be applied, the EWO becomes capable of identifying links and connections which could make up the future network of the students, as well as identifying people who could be invited to the classroom to

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• ¹⁵ Simon (1984)

• ¹⁶ The `godfather` is an experienced businessman, which the student will identify and invite to be a mentor in his process of entrepreneurship: mainly in the development of his Business Plan. The `godfather` is not someone who will provide financial support, but simply play the role of a counsellor. He should, preferably, be familiar with the work area of the future entrepreneur.

discuss and present their vision of the opportunities and pitfalls in the business atmosphere of that specific field.

The roles of the Entrepreneur Workshop can be seen as the following scheme:

Abilities to be developed. Support elements of the vision.	Roles relating to the learning in the Entrepreneur Workshop.
Relationships	Student, with support of EWO
Sector knowledge	Student, with support of EWO
Self image	Student, through self-study
Energy	Student, through self-study
Leadership skills	Student, through self-study

Thus, we can define the profile of the Organiser of Entrepreneur Workshops as follows:

“someone who, while dominating the technological knowledge of a determined field, is willing to learn about its business applications and organisation into a business, competitive market relationships, and the principal players and agents in this process, so that he can invite them to take part in the scheme, and contribute to the `entrepreneurial atmosphere` (EW) which the students are immersed in and contaminated by.`

III – Presenting the teaching methodology

Figure 1

The EWO, like the support systems, are outside the cultural atmosphere, and these, taken together, will check the elements needed for its creation. The main element of the EW is the market, which completely surrounds it. Depending on the field in which the course is being taught, as is the case of areas of knowledge which produce high technology, the concept of the ecosystem¹⁷ is around that of the discipline, i.e. that of the Entrepreneur Workshop.

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 • ¹⁷ Kanter, R.M. Classe Mundial, Campus, 1996

The dynamics of the discipline are as follows: the EWO calls up the support systems, and organises the cultural atmosphere, i.e. the Entrepreneur Workshop, in which the student will get to know the profile of a successful entrepreneur, and work on his self-image, developing his own study methods.

In their turn, the support systems, including the companies and those associated with these (employers and employees) from the area of undergraduate courses where the subject is being taught, bring into the EW those elements from the market necessary for contamination: sector knowledge, business atmosphere and the main characters who will make up the student's *network*. With the help of the support systems, the EWO will get to know, and bring to the classroom, entrepreneurs, who, testifying about their life and development as an entrepreneur, will serve as models¹⁸ for the students.

The support systems will contribute directly to the organisation of the Jury,¹⁹ of great importance in making the true atmosphere of the business world materialise in the university, and the main source of sensitisation to and fusion with the live forces of society. The Jury has also proved to be an excellent source of resources for the emerging entrepreneur.

In taking on the role of the organiser of the learning process, the EWO is not setting himself up as a specialist, as anyway, there is no `right` version`. He should not take on the position of the traditional teacher, in the sense of being the source of all knowledge related to the discipline, as, for the entrepreneur, knowing is not represented by a static stock of knowledge, but by his ability to perceive the behaviour on the competitive market, composed of sets of people, whose actions provoke his continual transformation, which, in its turn, generates the final aim which the entrepreneur tirelessly chases after: opportunity. The EWO needs to maintain, apart from his academic links, a close relationship with the business, and political-economic world (systems of support), and needs to bring his network to the classroom. In this light, the functions of the EWO are seen mainly as a link in the chain from student to business world. He also needs a multidisciplinary vision, gathering together specialists from around the discipline, and creating an atmosphere in which it is possible to learn by doing, as the student is to learn in the same way as the

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● ¹⁸ The process of `modelling` was created for this methodology, and it is through this that the students individually develop an analysis of the testimony, with the aim of identifying behaviour, attitudes and experiences that could be useful to him, and consequently incorporated into his repertoire and personal store of entrepreneurial characteristics.

● ¹⁹ The Business Plans are presented to the Jury. Students have 15 minutes to present their company, followed by 10 minutes for questions by members of the jury. To this ceremony come representatives of all social and economic areas of the community, mainly businessmen from the subject area of the students. The public, government organs linked to the relevant business area, the media and other associations should also be present. After the Jury, drinks are served, for the future businessmen to meet their network. Valuable prizes are offered, in the form of financial resources and participation in trade fairs. These prizes can only be claimed if the students do, in fact, open companies.

entrepreneur, in a pro-active way. The teacher (EWO) – student relationship is seen from another angle: the main actor, and the future businessman.

The basis of this entrepreneur training is more the factor of motivation and behavioural abilities than purely instrumental subject matter.

However, the roles of the EWO and the student are transformed: the former is simply a catalyst to set off the process of self-study in the student, whose job is to develop the behavioural abilities inspired in his own psychological – existential baggage (experience up to that point). The specific instrumental knowledge is a consequence of what the student is like, of his attitude towards his objectives of setting up a business. The company is a projection and extension of his own ego.

