Cross Border Virtual Entrepreneurship: Design of Flexible Entrepreneurship Courses for Versatile Student Delivery

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Abstract

Cross Border Virtual Entrepreneurship (CBVE) refers to a Multilateral European project, which has been co-funded by the Lifelong Learning Programme of the European Commission. The objective of CBVE has been to improve the entrepreneurship competence of students through open and flexible, didactically-innovative and pedagogically-rich learning approaches. The project has aimed to strengthen structured entrepreneurial training opportunities and external network liaisons, in particular there where flexible learning approaches could be utilised to reach out to more diverse target groups. The CBVE project has resulted in an incubating (virtual) business-planning environment, as well as an off-campus Masterclass entrepreneurship in English, Hungarian, Estonian, Italian and Spanish. Apart from the Internet, the multilingual Masterclass has also been broadcasted through the (free-on-air) satellite infrastructure RAI NETTUNNO SAT1, across Western, Central and Eastern Europe, the Mediterranean and across North America.

Keywords: Entrepreneurship, Virtual Business Planning, Business Training, Open and Distance Education.

1. RESEARCH OBJECTIVES

Entrepreneurship is influenced by a number of factors. The importance of learning about factors affecting entrepreneurship, whereas the addressing of more diverse and often non-traditional targets groups is concerned, increases ever more. Against the background of demographics i.e., entrepreneurship in later stages of life, and ethnical diversification i.e., cultural factors influencing entrepreneurship, CBVE aims to contribute to the body of knowledge of flexible approaches on entrepreneurship, those which can be used for flexible student-competency development. With innovative instruments and combined institutional approaches, CBVE has taken up the development of entrepreneurial competence for both traditional and non-traditional target groups through collaborative action between conventional and open universities. It develops professional skills of students by lifelong, open and flexible, didactically-innovative and pedagogically-rich learning approaches. CBVE pilots entrepreneurship in a novel way, as prospective part of the curriculum for students not particularly part of traditional cohorts. The aim is to have structured entrepreneurship education and external network liaisons, in situations where flexible learning approaches need to be utilised to reach out to more diverse target groups. By delivering off-campus Masterclass materials, the project infuses entrepreneurship by flexible learning elements. CBVE also contributes to the training of trainers i.e., the upgrading of entrepreneurial skills of academic staff involved. The interaction with the business community and regional stakeholders is vital to CBVE. It enables the experimentation with business-planning test beds and allows for external evaluation of student business plans. The project adheres to contemporary priorities of the European Commission, as explicitly mentioned in the Lifelong Learning Programme. In this respect, the CBVE project contributes to improving the existing quality and volume of ICT-based content and helps to promote creativity, competitiveness, employability and growth of the entrepreneurial spirit among students. Reaching out to learners, particularly those deprived of entrepreneurship teaching and those not being served by the traditional face to face system, shall substantially contribute to improve the access, inclusiveness and participation.

2. THE CONCEPT OF ENTREPRENEURSHIP

While it is widely acknowledged that entrepreneurship is a vital force in economies of developed countries, there is little consensus about what actually constitutes entrepreneurial activity. Scholars have proposed a broad array of definitions, which when operationalised generate a number of different measures (Herbert and Link, 1989), but the failure of a single definition of entrepreneurship to emerge, undoubtedly reflects the fact that entrepreneurship is a multi-dimensional concept. The definition used to study or classify entrepreneurial activities actually reflects a particular perspective or emphasis. Definitions of entrepreneurship typically vary between economic and management perspectives (Audretsch, 2006). Entrepreneurship has originally been conceptualised as an economic function, and the entrepreneur as someone willing to bear risk to make a profit. Although economics gave the entrepreneur a function in the market, it was eventually almost entirely eliminated in mainstream economics. It was then that behavioural science researchers attempted to develop theories of the entrepreneur (Cornelius et al., 2006). But by defining the field in terms of entrepreneurial attributes, entrepreneurship scholars “generated incomplete definitions that do not withstand the scrutiny of other scholars” (Gartner, 1988; Shane and Venkataraman, 2000, cited in Brown, 2006). Venkataraman (1997) defines entrepreneurship broadly as the process of discovering, evaluating, and exploiting opportunities, which go on to reify themselves in the form of new business ventures. In this model an entrepreneur could be defined as "someone who acts with ambition beyond that supportable by the resources currently under his control, in relentless pursuit of opportunity" (a definition common to entrepreneurship professors Howard Stevenson and Jeffry Timmons). Pinchot (1985) coined the term ‘intrapreneurship’ to describe entrepreneurial-like activities inside organisations and government. The concept is commonly referred to as ‘corporate entrepreneurship’. Still another view of entrepreneurship is that it is the process of exploiting opportunities that exist in the environment or that are created through innovation in an attempt to create value. Gibb (2005) defines entrepreneurship in terms of sets of behaviours, attributes and skills that allow individuals and groups to create change and innovation and cope with, and even enjoy, higher levels of uncertainty and complexity in all aspects of their life.

