

COMPUTER SUPPORTED LEARNING AS A TOOL FOR DEVELOPING ENTREPRENEURIAL LEARNING COMMUNITIES

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Abstract: This paper reflects e-learning and blended learning experiences and challenges from the point of view of the co-creative entrepreneurial orientation and cross-cultural knowledge sharing. The use of WebCT tools and weblogs are compared in the blended learning context. Computer supported learning that develops co-creative entrepreneurship should support information monitoring and business opportunity searches on the internet, and introduce students to social and business networking sites. The applications and limitations of some WebCT tools for developing learning communities and sharing knowledge are discussed. The blended learning concept should take into consideration the cultural context of using explicit and tacit knowledge and the readiness of entrepreneurs to share knowledge through online and face-to-face interactions in order to apply students as virtual gatekeepers for small and medium-sized enterprises.

1 INTRODUCTION

E-learning paradigms that support entrepreneurship education have to face the fragmentation of professional knowledge domains and missing links between different sources of entrepreneurial opportunities as essential problems of contemporary society. The focus should switch from the static knowledge of established facts to new information monitoring skills and to interactions in small groups and larger virtual communities for knowledge sharing and developing practical new knowledge. Computer supported learning can introduce students to knowledge management practices and challenges, and especially to the role of tacit and explicit knowledge (Nonaka and Takeuchi, 1995) if it is applied in the blended learning framework (Osguthorpe and Graham, 2003)

Applying computer supported education to develop entrepreneurs has to find the right balance between methods that support different entrepreneurial activities. Identifying business opportunities (Casson, 1982) has been a classical focus in entrepreneurship education. Participation in formal and informal entrepreneurial networks has been discussed as a factor of successful

entrepreneurship in recent decades (Sweeney, 1987, Johannisson, 1998).

The present paper presents the experience of applying blended computer supported learning, and analyses essential choices and challenges in e-learning from the point of view of the co-creative entrepreneurial orientation and cross-cultural knowledge sharing. Entrepreneurial orientations and the need to develop competences for business networking in the “global village” – the globalization metaphor already popularized by McLuhan (1962) – are used as the departure point for defining the priorities of applying different computer supported education tools. Knowledge sharing between potential and experienced entrepreneurs is discussed both as an opportunity and as a challenge for computer supported learning. Involving students in cross-border projects to monitor international business opportunities is presented as a way of developing entrepreneurial learning communities through computer supported learning.

2 ENTREPRENEURIAL ORIENTATIONS

In order to develop computer supported entrepreneurship education, the entrepreneurial orientation concept is an essential departure point. Understanding entrepreneurial orientations provides direction for information search activities that can be used when creating new ventures and anticipating opportunities and barriers in the entrepreneurial process. Lumpkin and Dess (1996) have suggested that entrepreneurial orientation represents entrepreneurial processes, practices and decision-making styles that address the question of how new ventures are established. Their concept of entrepreneurial orientation identifies five dimensions – autonomy, innovativeness, risk-taking, pro-activeness and competitive aggressiveness.

Elenurm and Moisala (2008) have applied a self-assessment tool for specifying three different entrepreneurial orientations that influence the application of computer supported learning – co-creative, innovative and imitative orientations.

Learning for co-creative entrepreneurship should build mutual understanding, and emotional and social competence for joint actions. The learning process is not limited to transferring existing knowledge from the trainer or tutor to learners by using e-learning tools. New knowledge is also created through knowledge sharing between all participants in the process and by re-using knowledge that is created or combined by participants in earlier courses that have been supported by e-learning (Elenurm et. al., 2002).

The co-creative entrepreneurial orientation assumes a readiness for knowledge sharing both in face-to-face communication and online learning communities. Imitative and innovative entrepreneurial orientations also benefit from computer supported monitoring of new technological and business information, but we cannot assume full readiness for such learners to disclose their business ideas in a learning community. Computer supported learning has to find the right balance between co-creative knowledge sharing and the right of an innovative entrepreneur not to disclose his/her business ideas and various types of sensitive business information to other learners.

