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Related Aspects to Formative Effects of Collaboration in Virtual Spaces

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Abstract

The collaborative learning - that can be put in practice in a real classroom or using virtual environments - becomes the way for stimulating both individual and group strategy. The paper proposes to demonstrate the formative effects of collaboration in virtual spaces, emphasizing on its impact on the development of creativity and tries to put in evidence possible group creativity hinder factors. The support of the research is provided by the European LLP-KA3 project: “CoCreat - Enabling Creative Collaboration through Supportive Technologies”, centered on the promoting of creative collaboration, using innovative teaching models based on virtual reality, social networks and/or mobile technologies.

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1. Background

The changes made in the actual society, in a progressively accelerated manner, represent many challenges for the contemporary human beings, who have to valorize the capacity of creative adaptation. In fact, the creativity constitutes one of the valuable dimensions of human personality.

In this context, the formal education has the mission to provide relevant learning experiences in order to valorize and develop the creative potential of each trainee. The collaborative learning - that can be put in practice in a real classroom or using virtual environments - becomes the adequate strategy for stimulating both individual and group

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strategy.

Creative collaboration is not yet a concept whose meaning has been accurately decoded. Specialized studies dealt separately with the concepts creativity and collaboration / collaborative learning. Sometimes collaborative learning effects are highlighted on the creativity development. Moreover, creativity has been “explored” especially as individual process, as the size of an individual’s personality, rather than the group process. Group work, collaborative learning can positively influence the creation process and can foster the development of creativity.

In a society that promotes a knowledge-based economy, whose defining feature is the change, creativity, innovative approach to problems - whatever their nature - are “targets” of the educational process to be undertaken, both by teachers and educators. The management of creativity in the education system requires a proper reporting to the significance of this concept.

In his numerous studies on creativity, Teresa Amabile has shown that any persons is capable of creativity in a certain area at a time, but depends on three factors: “specific skills domain, work habits and creative thinking, intrinsic motivation” (Amabile, 1997).

One of the elements that influence the creative potential of a person, along with heredity and learning, is the social environment. In this respect, educational space, methodological tools used by teachers, learning contexts, can be “shaped” so to enable each student to express specific originality to exploit and develop their creative skills.

Collaborative learning strategies involve a learning organization adapted to the particularities and needs of beneficiaries, facilitating the learning and development of creativity. To capitalize on cognitive, affective and action resources of the students, to cultivate their creativity for adaptation and optimal insertion in the socio-professional environment (found to be in an accelerated process of change), it is imperative to use collaborative learning - a modern interactive learning strategy. This allows the practice of quality learning, an efficient learning, resulting in sustainable procurement, which may be used and transferred in different instructional contexts and beyond. With a competent guidance, with the support of teachers who are interested and continually improving their knowledge, practicing skills and collaborative learning, students will be able to achieve its objectives and to successfully complete this activity. In addition, it will be clearly increased their chances of social success.

The positive effects of the interactive strategies are much more numerous. These are benefits of a teaching approach that promotes collaborative learning, whether it is done in traditional educational space - the classroom - or in web-space, in an “on-line” learning community.

In conclusion, we can say that to achieve a university education based on the high quality standards, to help students to practice learning quality, it is necessary to create a stimulating instructional environment in which collaborative learning to become a the basic strategy.

The implementation of this strategy is a guarantee of quality learning and personal and professional development, because it gives to students the opportunity:

- to apply and synthesize knowledge in various ways;
- to review and critically analyze their own ideas;
- to confront their opinions with others;
- to develop interpersonal intelligence;
- to develop attitudes and behaviors based on valuing oneself but also others;
- to form higher learning skills;
- to develop behaviors based on tolerance, respect and acceptance of diversity;
- to capitalize and develop their creative potential.

2. Purpose of Study

The paper proposes to demonstrate the formative effects of collaboration in virtual spaces, emphasizing on its impact on the development of creativity. At the same time, the paper tries to put in evidence possible group creativity hinder factors.

3. Findings and Results

The “CoCreat - Enabling Creative Collaboration through Supportive Technologies” project results in new solutions for promoting creative collaboration in terms of new and innovative learning models based on social media

and mobile technology. The project results are: models of how creative collaboration can be structured using notions of collaborative learning; promotion of creative collaboration with development of collaborative spaces using mobile technology and social media; practical and methodological guidelines, to support the design and evaluation of creative collaboration.

The main output of the project carried out within the Cooperative Area 2 was the *on-line course “Designing Technology-Enhanced Learning (TEL)”* (<http://www oulu.fi/let/node/11372>). The objectives of the course were oriented to making students familiar with the key concepts; learning the theories and approaches of designing technology-enhanced learning; developing practical skills of setting up, implementing and evaluating the use of TEL systems and tools; designing of a prototype of a TEL course.

Virtual environments can support learning by access to course resources, communication among students and collaborative work. In this respect, various environments were selected:

- *Moodle* is a free software e-learning platform that enables teachers to create online courses based on the collaborative work for the creation of content;
- *Wiki* can support the creation of shared multimedia documents;
- *Google Docs* support the creation of shared documents;
- *Google Calendars* support the creation of shared calendars, e.g. for meetings and deadlines;
- *WordPress* is a powerful semantic platform which can support forums and documentation;
- *SecondLife* represents “the most mature of the social virtual world platforms and the high usage figures compared with other competing platforms reflects this dominance within the educational world” (Warburton, 2009);
- *Skype* and *YahooMessenger* can assure the necessary support for synchronous communication.