More generally entrepreneurship is the practice of starting new organisations, particularly new businesses in response to identified opportunities. Entrepreneurship mostly refers to the creation and management of a new business venture by an individual or a team. It refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk acceptance, as well as the ability to plan and manage projects in order to achieve objectives. In a broad sense, entrepreneurship should be considered as a mindset that can usefully be applied in all working activities and in life. Therefore, entrepreneurship is a key competence for all. Children can learn about entrepreneurship from an early age, with appropriate techniques both within the classroom and beyond. And as they get older, the range of skills and experiences relevant to entrepreneurship can be widened. At university level, there is also a need for specific courses to help students (particularly those with technological skills) to better appreciate the prospects of their work on the market. Finally, for those who have built up experience as an employee, the possibility to learn particular skills may allow them to set up or take over a firm later in life.

Researchers also attempt to define the entrepreneur in myriad ways and the debate over the definition of an entrepreneur continues today (Bygrave & Hofer, 1991; Gartner, 1990, cited in Brown, 2006). The Organisation for Economic Co-operation and Development (OECD) refers to entrepreneurs being persons who seek to generate value through creation or expansion of economic activity, by identifying and exploiting new products, processes or markets (OECD /Eurostat, 2008). Generally speaking, entrepreneurship is associated with entrepreneurial activity: acting as a driver of economic growth, productivity, innovation and employment. It causes firms to enter/exit the markets, and forces newcomers to be more efficient. Existing firms are forced to innovate in order to stay competitive i.e., the cause for creative destruction according to Schumpeter. Although entrepreneurship is also recognised by academic studies, it has only recently been explicitly discovered by policy makers. Policies on entrepreneurship differ nevertheless in OECD countries/regions. The different national and regional policies affect the rate and type of entrepreneurship. Some examples as to how and why policy can be developed for entrepreneurship are the following: simply for firm creation as such, as connected to regional development programmes (depressed regions), as strategic element to include certain target groups (minorities, women, et cetera), as for supporting domain specific starters i.e., high-tech starters, life sciences, and as decision to support especially high-growth firms (OECD/Eurostat, 2008).

Measurement of entrepreneurship is a relatively young phenomenon. There has been no real and systematic effort in comparing OECD countries. A first financial support from the Kaufmann Foundation was released to the OECD in 2005, so as to perform a feasibility study on improving entrepreneurship data. In late 2006, the OECD Entrepreneurship Indicators Programme (EIP) was coined. A certain willingness was made apparent by National Statistics Offices to actually harmonise methods. 12 OECD countries, World Bank and Eurostat joined a special steering group with the objective to develop indicators. In 2007, a formal OECD-Eurostat cooperation came into being, concerning the EIP for structuring and gathering policy relevant entrepreneurship statistics. Aside from the definition of entrepreneurship; actually measuring entrepreneurship seems a whole other case. Entrepreneurship as a variable seems to be multifaceted and non-linear. It appears that likely factors which influence entrepreneurship are mere proxies. We distinguish: factors that impede or motivate entrepreneurship (determinants), indicators for the amount/type of entrepreneurship (entrepreneurial performance), and outcomes of the performance on economy (impacts, value) (OECD/Eurostat, 2008). In Europe, the policy measures taken on entrepreneurship differ across regions. Policy makers and project developers focus on different incentives: regulatory framework, market conditions, access to finance, R&D technology, entrepreneurial capabilities, and the aspect of culture (OECD/Eurostat, 2008). In view of the above discussion, we are able to explain where the priorities of the CBVE project lie. For the CBVE project, we confirm the particular focus on improving 'entrepreneurial capabilities'. More specific, CBVE has the prime focus on education in terms of stimulating 'business and entrepreneurship education', which has been defined as a subcategory under 'entrepreneurial capabilities' in OECD/Eurostat (2008).

3. GENESIS OF THE ONLINE MASTERCLASS

The genesis of the Masterclass entrepreneurship has involved the creation, development and testing of cutting-edge distance learning materials. The whole Masterclass resembles 2 European credit points (ECTS): corresponding to 50 hours of study load. The Masterclass is composed of 10 videolessons and supplementary didactic materials, available in English, Italian, Spanish, Hungarian and Estonian. All together, an English Masterclass as well as four associated derivative language versions have been developed (IT, ES, HU and EE) i.e., tailored to the other countries participating in the pilot-runs. Two of these partners i.e., the Universidad Nacional de Educación a Distancia (UNED) and the International Telematic University UNINETTUNO (UTIU), operate as distance universities, with consolidated IT support in their own e-learning framework. The others i.e., the University of Tallinn and the University of Miskolc, offer e-learning for their on-campus and off-campus students as a supplementary tool for improving the efficiency of learning processes and education programs. The added value of these profiles allows partners to adopt a multi-purpose and multi-dimensional delivery through a two-model approach: a distance university approach and a traditional university (blended) approach. Accordingly, the Italian, English and Spanish Masterclass courses are delivered fully online on the UTIU didactic platform (www.uninettunouniversity.net) being composed of 10 videolessons (and supplementary didactic training materials), available in Italian, English and Spanish. The Hungarian and Estonian Masterclass courses have been balanced and integrated using the same open source e-learning platform, Moodle, as their regular Virtual Learning Environment (VLE). For providing accessibility to developed learning materials from the same VLE, a joint portal (http://edu.uni-miskolc.hu) was implemented by the University of Miskolc. In all, a pedagogically-rich model for development and delivery of Masterclass materials has been developed, capable of serving a wide spectrum of target groups within the framework of lifelong learning.

