

VIRTUAL COLLABORATIVE LEARNING

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Abstract: The report discusses the main concept, advantages and application of the virtual collaborative learning. It also defines the general phases in the virtual collaboration procedure and the main features and functionality requirements for appropriate virtual platform. The results from the research made about the users' satisfaction for the suitability of the FairShare platform for the needs of the virtual collaboration learning is presented and some conclusions are made.

Keywords: Virtual Collaboration, E-learning, Virtual Collaborative Environment

INTRODUCTION

E-learning is a way to implement next generation technologies in the standard training methodologies. Generally it is an environment where information can be exchanged asynchronously, which allows optimal use of resources. This additional alternative method of acquiring knowledge has more positives, namely the possibility to create discussion groups, forums, self-help programs available to everyone in the system. E-learning (e-learning) in itself summarizes all types of online learning as mobile (m-learning), virtual (v-learning), distance (d-learning) and ubiquitous learning (u-learning) training [1,2,3].

Collaboration is working together to accomplish shared goals. Collaborative learning is the instructional use of small groups so that students work together to improve their own and each other's learning. In collaborative learning situations there is a positive interdependence among students' goal attainments; students perceive that they can reach their learning goals if and only if the other students in the learning group also reach their goals [4,5,6].

The collaborative learning can be both face-to-face and virtual. Due to the dynamics of the 21st century this way of learning goes into a new dimension, continually looking for new ways the process of acquiring knowledge to be most convenient and innovative. This requires the development of new generation platforms for e-learning. The more the popularity of the effect of collaborative learning is growing, the more the existed and new designed platforms provide functionalities for collaboration online. This effect known as network externalities in economics is also shown in all Web 2.0 environments (1, 2).

Besides higher achievement and greater retention, collaboration, compared with competitive or individual efforts, tends to result in more [5]:

1. Willingness to take on difficult tasks and persist, despite difficulties, in working toward goal accomplishment.
2. Long-term retention of what is learned.
3. Higher-level reasoning (critical thinking) and metacognitive thought. Cooperative efforts promote a greater use of higher level reasoning strategies and critical thinking than do

competitive or individual efforts. Even on writing assignments, students working cooperatively show more higher-level thought.

4. Creative thinking (process gain). In cooperative groups, members more frequently generate new ideas, strategies, and solutions that they would think of on their own.

5. Transfer of learning from one situation to another (group to individual transfer). What individuals learn in a group today, they will be able to do alone tomorrow.

6. Positive attitude toward the tasks being completed (job satisfaction). Cooperative efforts result in more positive attitudes toward the tasks being completed and greater continuing motivation to complete them. The positive attitudes extend to the work experience and the organization as a whole.

7. Time on task. Cooperators spend more time on task than do competitors or students working individually.

1. Virtual Collaboration Procedure

1.1 Environment

In non-collaborative learning the environment for the teaching processes has defined on two fundamental sets - Students set and Teacher set and media or platform for transfer of knowledge and skills.

In collaborative learning the environment extends with platform and tools for dynamic multidirectional exchange of reflections, reactions, temporary results and impressions caused from knowledge and skills transfer mainstream process.

The efficiency of collaborative learning depends on how we extend the well-known non-collaborative learning the environment.

There are two possibilities or two native approaches to do the extension – migration or creation.

During the feasibility study, stage need to be projected that the creation approach is not acceptable for nobody in the game – Students, Teachers and Managers.

The migration approach is faster, easy for handling and adaptation to individuals. The selected for the research platform  is the best example how to build collaborative

Learning Environment applying the migration approach.

Courses



Fig. 1 Non-Collaborative Environment



Fig. 2 Collaborative Environment – Courses and Tests inherited during the Migration

1.2. Roles in the Collaborative Learning Environment FairShare

The different roles available are the following, and can be at platform level or course level:

- **Administrator:** this role gives the possibility to manage the global platform settings, see all students and contents, and consult all results to the quiz. This is a platform role attributed when creating a new account in the platform.
- **Teacher:** This role relates to courses. When adding a user to a course, the teacher will have the possibility to grant him a "teacher" role. This role will only be effective for this course, and the user can be teacher for a course and student for other courses. Inside this course, the teacher can manage the course settings, create content (lessons for example), and consult the users' results to the quiz. But he cannot manage the users for the course.
- **Manager:** The manager has the same permissions as the teacher, but is in addition able to manage the users for the course. Also, manager can create

material and edit material created by other teacher inside a course. (It is recommended that both, teacher and manager roles, are granted for the persons responsible for the course).

- **Student:** The student has only right to consult the data for courses he needs to be authorized to, to fill in quizzes, and consult his own results.