3 BLENDED LEARNING OPPORTUNITIES

Blended learning has been defined as the integration of face-to-face learning experiences with online experiences (Garrison and Kanuka, 2004). There is evidence that for certain subject matters, reflective teaching practices and collaborative learning may work better in online learning than in face-to-face classes (Picciano, 2006). Owston et al. (2006) report that the online component of blended learning encourages critical thinking. Benefiting from the advantages of information technology supported learning while compensating for its disadvantages through additional face-to-face sessions is an important feature of blended learning (Rosenberg, 2001).

Estonia has experienced a rapid transition to a market economy. Among present Estonian entrepreneurs many started their entrepreneurial activities after the collapse of the command economy at the beginning of the 90s at around 20-30 years of age. These entrepreneurs actively use the internet for daily communication and information searches. They are however, not experienced online course clients or systematic virtual networkers and are not aware of online networking opportunities that have been developed for entrepreneurs by the European Union (Elenurm, 2004). Flexible online access to knowledge at any time and place (Carroll, 2003) is important for busy students that are already involved in entrepreneurial activities.

Graham (2006) has proposed space, time, fidelity and humanness as four key dimensions of interaction in face-to-face and distributed learning environments. These dimensions are especially relevant for entrepreneurship development programmes that try to bring together full-time students interested in understanding entrepreneurial experience, part-time students with some entrepreneurship experience and entrepreneurs that are not enrolled in any academic degree programmes. The goals and needs of organisations have to be taken into consideration in the strategic blending (Yoon and Lim, 2007) in order to serve training needs that can be related to different entrepreneurial orientations, business development stages, as well as the domestic and international marketing needs of small and medium-sized enterprises.

Salmon (2000) has introduced a five-stage model of e-Tutoring: access and motivation, online socialisation, information exchange, knowledge construction and development. These stages should

be taken into consideration, when involving present and potential entrepreneurs in the blended learning process. The role of online learning and face-to-face learning in developing entrepreneurs should, however, be discussed in the broader context that in addition to e-learning and classroom activities involves field studies and action learning.

4 BLENDED LEARNING APPLICATIONS AND CHALLENGES

4.1 Action Learning

Classical action learning developed by Revans (1980) represents a problem-based approach to learning, where co-learners cooperate as members of small groups whose goal is to complete a task and achieve learning through the process of problem-solving and reflection. In the blended learning context action learning means that the balance of face-to-face learning and online learning is influenced by clients and learning by doing activities outside the classroom. Over 3 years at the Estonian Business School we have applied international student teams as a key feature of a course on International business opportunities around the Baltic Sea. The teams assist Estonian small and medium-sized enterprises in finding international business opportunities and learn from their entrepreneurial experience.

This action learning process is supported by the WebCT online course environment, where students can access additional study materials and present their company project progress reports. An essential feature of the online learning is the task of uploading overviews to the WebCT discussion forum of websites that offer relevant information to different stakeholders interested in international business opportunities. The results of these assignments are not presented through the WebCT assignment tool. This is because the discussion forum is more appropriate for sharing and commenting on the contributions of peer students and re-using business information search results found earlier by students from other countries, in order to create new practical knowledge for their team and for their client-SME. Courses on Baltic business have also been conducted in Helsinki and Budapest, and students at these locations have posted their overviews of websites to the same WebCT course environments. WebCT has been invaluable for overcoming the cross-border

barrier, but the time dimension has been an obstacle for giving cross-border feedback to students in other countries. It has been administratively difficult to align the time schedules of courses arranged in different countries.

Stone (2008) has stressed the need for dynamic learning management systems that makes the most popular LMS products on the market like Blackboard, WebCT and even Moodle a bad fit for the holistic blended learning. Developing suitable learning management system for blended learning is not limited to comparing Blackboard and Moodle or other LMS software. It also assumes finding the right balance between open and closed learning communities and encouraging students to search additional new information from online sources that are not incorporated in ready-made e-learning courseware.