The actual Masterclass recording and delivery have been done in a professional and systematic manner. Videolessons of the EN, IT and ES language versions of the Masterclass have been recorded at the UNINETTUNO Production Centre in Rome, endowed with all the structures and facilities needed for the professional production of multimedia educational products (i.e., videolessons, slides, and multimedia products), and with the support of the technical staff involved in the production. Since many lessons are included in one Masterclass and each videolesson lasts approximately 45 minutes, the labour intensiveness of video recording is evident. In many cases practical arrangements are made on location, so as to enable video professors to fulfil the recording process efficiently. In many cases, video professors must be lodged in a guest room. A production plan was devised for the production of the Masterclass, which included (1) the sharing of the production phases, (2) the time schedule for producing every didactic material, (3) the subsequent digitisation, and (4) the posting of materials on the Internet site. On the basis of the production plan, thirty videolessons were produced: among them ten in Italian, ten in English and ten in Spanish. The (ten) Hungarian and (ten) Estonian Masterclass derivatives were produced with a slightly different practical accent. The Hungarian version has been recorded and edited domestically, on-site at the University of Miskolc, while the Estonian version was produced as subtitled version of the English master course. Both universities supplemented the videolessons by different additional resources and instructions, as required by their specific educational programs. The designated persons which were in charge of recording the videolessons in the different languages, needed to comply with detailed procedures, already fairly tested, and essentially aimed at producing the educational content and facilitating the activities related to the processing and online publishing of the educational materials. In actually devising the Masterclass, UNINETTUNO's videolessons' methodology was used: a methodology built upon a strong foundation of didactic and communication models (Henri and Rigault, 1996; Kass, 1996; Garito, 2007, 2006, 2001, 2000a, 2000b, 2000c, 2000d, 1998, 1997a, 1997b, 1996; Horowitz and Samuels, 1987). The upcoming sections present the structure, the recording and the delivery of the Masterclass, based on this methodology.

A theoretical and practical training has been delivered to the professors involved in the production of educational content, strictly related to the competence skills essential for implementing lectures

in a novel and pedagogical-rich education model. Such training was (also) envisaged within the project by means of 'training the trainers'. It basically concerned the training of the professors involved in producing the videolessons. Guidelines for realising videolessons (also) included the use of didactic communication on television, in the frame of psychological research work on learning theories, paying particular attention to the constructivist and cognitivist theories. In addition, special guidelines for realising slides were presented: this was facilitated by the UNINETTUNO Graphics Department. The training of the tutors (instead), took place later, after the pilot had been delivered. Students had the choice of videolessons' intake in several ways: through Internet in Didactic Cyberspace (Video Library Sections), as well as through satellite broadcast on the channel RAI NETTUNO SAT 1. Associated videolessons consisted of modular contents, indexing of lesson themes, and bookmarks. A graphic icon represents a connection to the learning object. Each videolesson is subdivided into topics and is created with a predefined indexing system, which allows flexible usage. A student can view the entire videolesson in a linear fashion or follow a non-linear itinerary, thus choosing the topics that one wishes to study more in-depth, along with the connected study materials. The slides presented by the video professor during the videolesson(s) constitute an important support tool for study: the student can use them as a basis for notes, a means by which he/she can create his/her own network of links between topics. The videolessons, with the accompanying slides, are enriched with didactic materials known as learning objects. They emerge during the course of the videolesson by an icon link (bookmark) and are made available in the Didactic Cyberspace of the Internet site. Such support materials comprise: books and articles (extracts, study sheets), CD-ROM or DVD, exercises (with answers), virtual laboratories, annotated bibliographies, and annotated site links. The modular organisation of the course, the indexing of the topics and the bookmarks allow for a multimedia and hypertextual learning process, and encourages a more personalised study path. The Masterclass materials enable the student to prepare him/herself in a more comprehensive manner: utilising the possibility of in-depth study of topics raised in the videolessons, including the ins and outs of any practical application of the concepts learned. The web interface for the transmission of the videolessons is presented in Figure 1.