1.3.General Phases in Virtual Collaboration Procedure

As result of migration approach, the **teaching route** is going through two phases:

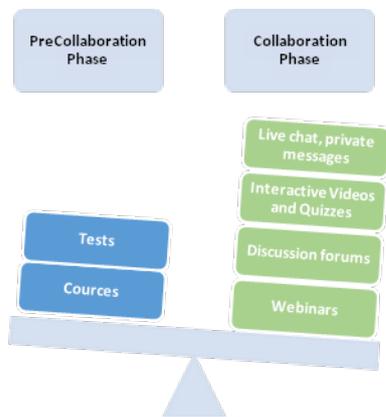


Fig. 3 General Phases in Virtual Collaboration Procedure

Teaching route is very important because the platform FairShare is not a social network with chaotic movement form topic to topic. Both phases are running in parallel with higher weight of Collaboration Phase (fig.4):

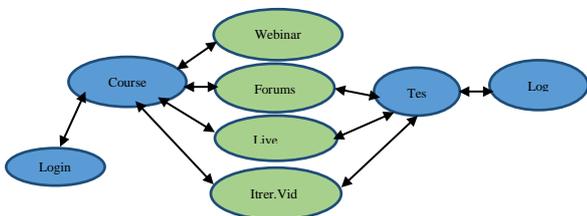


Fig.4 Relations between the phases

The basic algorithm of Virtual collaboration procedure has shown at the following figure:

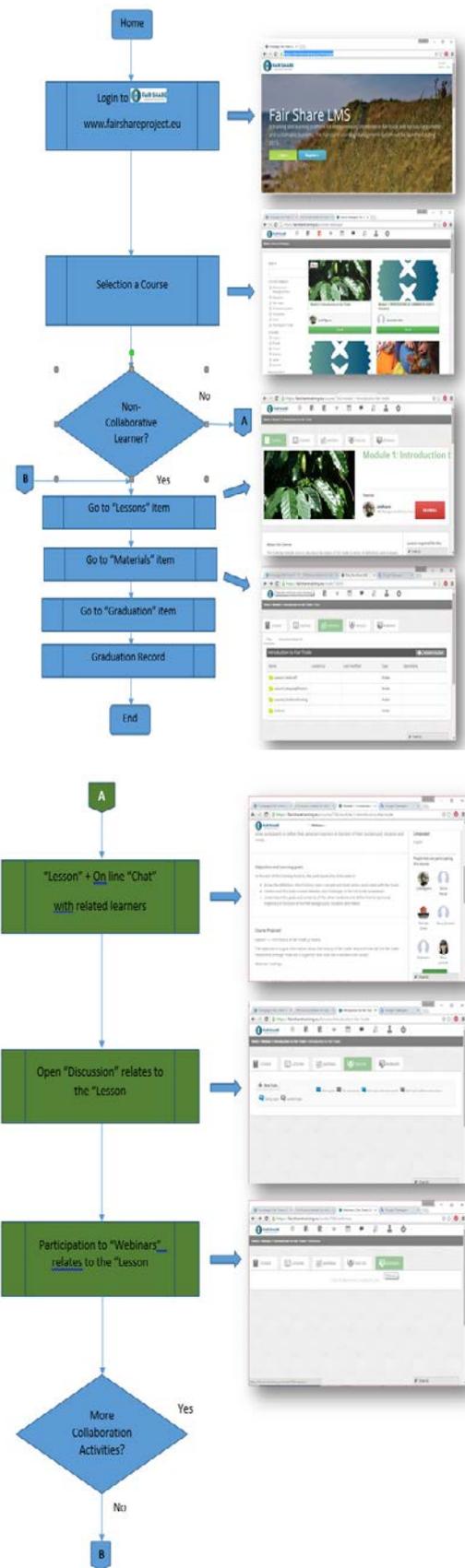


Fig.5. Algorithm of Virtual collaboration procedure

2. Virtual Collaborative Procedure Added Values

The Virtual Collaborative Procedure works in successive steps to design the training program and make it relevant to Learner' needs and expectations. A mapping of existing training dedicated to Learners and/or social entrepreneurs, and the identification of training needs and expectations the first step that will help design an original and relevant training program. The second step consists of the development of the training content and of an innovative and interactive e-learning environment, which will be tested in real-life conditions in the third step. The next steps concern the validation, dissemination and impact assessment of the learning outcomes and collaborative learning added values as a whole:

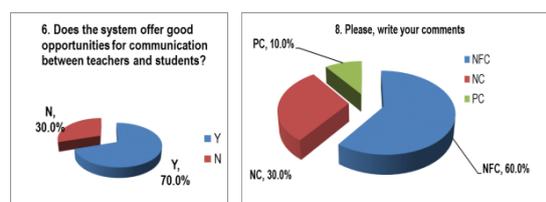
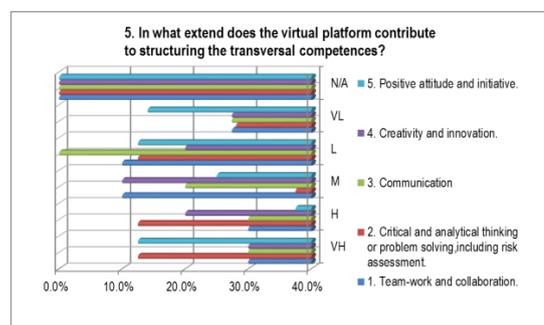
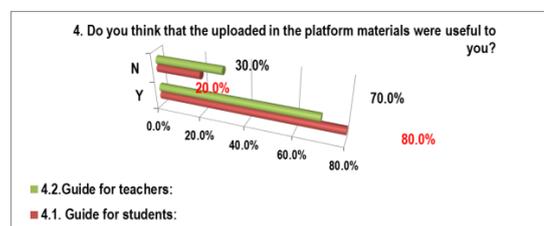
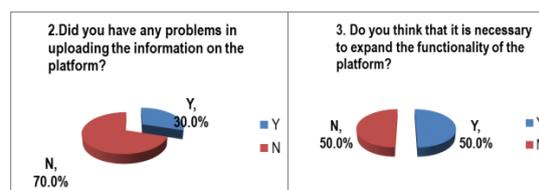
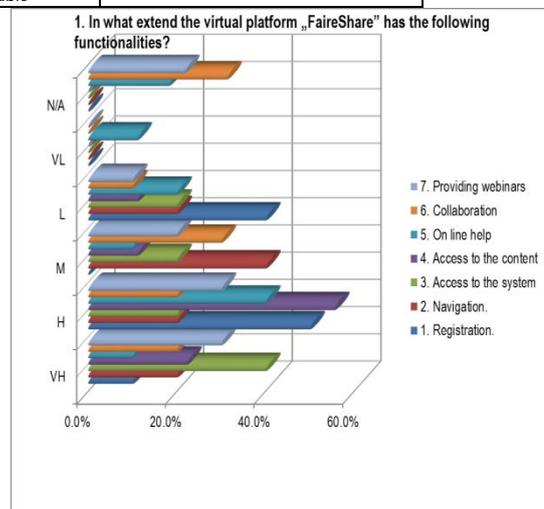
- Collaboration everywhere and any time for everybody;
- Informal knowledge and experience exchange during the mainstream teaching process;
- Successful learning practices sharing;
- Facilitating the learners activities during the teaching process;
- Active feedbacks achievement;
- Multimodal learning content presentation;
- Individual control over non-collaborative and collaborative phase in to the teaching route.

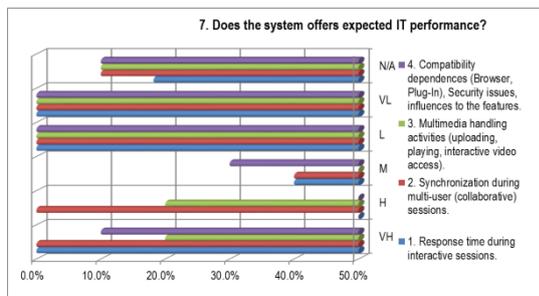
3. Research on the FairShare platform in accordance with its collaboration functionalities

Consisting all aspects of e-learning and collaboration, the FairShare become an essential tool in conducting the European project SOCCES (SOCial Competences, Entrepreneurship and Sense of Initiative), held in two pilot case studies.

After finishing the pilot case studies for the needs of the project the partners were asked to fill in satisfaction questionnaire for the suitability of the chosen platform for the needs of the virtual collaboration learning. Here are the results, visualized with the following diagrams:

Legend:	
VH - Very High	Y- Yes
H- High	N- No
M - Medium	NFC - No Further Comments
L - Low	NC - Negative Comment
VL - Very Low	PC- Positive Comments
N/A - Not Applicable	





A general conclusion from the executed research could be that e-learning is not just about using the latest technology in order to replace the traditional way of teaching and learning. It is not about uploading learning content on the Web to be downloaded or read by everyone. The more e-learning is collaborative, the more users will feel involved and will contribute in enriching the platform.

CONCLUSION

The advantages of collaborative learning over individual learning are broadly acquired. The term "collaborative learning" refers to a general method of working, where learners at various performance levels, work together in groups of different size, toward a common goal. Every individual is responsible for the other's learning as well as their own. Thus, the success of one student helps other students to be successful.

Numerous experiments have demonstrated the benefits of teamwork and how the possibility of collaborative activities affects the quality of the results. The methods for e-learning of all kinds: virtual environments for visualization, more innovative platforms for collaboration, discussion forums and chats, all in one product, provides the necessary conditions for the development and deployment of potential and modelling of creative ideas.

This report is done in the frame of the European project SOCCES (SOCial Competences, Entrepreneurship and Sense of Initiative), Erasmus+programme, Key Action2: Cooperation for Innovation and the Exchange of Good Practices.

In the future we'll continue to work on-line in the collaborative way on international level. We are going to experience this using other software platforms.

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