Student teams act as gatekeepers that combine international business information, and search potential business contacts for small and medium-sized enterprises mainly by using internet sources. Regular inter-team knowledge sharing has been useful for creating synergy between students representing information sources from different countries. Wenger (2002) stresses the role of peripheral participation in order to develop competencies that are needed in a community of practice. At a WebCT discussion forum, motivated students can experience peripheral participation by offering other teams additional ideas after studying their progress reports. Regular rating of inter-team contributions in the WebCT e-learning environment is one way to develop the action learning process in the direction of a larger community of practice.

Entrepreneurs would prefer that the composition of their student team could be aligned with the foreign target markets of their enterprise by involving mainly those international students that have arrived in the Erasmus exchange framework from those target countries. It is however, difficult to match the entrepreneurs' project requests with the countries represented by Erasmus exchange students that arrive at the Estonian Business School each semester. One solution could be to involve foreign students that have participated in the course earlier and have already left for their home country. They could be motivated to continue to act as external online experts for new cross-border project teams after they have returned to their home university. In order to increase the continuity of the learning process, one option is to disseminate information about potential company projects to future Erasmus exchange students already before they arrive in

Estonia and are asked to join a project team. This would assume linking the course to a broader online Erasmus exchange student community.

A systematic and long-term approach to developing partnerships between Erasmus exchange students and enterprises interested in international knowledge gatekeepers assumes the creation of a knowledge base that will help to match the international business information search requests of companies and the profiles of interested students. The profiles should describe the work experience of the students, their possible involvement in international projects or foreign trade, participation in international organisations and networks, priorities for developing international contacts with firms in order to support future career opportunities, their readiness to conduct information searches in different business sectors and fields, and what support the student is looking for from the enterprise and the business school in order to accomplish his/her international business opportunity and business contact gatekeeper mission.

4.2 Collaborative Learning Challenges

Collaborative learning in the course "International Business around the Baltic Sea" tries to balance the application of WebCT discussion forums and the discussion of company project outcomes in the classroom setting.

International student teams have to analyse the knowledge gaps of their client entrepreneurs and present a self-reflection of their teamwork experience. Such information is too sensitive to be explicitly presented in WebCT. In order to bring the learning process more fidelity and humanness of interactions, students are involved in a face-to-face role play, where they have to "sell" their ideas to a "manager" that demonstrates some degree of ignorance.

The role of group work exercises in the classroom is also essential to overcome cross-cultural co-operation barriers between students from different countries. Problems of online communication emerged, especially between southern European, northern European and Asian students that assumed different approaches to structuring their tasks and giving feedback to other team members by using WebCT or e-mails. Students from Germany insisted to the tutor in the e-learning environment that it would be good to have pre-defined tasks for team members and much more background information in the preliminary company brief to serve as the departure point for the

action learning process. Demanding from enterprises more comprehensive pre-information in a unified format, although helpful for diminishing uncertainty for the team, would have, however, been in conflict with the emergent nature of action research and diminished the learning in the process of co-defining the worthwhile practical task through conversations between students and entrepreneurs. In fact, training skills for identifying and finding relevant tacit and documented business information was an essential part of the gatekeeper role.

Some student teams that chose to start their interaction with the enterprise by e-mailing a long list of questions to the entrepreneur did not receive detailed answers to help focus their project on a meaningful task. Efficient communication was often hindered when the first face-to-face meeting with entrepreneurs occurred too late, but also due to asking the entrepreneur to answer too many irrelevant questions as a result of insufficient preparatory study of internet sources. Italian and French students were often eager to discuss the preliminary task and ideas at some length before deciding on their input for a specific subtask. They preferred to go to the first meeting with the entrepreneur without sufficiently studying the information that was available at the company website or from other online sources. At the same time, Estonian small entrepreneurs did not welcome the conversation style with such student teams that used face-to-face meetings to ask questions, where such answers could easily be found from their website already before the meeting. An important contribution of the blended learning process is helping students to reflect the impact of synchronous and asynchronous, face-to-face and online, text-based and richer communication tools on business interactions. That process also reveals cultural differences of using explicit knowledge that can be interpreted without the personal involvement of the knowledge provider and tacit knowledge that has to be shared through socialization (Nonaka and Takeuchi, 1995).