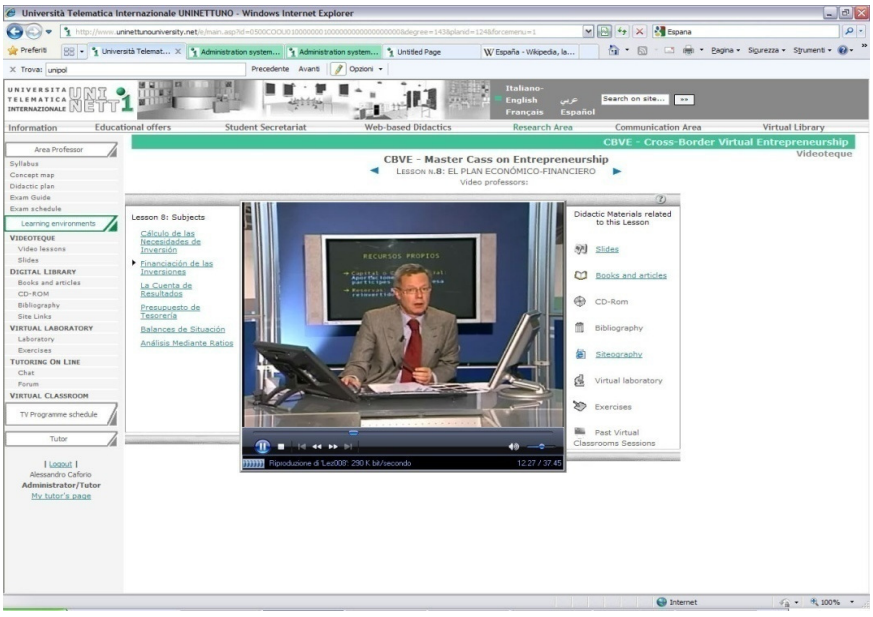

FIGURE 1: The Web Interface of UNINETTUNO

In addition to what has been described before, both the University of Tallinn and the University of Miskolc operate as traditional universities: e-learning methodology and tools are applied in a blended learning approach. These universities have diversified their strategy with regard to the content development and the course delivery. Next to open and distance learning features, each

course had to fit a blended delivery: implying the supplementing of different collaborative elements. As part of the blended delivery approach, a wide range of new, versatile content elements and pedagogy has been added. This approach has enabled the University of Tallinn and the University of Miskolc to adopt a multi-purpose and multi-dimensional delivery, reaching out to a wider spectrum of target groups within the framework of lifelong learning. The core content of the courses – similar to the EN, IT and ES courses – are also video lectures. Similarly, students are offered easy navigation: a content list apart from the video film shows titles of ppt slides, synchronously presented with the video. By clicking on the titles, one can jump to any slide at any time. When ones stops, and logs out, the program still remembers, where to continue. Powerpoint files are available for students to make printed versions and make notes while watching the presentation. A wide variety of learning support – offered by the Moodle platform – is available for the students to utilise: forum, blog, messages, tests, notes, and glossary. Staff training for academics and professionals has also been organised in a blended methodology. A separate course was developed for staff training purposes: guidelines, presentations, useful links and templates, both in English and Hungarian.

4. PILOTING: A DUAL-TRACK DELIVERY MODEL

Parallel to the content development process, discussions commenced about the models to deploy in the practical engagement towards students: the test beds. The versatility of needs in partner institutions was investigated as well as presence of common practices. Important to distinguish is that the Universidad Nacional de Educación a Distancia and the Università Telematica Internazionale UNINETTUNO, operate as open and distance teaching universities: having robust IT support in their own e-learning framework. The other universities, i.e., the University of Tallinn and the University of Miskolc, operate as traditional universities: implementing e-learning in a blended learning approach, in versatile levels within their education programme. These different profiles within the test beds, were acknowledged rather as an added value instead of a restriction. A presence of the different institutional profiles and educational modalities, enabled the evaluation of versatile target groups. Accordingly, the ODTUs i.e., the off-campus universities, forwarded a distance model for educational delivery, whereas the traditional universities i.e., the on-campus universities, forwarded a blended model for educational delivery. Pilots were realised in two different ways with relevant ´fit for purpose´ platforms. The Italian, English and Spanish Masterclass versions were implemented on the UTIU e-learning platform, whereas the Hungarian and Estonian Masterclasses were implemented on the Moodle platform. In addition, all partners agreed that the Masterclass versions had to be accessible by cross-referencing, herewith enabling access for all students, to all derived Masterclass language versions, at any time, independent of local platforms. University of Miskolc implemented and operates a dedicated Moodle VLE for the project.

4.1 Track One: Distance Delivery Model

In this section, the UNED distance delivery model is explained. The UNED model comprises of three Phases. In Phase I, the students present their business idea. The idea is evaluated and commented upon by the teachers. Subsequently, the students' ability or capability as an entrepreneur is evaluated by using a special test. In Phase II, after the review of the course materials, the students start with their business plan. In this phase, the students seek advice from the teachers or from experts and professionals stemming from a particular sector. When the business plan is completed, the teacher evaluates it. The teacher either accepts or rejects it. Phase III commences when the students receive feedback from the teacher. When the business plan is accepted, the students apply Business Simulation Games to test the plan profoundly. To round up the business plan, students communicate the results of simulation by means of a final report.

The essence of the UNED business planning trial was to train students to be able to develop a business plan, which could (then) lead to new business creation among participants, if they joined an Administration Programme for Business Creation, or if they would be capable of obtaining financial support from funding institutions. To qualify for entry, applicants did not require a special qualification, they just needed to have a business idea at feasibility or pre-feasibility stage. The

programme was designed for distance and virtual education, thus participants could be employed, unemployed or continuing their education. The business planning trial was attended by 14 students. The total programme had a duration of about six months. From a methodological point of view, the aim of UNED was to craft a business planning concept that could meet the rigors of academia while keeping a reality-based focus and entrepreneurial climate in the learning experience environment. The UNED test bed was operated in conjunction with the Italian e-learning platform of UNINETTUNO, from which the Masterclass materials were delivered. Accordingly, students from UNED (Spain) retrieved their Masterclass materials from Italy. Simultaneously, this meant that the Masterclass was a test bed for international virtual student mobility.

A dedicated group of professors had been selected to monitor the quality of the work of the students and to offer support to the students. The role of the teacher was to act as consultant to the student and to provide coordination on the parts of the business plan. In addition, independent consultants' support was available to the students to render professional advice. With regard to students' learning objectives, UNED distinguishes a compulsory part and a facultative part. The compulsory part includes assessing the students on their entrepreneurship competences by screening business ideas, selecting most viable ones, and designating students to work on associated business planning. The facultative part consists of presenting the developed business plans to funding institutions, as a viability test. On success, students could initiate the start of their business.