IV - A description of the elements which make up the Entrepreneur Workshop (EW)

The building up of the network.

Right from the beginning of the training, the student is encouraged to set up a network of relationships, which will support his vision. He will find these easily, as the EW has strong links with the business world and other support systems. Once again, the student should behave pro-actively, acting autonomously. The *interview with an entrepreneur*, apart from being a source of learning about general entrepreneurial and managerial characteristics, is also one of the student's first steps in the setting up of his network.

The maturation of the Vision

It is presupposed that the students accepted for the workshop have already conceived a vision, even just a very primitive form of vision, and will develop and mature this idea there, into its result, a company, and will exercise their capacity of projecting into the future, by means of visionary exercises.²⁰

Profile of the entrepreneur

The main behavioural characteristics of entrepreneurs, described in research reports²¹, are discussed with the students. This module, added to the visionary process, which complements it, composes the

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● ²⁰ Filion, L.J., *Vision et relations: Clefs du succès de l'entrepreneur* – Les Éditions de l'Entrepreneur, Montreal, Canada, 1991

● ²¹ According to Timmons, (1994), entrepreneurs have the following characteristics: 1 – Initiative and energy, 2 – Self confidence, 3 – Plan in the long term, 4 – Money as a means of development, 5 – Tenacity, 6 – Fixing of aims, 7 – Moderate risks, 8 – Positive attitude to failure, 9 – Make use of feedback on their behaviour, 10 – Initiative, 11 – Know how to search for, and make use of, resources, 12 – Does not accept imposed standards, 13 – Internality, 14 – Tolerance of ambiguity and uncertainty.

theoretical – conceptual framework of the course, which will be the light by which one can analyse and understand the telling of real experiences, both in the testimonies, and in the interview.

Creativity

Creativity is made up of the cycle of stages of discovery, invention, innovation, improvement and the process of change²². Creativity is fundamental to the identification of new paradigms, which could form a business opportunity. Exercises in creativity are proposed, and the students are invited to try the approach of Oech²³ of breaking mental blocks which inhibit creativity.

Skills in identification, analysis and making the most of opportunities.

The study of opportunities is of central importance in the methodology. The students are encouraged to make an in depth study of the reality of the business atmosphere, looking for symptoms (changes, improper situations, chaos, etc.), which could mean opportunities. They discuss the main sources of opportunity in the area of the future entrepreneurs. With the help of films and texts, they do exercises where the students are encouraged to identify breaks in paradigms of the past, and to project breaks in paradigms in the future, in their own field. The testimonies and interviews are also sources of learning in the process of the analysis of opportunity.

"Business Plan"

The `Business Plan` (BP) is the main work of the course. This is the validation of the idea and the analysis of its viability as a business. When working on this plan, the student should look for backing in the support systems, and in the network of relationships that he has started to weave during the course. In this field, the Godfather, an advisor, will play a vital role. The EWO should encourage the setting up, through the support systems, of courses and consultations to support the students²⁴. In this aspect, the junior companies²⁵ from the administration courses have a great deal to contribute.

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● ²² P.A. Schumann, Jr., Austin Creativity: `Key to the Future`, Technical Symposium, 1982.

● ²³ Roger von Oech, `Um Toc na Cuca`, Livraria Cultura Editora Ltda, 1988 S.Paulo

● ²⁴ An important tool for the student was developed by the author of this text: the software Makemoney for the development of Business Plans, which was conceived from extensive benchmark with similar products from the United States. With an extremely user-friendly style, the software is easy to use for students from any undergraduate course, and from any area of study.

● ²⁵ Junior companies are companies set up by students of any undergraduate course, created to be of use in their speciality. Matos (1997)

In writing his Business Plan, the student is totally alone in self-study, and should autonomously search out the necessary knowledge and tools²⁶. In this, the EWO contributes with questions, never offering answers²⁷.

Testimonies from entrepreneurs

Entrepreneurs who are invited to appear in the classroom to speak about their experience in business, talking mainly about the personal aspects of their involvement in the company, become a hugely powerful vehicle of contamination. These narratives of day-to-day living in the area will be one of the most useful didactic components for the student-entrepreneur to get to know the paths trodden by those who have achieved success, and also by those who have paid dearly in failure. The testimony is indispensable in the formation and/or enrichment of the student's vision, as regards the profile of the entrepreneur, and what he understands by an enterprise. An entrepreneur is chosen, who has set up his own company, as his talk will be about how he formed his vision, the idea of the company, the first product, the first client, entering the market, and how he passed from not having his own company, to having one. It is very important that he tells about the transformation in his private life: new personal relationships, the reaction of the nuclear family to the uncertain revenue from the new company. He should emphasise relationships of interdependence with the internal and external atmosphere: co-workers, employees, clients, suppliers, competitors and partners. To enable the students to take in and understand the testimonies in a structured way, as having a structure in common allows analysis and comparison, we have created a specific methodology to help students absorb the content of the testimonies.

