

USING INFORMATION AND COMMUNICATION TECHNOLOGIES TO SUPPORT COLLABORATION WITHIN MULTINATIONAL EDUCATIONAL PROJECTS

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The success of a multinational partnership depends on many factors. Probably the most important factor is represented by the adequate collaboration between the partners. The activities developed by the project partnership involve usually group decisions. Although the e-mail is the most used technology for distance collaboration, the team work within a multinational project involves collaborative activities and the decisions associated to it that only the e-mail cannot support. This paper presents several collaborative task examples and decision scenarios which are specific to many European funded multinational educational projects. The analysis of these scenarios shapes a list of features specific to different collaborative technologies that should be combined and provided into an integrated system in order to facilitate the collaborative activities developed in the frame of multinational projects.

Key words: Collaborative activities; Web collaboration; Multinational projects.

1. INTRODUCTION

Latest technological advances are providing new ways of structuring, processing, and distributing work and communication activities to overcome boundaries of time and space [1].

Multinational partnerships in general, European Educational projects partnerships (Comenius Multilateral Projects) in particular, involve, in a great extent, a strong remote collaboration between teams' members. European Commission supports only a limited number of face-to-face transnational meetings with a limited number of days per each meeting. This restriction creates the need to identify means for an efficient remote collaboration in order to achieve the project objective.

E-mail and instant messaging are the most pervasive team-based communication tools, the "most common and best understood computer-mediated technology for distance collaboration" [2]. These technologies provide features for synchronous and asynchronous interaction, thus facilitating information sharing and decision making. Traditionally, the collaboration between the members of multinational projects is done by e-mail and sometimes by instant messaging. With an increasing use of e-mail in the last decades, the numbers of messages that a person daily receives has increased a lot, too. Thus, it has become difficult to manage the messages flow [3]. The collaborative work between the members' team involves, in many cases, the work on the same material. Managing file versioning by e-mail is sometimes a real challenge [4].

Comparing to e-mail, the instant messaging applications have the advantage of offering the possibility to see if another team member is online or not ("presence awareness"). Both e-mail and instant messaging technologies help in geographically dispersed team work, especially in social/relational interaction support, but for a real effective team work, a web collaboration platform is needed [3].

Web collaboration applications have the advantage to support group decisions within geographically distributed organizations. Thus the system can be implemented as a web service and to the decisional sessions can participate persons from any place without needing anything else than a web browser on an Internet-connected computer [5].

Web collaboration systems, named in some cases group decision support systems, provide features for document and file sharing, shared desktop access, simultaneous editing and other electronic forms of communication that allow data to be shared, edited and copied during the web meeting. Thus, these systems

are appropriate for activities like training programs, products demonstration, status reporting, application testing, data sharing or quick polling [1]. In this paper these collaboration systems/group decision support systems will be referred as web collaboration systems.

2. COLLABORATION ACTIVITIES

Between 2007 and 2009, European Community funded only within the Sectoral programmes (Comenius, Erasmus, Leonardo Da Vinci and Grundtvig) and Transversal programmes (KA1 – Policy cooperation and innovation, KA2 – Languages, KA3 – Information and Communication technologies – ICT, and KA3 – Dissemination and exploitation of results) more than 800 multilateral projects and networks. Besides these projects there are also other projects within these two actions and also on Jean Monet action. Considering the large number of multinational educational projects in the last years, the research presented in this paper has the potential to give new idea to project managers and also to web collaboration technologies developers.

Comenius Multilateral projects involve the participation of minimum 3 countries and 3 partners, but often the project partners' number can reach and even rise over 10. The bigger partners' number it is and more culturally diverse partners are, the more difficult the collaboration became. Thus, the web collaboration tool which it might be selected to be used for partnership work, must respond to several challenges starting with the project specific tasks and continuing with cultural diversity, different technical settings (hardware and software, bandwidth, etc.), different technical backgrounds (sometimes the partners never used a collaborative platform before or they are not familiar at all with specific decision tools), and so on. In the following there will be identified a series of specific tasks which are common to most of the Comenius Multilateral projects in order to make a list of features which a web collaboration tool should provide in order to make more efficient the multinational partnership work.

In the Comenius Multilateral Projects, The European Commission supports a wide range of educational activities, but these activities must frame in one of the following categories:

- The adaptation, development, testing, implementation and dissemination of new curricula, training courses (or parts of courses) or materials for the initial or in-service training of teachers or other categories of school education staff;
- The adaptation, development, testing, implementation and dissemination of new teaching methodologies and pedagogical strategies for use in the classroom and including the development of materials for use by pupils;
- Providing a framework for the organization of mobility activities for student teachers, including the provision of practical training periods and the recognition of these activities by the institutions concerned [6].

Starting from this list of activities which European Commission supports, in the following there will be elaborated and analyzed three scenarios of multinational cooperation which might requests the use of a web collaboration system: a course development, a training session and a dissemination videoconference.