4.2 Pilot Outcomes

The main aim of Phase I was to analyse the entrepreneurial capacity of the students and their business ideas. Information gathered in this stage, included a range of self-ratings on personal characteristics, on knowledge and skills, and on other aspects, which are described next. First of all, students had to list five arguments/reasons that could explain why he or she would qualify as self-starter or entrepreneur (Table 1). The student had 18 possible choices to pick from. Teachers evaluated the coherence of the answers and classified the answers into categories. Most of the students answered in a logical manner. The response rate was 57.14% per cent.

TABLE 1: (Self) Indicators for Entrepreneurship

Reason	Number of students
Great capacity for work	5
Capacity to plan and organise	4
Capacity to take initiative	4
Capacity to get along with different personalities	3
Capacity to assume risks	3

Then, the students had to self-rate (scale 1 to 5) their personal characteristics (Table 2). The students also had to choose 5 factors that would indicate the success and failure of a business (Table 3). Following, the students would assign a percentage to that factor and evaluate their personal position in relation to the factor. The evaluation ranking goes from 1 (very weak) to 4 (very strong). A score over 400 means that the student has a strong position whereas below 250 implies that the position of the student is weak.

TABLE 2: Self-rating of Personal Characteristics

Your situation									
Physical and psychological characteristics	4	5	3	4	5	3	4	5	**33**
Your knowledge and aptitudes	5	3	3	3	5	4	4	4	**31**
Time availability	5	4	3	3	3	5	5	5	**33**
Strong motivation	5	5	5	3	4	4	5	5	**36**
Support and trust from your family	5	4	4	4	5	3	4	4	**33**
Our social environment	5	4	4	3	3	3	3	3	**28**
Total	**29**	**25**	**22**	**20**	**25**	**22**	**25**	**26**	

TABLE 3: Factors influencing the Success of the Business

Success or failure factors	Importance	Evaluation	Result
Knowledge of sector	8%	4	32
Location	10%	3	30
Financial resources	25%	3	75
…….			
…….			
Total	100%		250<Total<400

In order to analyse the business idea, the students had to present their business idea and give at least three reasons that would support the idea. An example hereof is provided in Table 4.

TABLE 4: Supportive Reasons for Business Creation

Business Idea	Reasons
Nursery School in Madrid	1. Demand in the area is saturated 2. Stable income and possibilities for growth 3. It is a need for couples when both are working
Rural Cottage in Asturias	1. Rural tourism is a sector that is growing in Spain 2. Supply is far from being saturated 3. The student is the owner of the house. That will reduce the amount of the initial investment

In order to round up Phase I, the students had to describe the process of their business and the financial resources required to actually start up the business. This gave the teacher and/or tutor a good idea of the students' knowledge along with the potential needs for the remainder of the business planning pilot. At the end of Phase I, six of the students left the course i.e., did/could not continue. Phase II was the actual business planning phase. The participants needed to prepare their business plan of the selected project. It included work on different disciplines: marketing, production, organisation and financials. Seven students went on to present their business plan. Phase III was devoted to simulation and/or to the viability test. In this final Phase, participants were provided with the opportunity to defend their business plan in front of a panel of academic and professional experts. All the students succeeded in doing the feasibility study. Despite the fact that simulation software was available, most students preferred to have their business plan evaluated by teachers of the course. The reason hereof was that the simulation software was regarded as too general and too much oriented towards traditional academic purposes. It did not properly match the needs of a potential entrepreneur. Four students expressed their intention to actually start their own business in the following months. Table 5 shows a summary of the outcomes of the UNED course pilot.

TABLE 5: Outcomes of the UNED Pilot Model

Objectives	Method	Outcomes
Compulsory		
Assess their entrepreneurial competencies	Results of examination	57.14%
Screen business ideas and select the most potentially viable business project	Results of examination	57.14%
To be able to develop a business plan	Results of examination	50.00%
Entrepreneurial Skills	Results of examination and the kind of methodology (business plan)	50.00%

Additional[1]		
Proposals presented to funding institutions	Number of students that have presented a proposal to a funding institution	0.00%-28.57%
Business creation	Number of students that have started a business	0.00%-28.57%
Entrepreneurial competences	Number of students that have had an accepted proposal from a funding institution	0.00%-28,57%

Some students dropped out of the course mainly due to personal reasons, for example, because they found a job. From the project's point of view, there is no doubt that the CBVE consortium together with UNED, did achieve the full objective of developing a virtual course with rich materials. Students were even able to complement the Masterclass with other didactical instruments, as UNED had prior experience with distance learning and with entrepreneurship education. With respect to the objective of delivering a virtual course in entrepreneurship, this can now be confirmed as being achieved fully, with such phases of motivation, assessment of entrepreneurial competences, and start-up assistance, included. 'Motivation' particularly deals with the screening of business ideas and the selection of the most viable business projects. 'Assessment' deals with entrepreneurial competences: assessing the entrepreneurial competences of the students participating in the course and reflecting on their capabilities to perform in an entrepreneurial context. 'Start-up assistance' deals with the assistance provided by the 'Administration Programme for New Entrepreneurs', enabling funding for a new venture. It proved that the best way to implement the UNED model was by having it coincide with the Administration Programme, which provides for necessary funding of new entrepreneurs.