This methodology uses two tools:

- A script for the person giving testimony, suggesting a sequence of information applying to the content of the course. Information about *the person* and *what he does* is favoured over the traditional teaching of administration, which is directed at *what is done* and *how it is done*.
- Model guide, for the student to be able to extract in a structured way from the entrepreneurs' testimonies that which is useful. He puts himself in the position of the entrepreneur, and

• ²⁶ The experience of practical application of the methodology has shown surprising results, as the students manage to develop their Business Plans in a self-sufficient way, basing them on models and relevant literature, and with use of the support systems.

• ²⁷ The methodology offers the EWO a basic script of 'questions' referring to the whole entrepreneurial process : from the conception of the idea with the projection of the ego, to the details of the market study, financial analysis, and the opening of the company.

tries to absorb the essence of behaviours, attitudes and practices which can be incorporated into his way of acting as an entrepreneur.

Experience has shown that testimonies about situations of business failure are extremely useful, as students are able to identify objective causes which provoked the failure.

The students feel that the presence of the entrepreneur in the classroom is the high point of the course. Their testimonies fascinate the students, who see them as `models` for their professional life.

The Jury – judging the `Business Plan`

At the end of the course, a *Jury* is set up, made up of representatives of the business area, and from the support systems, to analyse the `companies`. It is a solemn occasion, taken very seriously, and the whole university community attends – students from all the other years, and teachers – as well as the media, to cover the ceremony. The members of the jury evaluate the Business Plans which are presented live by the students. The objective of the *Jury* is to integrate the new entrepreneur into the business community. It is not enough to simply create companies. It is also necessary to call together the forces of society to support the new entrepreneur, and exclude him from the statistics of infant mortality in this area. Experience has shown that the ceremony of the jury has managed to generate various benefits to emerging companies, and to the business community. Two of these benefits are the ability to create important prizes, which provide real financing for the new company; and partnerships with established companies, who are present at the ceremony, and who are looking to set up partnerships and links with the young students. Furthermore, the Jury raises the awareness of the support systems, for example the media and the teaching staff of the university, to their role of support to the emerging company.

The `Godfather`

It is important that the new entrepreneur's network of relationships help him from the very moment he starts planning his company. One step in this respect is the choice of a `godfather`, an experienced businessman, from whom the student receives advice and orientation. It is not necessary that he be from the same area, but that he has experience in the field of setting up new businesses. The `godfather` will act as an adviser during the whole process of conception and elaboration of the `business plan`. He should not function as an instant `problem solver`, but as someone who can help in the formulation of the right questions.

The teaching style – Enterprise Way

The teaching methodology used has been inspired by learning processes used by the entrepreneur in real life. In order for teaching to be effective in the area of entrepreneurship, it is essential that it always be contextualised. It should put the student-entrepreneur in situations similar to those that he will meet in practice. The learning process of the entrepreneur, in small businesses, is essentially based on action. According to Gibb (1992), he learns by solving problems; working under pressure; interacting with peers and other people; through exchange with the environment; making the most of opportunities; copying other entrepreneurs; from his own mistakes: it is an area where one can make mistakes (small ones), as the freedom for this exists; and from feedback from clients.

The purpose of the course is to make the students frequently cross the walls of the school to understand better how the market functions, and, when they are in the classroom, to subject them to work processes, similar to those developed by entrepreneurs. This methodology is called the *entreprise way*. Theory is preferably treated by applying it to reality, guaranteeing the characteristics of the market and the local economy. The teaching method makes use of case-studies, games, studying biographies and popular theatre, moving away from the traditional explanatory class. Seminars are preferred to theoretical lectures. The student should be `exposed` during to the course, in order to prepare him for business situations. In order to achieve this, it is important that the roles of the teacher and the student be intentionally inverted: the student is always called upon to tell the class about what he has learnt by himself: his business idea, the definition of his product, his vision of the market and his business plan. The capacity for free, objective criticism is encouraged in the students, who turn into evaluators of their colleagues. Likewise, the first `test` of the student's company and product will be in the classroom: his peers take on the role of clients, suppliers and partners.

V – Dissemination methodology

A further challenge was to create a dissemination methodology in the discipline. In this, the Brazilian context gave rise to the following questions:

- How to bring the discipline inside the universities from outside?
- How to raise awareness, encourage, incentivate and train the teaching staff ?
- How to overcome the traditional distance between the university and business, which exists in Brazil? How to bring the entrepreneur into the classroom?