Entrepreneurs that act as clients for company projects can also be included in online discussions in WebCT together with student teams. We have however, so far considered it a risky solution. The main risk is that small entrepreneurs may not be so ready to disclose their business development needs to other entrepreneurs although the participating enterprises are not competitors. That can be interpreted as a lack of the co-creative entrepreneurial orientation.

In order to facilitate online knowledge sharing between students and entrepreneurs, the latter should also be supported by e-tutoring. They should have access to WebCT and the motivation to learn how to use WebCT tools. Entrepreneurs could definitely contribute a lot to the knowledge construction and development stages in such an extended virtual community. In the present situation, however, we consider direct face-to-face and e-mail contact with only one student team to be a less time-consuming option than introducing busy entrepreneurs to the technicalities of WebCT. We also admit the right of the student team to decide when they want to present their draft recommendations to their client. That is an additional reason for not disclosing student progress reports and related discussions to entrepreneurs on WebCT.

4.3 Business Opportunities in Virtual Networks

The co-creative entrepreneurial orientation is a reflection of the emerging network economy of the 21st century. Social software enables socialization in virtual communities, but also monitoring new business opportunities, knowledge capture and refinement in wikis, easy web publication in weblogs and the sharing of links and photos (Avram, 2005). A weblog can be seen as an online learning opportunity that does not have the quiz and assignment tools of WebCT and other classical e-learning platforms, but demonstrates the logic of social and business networking software and opportunities. Blended learning in the course "Business Opportunities in International Networks" combines three face-to-face classes with contributing to the weblog at <http://elenurmmnetworking.blogspot.com> that enables knowledge sharing outside the classroom. Student post their analysis of the social or business networking site they are involved or consider to be involved to the weblog. One aim of the course is to assist students in understanding co-creative entrepreneurship opportunities that are enabled by global virtual networks.

Younger students are generally well informed about social networking opportunities but often do not have strategic priorities for choosing virtual networks that could enhance their career in large organisations or link them to entrepreneurs in other countries in order to search for new business opportunities for co-creative entrepreneurship. Distant learning students that are a bit older and already have entrepreneurial experience tend to lack

the time and experience of online social networking. During the course, however, they discover business opportunities in virtual networking and become more positive about investing their time in virtual networking.

Students are asked to develop a vision of some virtual networking application in small teams. This task is in fact a learning-by-doing exercise that demonstrates the challenges of integrating contributions from team members in the course framework, where face-to-face interaction time during classes is quite limited.

5 CONCLUSIONS

The applications of blended learning have demonstrated that computer supported learning can be used to develop learning communities for action research that enables knowledge sharing between present and potential entrepreneurs. In the action learning process international student teams learn to understand the real entrepreneurship environment, but small entrepreneurs as clients of the student teams are also learning to monitor new international business opportunities and to co-operate with cross-cultural teams. There is, however, the challenge of involving co-creative entrepreneurs in WebCT discussions. That assumes finding technical solutions for arranging selective access to different discussion forums and the systematic application of the five stage e-tutoring model in order to increase the added value of WebCT involvement for entrepreneurs.

Cross-border collaboration of students to search for new business contacts and to study business information compiled by students in other countries is a way to add more value to computer supported learning compared to overcoming space and time limitations only inside one country. Advanced applications in this field, however, assume the knowledge base of student competence profiles and potential company projects. The knowledge sharing process should be supported by a learning community that is created already before a specific course and is ready to reuse new knowledge constructed and developed during the course in follow-up activities and in new projects.

Space, time, fidelity and humanness in blended learning, where students interact in the classroom and in the online learning environment in order to plan and reflect upon their interactions with entrepreneurs outside the campus, are influenced by the logic of the action learning process. Co-creative

entrepreneurial orientations of students and entrepreneurs support the fidelity of their interactions and create broader opportunities for online knowledge sharing and reusing some part of the created knowledge in new courses

Blended learning can assist students in acquiring knowledge management skills and involve them in communities of practice that are not limited to the time and space of the blended course itself.

Business and entrepreneurship students should be encouraged to study their attitudes towards international knowledge sharing for identifying new business opportunities that can be implemented in virtual communities.

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