4.3 Track Two: Blended Delivery Model

The pilot with the Moodle platform at the University of Miskolc was organised in 3 phases, aligning with the curriculum of the Faculty of Economics and adhering to specific needs of Hungarian SMEs. In the academic year 2008/09, two parallel pilot courses were launched in Semester 1.

- In the frame of the course 'Business Planning', a first pilot was conducted. The target group comprised of full-time students in their 3rd year (5th semester) of the BA programme at the Faculty of Economics. This first pilot model allowed for a gradual introduction of the virtual environment, in a blended learning approach. The first period of the course was delivered mainly in a traditional classroom situation, however ppt presentations became available for learners to get them gradually involved in the virtual collaborative space. By the end of the semester, groups of 3-4 students developed their own business plans, which was the dedicated, core objective of the course. Creativity and fresh ideas of the learners were presented in project reports (60-80 pages in pdf files), highly illustrated and precisely detailed. The best of their presentations have been recorded and edited as videolectures – very attractive and creative presentations confirmed the improved skills of the learners. Some of the project reports and presentations received prizes in the Scientific Student Competition and Conference.

- In the frame of the course 'Business Economics', a second pilot was conducted. The target group comprised of a mixed group of 6 foreign students, studying at the University of Miskolc through an Erasmus scholarship (1 Finish, 2 Polish, 2 Bulgarian, 1 Turkish),

[1] Four students have expressed their intention to start a business in the following months.

and 7 Hungarian students. Pilot 2 had several differences as compared with Pilot 1 – in this case an international group of Erasmus students took part in a course aimed at more collaborative learning, modelling and development of the entrepreneurial skills, in different situations and business games. During the course, students were very active, as has also been video-recorded. Next to simulating a real business environment in an international collaborative learning scenario, multicultural aspects of business life, were also important in the course. At the end of the semester, foreign students organised an international breakfast – inviting each other to taste ones traditional food and presenting ones country, culture, values and traditions.

- In the spring semester of the academic year 2008/09, in frame of the course 'Legal aspects of SMEs in Hungary', the third pilot was executed. The target group comprised of full-time students in the 2nd semester of a MA programme, specialised in Entrepreneurial Studies at the Faculty of Economics. This pilot again involved a large number of learners. Its thematic content focused on a specific subject of SMEs – legal aspects and legal environment. These subjects were highlighted in the presentations delivered by the teacher and the students' projects. Learning material included a large collection of specific case studies. Further reading was offered to the students on the platform. The final reports of the students were submitted electronically and were evaluated by the teacher. Peer review and video-recorded presentations were similar to the methodology used in pilot 1.

- The fourth pilot was performed in frame of the course 'Development of Entrepreneurial Skills Business Games'. The target group comprised of full-time and part time students in their 4th semester of a BSc programme specialised in Entrepreneurial Studies, at the Faculty of Economics. Pilot 4 aimed at extending the collaborative learning scenario. Similar to Pilot 2, business games as simulation of real business environments, were among the core activities. Besides presentations, case studies and further reading, several video illustrations provided support to improve specific skills for entrepreneurship e.g., conflict management, communication, protocol, and body-language. In addition, tests were offered for self evaluation of the developed competences. In the course, part-time i.e., correspondence learners, were also involved, forming a group of students with very different backgrounds, experiences and motivation.

- A fifth pilot was conducted in frame of the course 'Development of Entrepreneurial Skills for adult learners starting a new business'. The target group comprised of adult learners who participated in a project organised by the Chamber of Commerce and Industry of Borsod County (BOKIK). The project had the objective of stimulating regional employability and competitiveness. The project offered a two-phase training programme for adult learners, mainly for unemployed people or SMEs just starting their business. In the first part, face-to-face lessons (classroom seminars) were delivered by the experts of BOKIK. The venues of these trainings were located in the neighbouring small towns. In the second phase, the University of Miskolc was commissioned to establish an electronic learning environment for these learners, continuing their studies in a sophisticated manner through more advanced delivery models, providing access to a wider variety of information resources. Based on a mutually beneficial agreement, in frame of the 5th pilot, the adult learners received access to the Hungarian Masterclass video lectures, as well as to some selected business planning reports, developed in the earlier stages of the project, by students. Staff training of BOKIK experts on how to use the electronic learning environment and the learning materials, was organised (also) as an activity of the University of Miskolc.

All the 5 pilot courses followed different approaches and had different methodological aims. The pilots 1-4 were integrated into the mainstream curriculum of full-time and part time students. All the programmes were delivered in a duration of 14 weeks. Evaluation and assessment of the learners' progress was carried out according to the regular assessment process, so results and

effectiveness of applying Masterclass methodology were measurable in comparison with the traditional delivery method. Progress of students was continuously monitored and students received support from course tutors. The final project reports (native Hungarian) were submitted electronically in pdf – with the supplement of an English summary - and were presented to the classmates. Peer review and evaluation had in some cases been extended to an institutional and national student research competition, where (also) external evaluators assessed the students' project (semester report) results.