3. ACTIVITY SCENARIOS

3.1. Course Development

One of the main activities of most of the European educational projects is the training course(s) development. This activity can be accomplished in different ways. At the beginning there are several decisions which must be taken before starting this work: (1) which partners will participate (a part or all partners), (2) what members of each partner' team will be involved, (3) the structure and content of the course; (4) what development strategy will be applied (collaborative work – at the partner or partnership level (Fig. 1) – on the course materials or individual work on different course sections).

Sometimes some of these decisions are made since the project proposal elaboration (e.g. the partners' involvement and course structure and content), but even so, these aspects can suffer some changes and must be clarified before the course development starts. Because there are not require a complex analysis phase,

these decisions can be made by the project manager with/or aided by the local coordinators after simple face-to-face discussions (if possible) or through a typical communication technology.

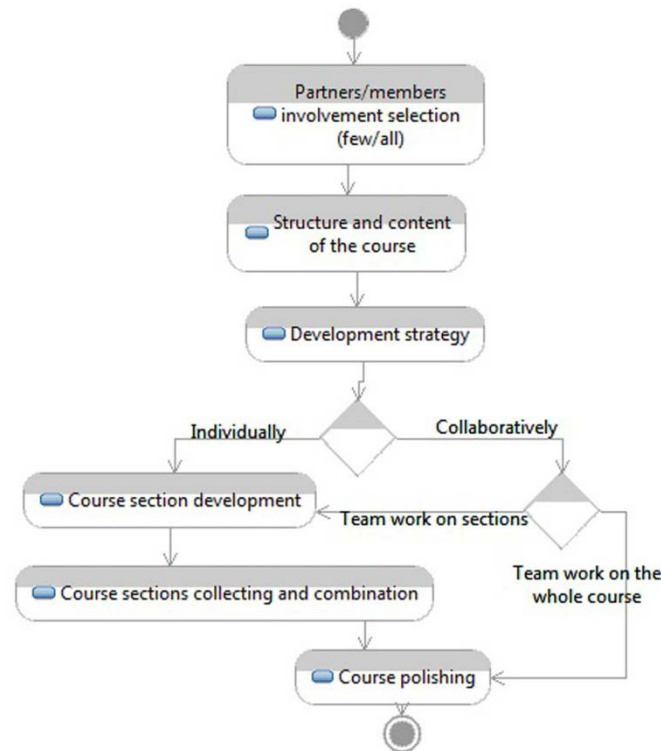


Fig. 1 – Work and decisions for course development – schematic activity diagram.

The course development itself can raise some problems. If the development strategy selected is: individual contribution to specific course sections, there is the risk of obtaining an inconsistent material (different working styles, visions, vocabulary, etc.) which requires a lot of polishing work. Besides that, team work has many advantages comparing to individual work: (a) teams produce a greater quantity of ideas and information than individuals acting alone; (b) teams improve understanding and acceptance among individuals involved in the process; (c) teams create higher motivation and performance levels than individuals acting alone; (d) teams offset personal biases and blind spots that hinder the decision process; (e) teams sponsor more innovative and risk-taking decision making [7]. All these advantages turn the balance on a collaboratively course development strategy, because it has the potential of being faster, more reliable and with increased quality. But, even if the collaboratively developing approach seems to mitigate the inconsistency risk, there are other problems which must be solved.

A collaborative work for course development needs a more complex technical support which only the traditional communication technologies cannot support.

For an efficient collaborative course development (no matter if it is a team work on sections or on the whole course), the web collaboration platform which might be use to support this activity should provide features for file sharing, version control and activity reports generation.

3.2. Training

Another important activity in the European Educational projects is the training of the project target group. Some European projects develop the training activities on face-to-face meetings. Other projects include remote or blended (face-to-face and remote) training processes. The decisions related to the communication between the course participants (trainers and trainees), which must be taken before the training starts, includes: (1) training delivery method, (2) how the course announcement will be transmitted to the target group; (3) how the target group members will attend to the course, (4) how the course

participants feedback (tasks, products, comments, questions etc.) will be collected, (5) how the grades will be transmitted to the trainees and (6) how the training process will be evaluated. These decisions refers only to the most obviously and important problems, but there are many other aspects which must be clarified by the project partnership.

The face-to-face training will not be discussed in this paper because it eliminates from the beginning the use of a web collaborative platform. Instead, remote and blended training require an adequate web technology. In order to support the remote training activities, many partnerships decide to use a dedicated e-learning platform. If we consider that for the other project activities it is used a general web collaboration platform, this means an additional effort for two platforms installation and administration. This effort can be substantially and, in many cases, it is not worth it.