- How to involve the support systems ?
- How to make the teacher, who is used to traditional methods of teaching, work with the proposed methodology, which involves emotion, dreams, the ego, the indefinite and the uncertain ?
- How to disseminate the teaching quickly ?

The large scale dissemination methodology of the teaching of entrepreneurship is achieved by using the following:

- Awareness-raising of the universities to the need for the discipline, taking into consideration recent changes to the world economic profile, mainly in what concerns the change in work relationships
- The suggestion of starting the course as a non-official one (using an amendment to another which already exists), in order to avoid the lengthy formalities, which are usually required in the setting up of a new discipline.
- The creation of the teaching material to support both student and teacher
- Offering *Training the Trainers Workshops*, to pass on the methodology to teachers from various courses over the whole of Brazil, who will take on the role of Entrepreneur Workshop Organiser
- The demand for a decisive, formal commitment from the Teaching Institution in setting up the entrepreneur course
- The setting up of a system of teaching, which integrates the participants
- Evaluating the results of the discipline
- Following the progress of ex-students

VI – The results of the application of the teaching methodology and its dissemination.

We will now describe the results of four projects, where the methodology is being used.

Results from the Department of Computer Science at UFMG, Federal University of Minas Gerais.

This course is the creation lab and test of its methodology. It was here that it was taught for the first time, in 1993, and since then, it has been offered every year. It goes under the name of 'The Entrepreneur in Computer Science', and has had the following results:

- 40 'academic' companies (created in the classroom)
- 25 real companies²⁸
- Approximately 100 ex-students who are professionally involved with entrepreneurship (around 60% of those who have taken the course).

Results of the Softstart Project

The Softstart Project was created by Softex in to disseminate the teaching of entrepreneurship in undergraduate computer science courses around the whole of Brazil. The experience used in item a was used, together with the methodology of dissemination described above. The Softstart Project, which was started in 1996, and is setting off a real revolution in university teaching in Brazil, has had the following results:

Number of institutions:

Approximately 100 institutions at university level are involved with the teaching of entrepreneurship in the area of computer science

Geographical spread over the country:

23 out of the 26 Brazilian States, and the Federal District are offering the course, in 68 cities.

Companies created:

It is estimated that approximately 120 computer companies have been set up in the Softex system.

Number of students being taught:

Approximately 2000 students per year.

Number of teachers transformed into EWOs:

Approximately 240 teachers in the area of computer science.

*Results of the REUNE Programme*²⁹

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- ²⁸ Source Softstart Home Page: <http://www.softstat.org.br>
- ²⁹ The REUNE programme is supported by an association of institutions, lead by Sebrae – Minas and the Euvaldo Lodi Institute – MG, of which, FUMSOFT, The João Pinheiro Foundation and the Secretary of State for Science and Technology are part.

The REUNE Programme (Network for the University Teaching of Entrepreneurship), launched in 1997, has as its aim the dissemination of the teaching of entrepreneurship in secondary schools in the State of Minas Gerais. Now in its second year, REUNE is already working with 32 institutions³⁰. From 1998, the Reune Programme is being launched in other states of Brazil, and should reach around 60 more teaching institutions this year. Their planning foresees coverage of the whole country in the next two years.

Results of the SEI Programme – teaching entrepreneurship in SENAI-IEL-MG

In an initiative of IEL and SENAI, both from the FIEMG system (Federation of Industries of the State of Minas Gerais), the teaching of entrepreneurship is being included in training courses (secondary level) of SENAI-MG. They started in May 1998, when around 70 teachers from 35 schools from the whole state of Minas Gerais, participated in 2 Workshops to Train Trainers, and started offering the teaching of entrepreneurship in August 1998.

Summary of results

Total number of teachers who use the methodology : 550

Number of institutions who offer the teaching of entrepreneurship : 225

Estimated number of students per year, who study the discipline : 4,000

Conclusions

The results presented here of the application of the methodology to teaching, and its dissemination are surprising, and signify a real revolution in university teaching in Brazil. The creation of the figure of the Entrepreneur Workshop Organiser speeds up the dissemination of the teaching of entrepreneurship, allowing various undergraduate courses to be autonomous and independent in their setting up of this subject. Experience has shown that most of the teachers already have a network of established relationships in their field of interest, and do not encounter any difficulty in identifying, and bringing to the classroom, the main actors. On the other hand, if the teaching of entrepreneurship were to remain exclusively in the hands of the Business teaching departments, the qualitative capacity of the offer of this type of teaching would be extremely limited. One of the developments out of the concept of the Entrepreneur Workshop is the setting up of the `Department

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• ³⁰ Source: REUNE Programme Home Page: <http://www.reune.org.br>

of the Teaching of Entrepreneurship`, through projects which involve the teaching staff of a course, so that they too be contaminated by enterprise culture.

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