4.4 Pilot Outcomes

The development of a wide range of versatile learning materials as well as the delivery of pilot courses within the CBVE project at the University of Miskolc, have significantly contributed to the extension of the education activities within the University of Miskolc, and have contributed to stimulating the establishment of regional SMEs. For each specific pilot conducted, more detail is presented next. Table 6 depicts characteristics of the pilots. Participants of the pilot courses – both students and tutors – received certificates as a recognition of attendance.

TABLE 6: Outcomes of the Pilots delivered in Hungary

Phases	No. of learners	Learning materials on Moodle platform	No. Business plans as semester reports	Special
Pilot 1	104 on-campus BA students	ppt in HU + suppl. resources	41	14 papers on Student Research Competition
Pilot 2	6 foreign (ERASMUS) +7 Hungarian BA students	e-learning material in EN + suppl. resources	-	Country presentation and International breakfast
Pilot 3	50 MA students	ppt in HU + suppl. resources	15	
Pilot 4	55 on-campus, 40 off-campus BA students	Video lectures and ppt files in HU+ suppl. res.	10	
Pilot 5	38 adult learners	Video lectures and ppt files in HU+ suppl. res.	-	off-line version provided on DVD, delivered in cooperation with the Chamber
Total of Pilot 1-5	**300**	**Wide scale of resources in HU and EN**	**66**	

During the project, the pool of content elements, was continuously enriched. Some attractive video films (video case studies, video illustrations and tests) produced in former national projects were also re-used and re-edited for (additional) illustration of entrepreneurship. All video lectures were recorded by different professors/ lecturers, demonstrating the high level of support and commitment of the Faculty of Economics. Active involvement of the Chamber of Commerce and Industry of the county Borsod, can be indicated as a valuable feature of the Miskolc CBVE collaborative model. As part of this collaboration, the Secretary General of the Chamber gave a presentation – also video-recorded – and adult learners from three neighbouring towns enrolled to test the Hungarian Masterclass, coordinated by the Chamber. The Chamber also contributed to dissemination activities e.g., newsletter and distribution of leaflets. Both regular student cohorts and the adult learners were delivered the same courses from the same electronic environment: the experience and interaction with these two learner groups was regarded as an unique learning opportunity. Table 7 provides an overview of the teacher and student generated content.

TABLE 7: Teacher and Student Generated Content

Pilot No.	File format	Teacher generated content				Learner generated content			
		slide	page	minutes	pictures	slide	page	minutes	pictures
Pilot 1	ppt	335				719			
	doc /pdf						2373		
	Video							122	
	photo				30				
Pilot 2	ppt	69				89			
	doc /pdf		38				3		
	Video			30				4	
	photo				66				50
Pilot 3	ppt	464				329			
	doc /pdf		156				543		
	Video							207	
	photo								
Pilot 4	ppt	30				100			
	doc /pdf		163				296		
	Video			7				110	
	photo				19				19
Pilot 5	ppt	331							
	doc /pdf								
	Video			480					
	photo								
Total of Pilot1-5		**1229**	**357**	**517**	**115**	**1237**	**3215**	**443**	**69**

The results from the University of Miskolc, illustrate the paradigm shift initiated by Web 2.0 technologies: shifting focus from education materials and technology towards user-student, and beyond - towards (more) user-generated content. Thousands of pages and hundreds of slides were produced through user-generated content. Also, video presentations and video illustrations up to 8 hours in total, were developed by the learners in the different pilots. Overall, the students worked on different projects and developed plans for creating their own business. The project reports were published on the course site, through the Moodle platform. By the end of the semester, all students presented their work in a seminar - and some of these presentations were recorded on video as well. Presentations were documented by ppt files and video lectures - using the same methodology as used in editing and publishing lectures of the academics. In addition to the asynchronous e-learning scenario, a final seminar was organised between Miskolc and Tallinn utilising Videoconferencing for direct communication, exchange of experiences and evaluation of the pilots, at the end of the project. Not only the local project coordinators and tutors, but also some students involved in Pilot courses joined the videoconference on 29 September, 2009. An edited version of the recorded video was published in a separate unit of the "Staff-only" part of the CBVE Moodle portal.

5. COMPARATIVE EVALUATION OF THE DELIVERY MODELS

With literature being poor on evaluation of online delivery models concerning entrepreneurship courses, a comparative evaluation is proposed on the piloted models using a SWOT analysis i.e.,

strength, weakness, opportunity and threat analysis. Such an analysis provides an additional critical reflection on the results obtained, and on the improvements to be made for the future. The recommendations found, are presented in the frame of the two models: the full online model first, followed by the blended model.