If the training activities involve a complex interaction between trainer and trainees, a dedicated e-learning platform is the best choice. But if the training process involves only training materials distribution, collaboration activities between course participants (between teachers and students, between students) and feedback gathering and delivering, the training process can be made with the support of a general web collaboration platform. Thus, a web collaboration platform, in order to support the training activities, should provide file and space sharing, synchronous and asynchronous communication (e.g. forums, chat rooms, brainstorming, etc.), activities scheduling, polling and activity reports generation.

3.3. Dissemination videoconference

The third scenario of European educational project activity is dissemination videoconference. In this paper, by videoconference it is referred a web conference system that use a web browser for providing audio and video communication. Audio-video communication is a very important communication method because it is the closest thing to “being there”. Many partnerships consider the use of a videoconference tool because it is a cheap alternative to face-to-face meetings. The videoconference sessions can be used as part of any other main activity of the project. It can be used for project management, course development, training, or project results dissemination.

Videoconference for projects results dissemination became if not an alternative, undoubtedly a real complementary method to the traditional dissemination channels.

Videoconferencing may be considered as European project results dissemination method due to its many benefits. Two main benefits, comparing with other dissemination methods, are as follows: (1) in comparison with face-to-face dissemination methods, virtual meetings eliminates the physical limitations of distance and the expenses for dissemination meeting organization are lower; (2) unlike the paper material dissemination, the videoconference allows direct interaction with the presenters (e.g. the partnership that developed a project and disseminate the outcomes through a web conference), so the responses to the questions are offered immediately [8].

Videoconferencing gains more and more sympathizer due to its advantages. For example, after a dissemination videoconference organized in the frame of a European Comenius 2.1. project (<http://vccsse.ssai.valahia.ro>) [9], the 100 participants of this event, asked to give a grade for video conference versus traditional conference, showed their awareness on this technology advantages. Figure 2 shows the participants responses.

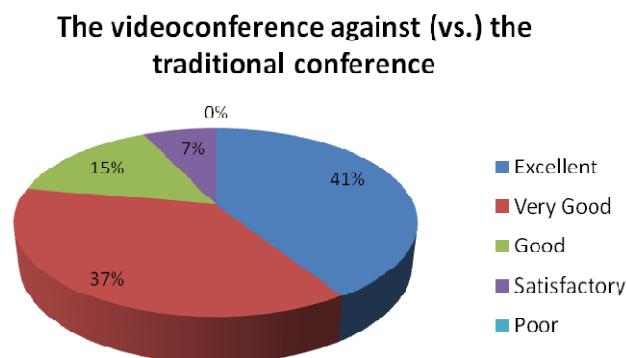


Fig. 2 – Video conference versus traditional conference.

It must be mentioned that most of the videoconference participants never used videoconference software before.

Before a dissemination videoconference the partnership must decide about: (1) the meeting agenda, (2) how the target group will be informed about the meeting, (3) who will make presentations during the meeting, (4) how the participants' feedback will be collected, (5) how the meeting will be evaluated and (6) what videoconferencing tool will be used.

A dissemination videoconference requires usually more than only audio and video communication. Often it also involves desktop sharing, alternative communication channels (chat), and shared whiteboards. Thus, the web collaboration platform which it might be selected to support the project activities should also provide features for audio and video communication, desktop sharing, shared whiteboards, meeting records and activity reports generation.

4. WEB COLLABORATION PLATFORM FEATURES

The analysis of the main activities scenarios of the European multinational educational projects highlights a list of features which a web collaboration platform or an integration of specific web collaboration platforms (a general web collaboration platform, an e-learning platform and a web conferencing platform) should provide in order to be efficiently used to support project activities development.

Many of these features (Table 1) are part of the list of options which usually general web collaboration platforms provide [10, 11, 12, 13].

Table 1

The list of features which a web collaboration platform should provide for an efficient support for the European Educational project activities

Activities	Web collaboration platform required features
Course development	File sharing, version control, activity reports generation
Training	File and space sharing, synchronous and asynchronous communication, activities scheduling, polling, activity reports generation
Dissemination videoconference	Audio and video communication, desktop sharing, shared whiteboards, meeting record and activity report generation

5. CONCLUSIONS

It is known that web collaboration platforms encourage discovery, innovation, teaming, leading and learning [14]. The use of web collaboration systems allows groups to integrate the knowledge of all members into better decision making [15]. A collaborative platform can be an important tool that may facilitate the cooperation and the decision making [8].

Taking into consideration these aspects and the results of the main European educational project activities (course development, training and dissemination videoconference) analysis it can be concluded that multinational educational project activities can be efficiently supported by web collaboration platforms.

The authors of this paper hope that the activity scenarios analysis results will contribute to a better selection and a wider use of the existent web collaborative platforms and perhaps to new software development or integration.

ACKNOWLEDGEMENTS

A preliminary version of this paper has been presented to the 12th IFAC Symposium on Large Scale Systems: Theory and Applications, July 12-14, 2010, Lille.

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Received February 21, 2011