As far as we can distinguish internal and external attributes for the workings of the different models, we can pose that the ***full online model*** can be characterised by the following ***internal*** attributes, *helpful* in achieving the objective: (1) keeping a reality-based focus and fostering an entrepreneurial climate, (2) meeting the rigors of academia, (3) generating online educational materials such as the Masterclass, hyperlinks and other files, (4) the feasibility of creating of a complete online course in an e-learning platform, (5) having a tested methodology at hand from distance education, which could be adapted, and (6) application of the know-how of the teachers involved. However, signalled as internal attributes which were sensed to be *harmful* to the objective: (1) course materials could be improved, (2) lack of strategic knowledge, (4) course could be complemented with lectures by business owners and virtual internships, (5) the course does not support the student to start a business, by lack of supporting financial programme, (6) the lack of finances for advice of independent consultants, and (7) software available is too general to meet students' needs for simulating a business. We distinguish not only internal but also ***external*** attributes. The online model is characterised by the following external attributes, *helpful* in achieving the objective: (1) absence (in distance education) (in some countries, such as Spain) of online courses offered by competitors, (2) the failure of traditional business education to meet the goals of students in a flexible manner, and (3) entrepreneurship courses are more and more in demand both in the United States and in Europe. However, signalled as external attributes, which were sensed to be *harmful* to the objective: (1) competitors programmes and courses with sustainable financial backing, (2) the increase of entrepreneurship courses within the curricula of official studies, and (3) new approaches to entrepreneurship education which may shift into maturity stage.

As far as we can distinguish internal and external attributes for the workings of the different models, we can pose that the ***blended model*** can be characterised by the following ***internal*** attributes, *helpful* in achieving the objective: (1) flexibility and reusability of content elements, (2) versatility of courses, fitting to different learning needs, (3) blended methodology for improving efficiency of education, (4) involvement of regional stakeholders and strategic partners such as chambers of commerce and industry, (5) mixing of individual and collaborative learning scenarios, and (6) the presence of know-how by the teachers involved. However, signalled as internal attributes, which were sensed to be *harmful* to the objective: (1) students' needs increase more faster than the pedagogical approaches of teachers, (2) lack of experiences and human resources, several features and functions offered by the virtual learning environment have not been implemented, (3) due to the economic crisis, starting a new business has become more risky – changes in the economic and legislative environment would need attention, (4) advisory support should be offered for a longer period, and (5) the need for dedicated simulation software. As far as we can distinguish internal and external attributes for the workings of the different models, we can pose that the blended model is (also) characterised by the following ***external*** attributes, *helpful* in achieving the objective: (1) urgent needs for training SMEs – economic restructuring in regions is critical, (2) visibility of the results of regional collaboration, (3) exchange of experiences in international collaboration - improved creditability, and (4) a multilingual environment: improving language skills of learners. However, signalled as external attributes, which were sensed to be *harmful* to the objective: (1) learners cannot finance the studies themselves – other training programmes gain governmental financial support and offer more recognition, (2) lack of support for marketing, (3) competitor programmes and courses with more stable financial background and human resources, and finally (4) new demands for tools in e-learning such as mobile learning, may increase the cost of delivery.

6. FINAL REFLECTION AND CONCLUSIONS

The evaluation of Masterclass got high scores and the supportive role of the teacher was praised. However, from the viewpoint of blended delivery, the Masterclass should best link to more

practical (project) work. When referring in particular to adults students, too much theoretical concepts could become annoying. Adult students have a lot of prior knowledge: they are not students in the regular meaning. For this particular group, it makes pedagogically sense to link theoretical concepts directly to project work, herewith allowing them to adopt a practical approach to develop entrepreneurial skills. It should be noted though that both models i.e., distance and blended, have been designed with the notion of serving two different target groups i.e., different institutions, environments and recipients i.e., off-campus and on-campus. The blended model was above all, aimed at traditional universities in which courses constitute face to face interactions and students cooperate in a classroom environment. As far as the distance model was concerned, it was prepared specifically for online teaching, as distance students do not have possibility to take part in face to face meetings. For the CBVE project as a whole, the Masterclass has been one of the main drivers of success: initially being developed for off-campus usage, it also proved effective when infused in, and adopted for, the blended learning environment. The Masterclass proved quite versatile in its application.

We may acknowledge that the Masterclass constitutes quite well the nucleus of an autonomous-learning course, for both on-campus and off-campus usage: with the power of adding and enriching additional materials and project work for more in-depth study of subjects. As for extension and exploitation, the step ahead can be the widening and strengthening the European and international dimension of course delivery, offering joint delivery for mixed group of learners, in an international collaborative context. The strength of the Masterclass really lies in its versatility: flexible extension in terms of specialised content, as well flexible extension in terms of student assessment methodologies. Accordingly, it is important to continue the process of enriching the Masterclass over time. This is not to say that only new content elements should be added in a repository for blended learning, or that complete video lectures should be generated for online learning, no we must also pay attention to methodologies which can effectively assess the robustness of the created business themselves. Our final thought is on exactly this. In our experience, simulation software did not fit the purpose.

It appeared more effective to use scenario-driven methodologies, generating alternative scenarios for the assessment of a firm: best -, normal - and worse case scenarios. In this approach, each sector allows the use existing formulas to determine the degree success or failure, by using indicators such as ‘population living in the area’, ‘investments’, and other indicators. Using alternative methodologies, such as scenarios, may effectively help us better understand the uncertain future(s) of created business. The principal advantage of using scenarios instead of simulation software or business games is that this method allows the inclusion of factors that are difficult to formalise, such as novel insights about the future, deep shifts in values, unprecedented regulations or inventions; and because the causal relationship between factors can be demonstrated.

The research work discussed in this paper, has been granted to proceed with new financial support of the European Commission by approval of the Erasmus project ‘Cross Border Virtual Incubator’, which started in 2011 and will run until 2012 (http://www.eadtu.eu/cbvi.html). It will focus on the power of open and networked media to empower starters in their endeavour.

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