The target group of this study was formed of students from Romania, Finland, Estonia and Norway. In Romania, the involved students came from different faculties (Faculty of Electrical Engineering, Electronics and Information Technology, Faculty of Sciences and Arts, Faculty of Humanities). The participants were divided in twelve international working groups. Each working group had the task to design a virtual course.

During the designing process, each working group had to solve both general and specific tasks. In this sense, the collaborative learning tasks were (Vuopala, 2012):

- *Task 1*: Students introduced themselves in their own workspace in *Moodle* environment, in order to get to know each other. They also had to formulate a name for their sub-group.
- *Task 2*: Students in each small group had to decide most appropriate tools (in addition to *Moodle* and *SecondLife*) for their collaboration during the course. All discussions, at this phase, took place in *Moodle* and in *SecondLife* environments.
- *Task 3*: Students’ task was to write collaboratively a pedagogical script for their virtual course. They had to make decisions concerning aims, scope, pedagogical model, tutoring and evaluation of the course. Students used *Moodle*, *SecondLife*, and other technical solutions in their communication.
- *Task 4*: During this collaborative task, the students produced together a script concerning technical issues of their virtual course.
- *Task 5*: During this collaborative task, the students built the virtual environment for their course, based on pedagogical and technical scripts.
- *Task 6*: Final task was peer-evaluation of course implementations. Each small group evaluated collaboratively each other’s course implementations.

Students approached various topics, like: “*Social media in primary school teaching*”, “*Social Media - Tools for Learning*”, “*Geriatric assistance in everyday life*”, “*Juvenile social problems and nurse support*”, “*Human Right*”, “*Social media in teaching adults - in which ways can teachers make use of social media in their work*”. Those topics involved the development of pro-social attitudes and behaviors, and the development of students' creativity.

During the designing of the course, the students participated in selecting working methods, writing pedagogical scripts (learning theory, description of pedagogical model, description of teacher’s / tutor’s role, learning materials, evaluation), writing a technical script (description of the basic idea of technological implementation of the course / web environment, visual design, structure of the web environment, possibilities / tools for communication, web materials / digital learning materials, testing the web environments), implementing and evaluation the virtual course.

All those activities have allowed the development of students' creativity.

During the course activities, the students had the possibility to select the appropriate technology for communication and collaboration inside the group. The learning environments that have been used were: *Moodle*, *Wiki spaces*, *Blogs*, *Wordpress* and *Google Docs*.

As a work group, they decided and thought that it was important to settle on a learning environment / environments easy accessible for all to contribute. The course was basically implemented in *Moodle*, which was considered as main platform. The materials were also presented in *Moodle* platform due to the fact that in the students' view it is a highly user friendly working platform, relatively simple to upload text materials, easily accessed in both the home and work environments, easy to use, with facilities related to maintain asynchronous discussion.

Choosing the educational platform - used for the implementation of the web course - and their working methods, demonstrate the following formative meanings: negotiation training and skills development, training and development of argumentative capacity, training and decision-making capacity.

The understanding of the course concepts was demonstrated through the interactions and the constructive debates with peers.

The students have incorporated considerable research and multiple perspectives into their case study introduction. The introduction provides the reader with an analytical and critical understanding of the particular issues. This demonstrates their capacity to investigate the reality and the development of critical, creative and lateral thinking. Developing creativity was demonstrated also by the educational video-clips - in relation with the case studies - produced by students.

As participant in a collaborative group, the student has demonstrated negotiation skills, empathy through listening to others ideas / opinions, as well as task management and effective role-playing skills.

In the frame of the web course, there were organized several discussion forums where students could express their opinions about the materials posted. During the course, students were able to give and receive feedback from other participants, in the discussions created for each workgroup.

The participation of students from different universities and countries (taking also into account their different cultures) has been a real challenge, but clearly allowed the development of the learning motivation.

In collaborative work the students need support for: working together, synchronously or asynchronously, on shared artifacts, e.g. for producing a shared text; discussing and making sense of syllabus content; coordinating their activities, e.g. fixing meetings; defining plans; awareness is core to cooperative work, e.g. who is doing what; where co-workers are; how is work progressing.

On the other hand, in the absence of a direct tutor, who can carefully monitoring the whole activity, the following hinder collaboration factors may occur in the web-space:

- the assimilation of erroneous information;
- difficulties in identifying and assessing individual progress;
- exacerbation of conflicts between students while the tutor does not intervene as mediator;
- superficial approach to work tasks;
- possible development group dependencies in solving tasks;
- "encouraging" the passivity of some students, while the tasks are not clear distributed / done in the absence of group monitoring.

4. Conclusion

The project has formed a collaborative community, where both tutors and students created collaborative creative ways to achieve tasks.

The students have learned to design and implement a virtual course. During the course, there were identified the following meanings formative collaboration in the web-space:

- development of creativity;
- negotiation training and skills development;
- training and development argumentative capacity;
- formation and decision-making capacity;
- training and development capacity investigation of reality;

- training and development capacity to provide feedback and be receptive to feedback;
- growing autonomy in learning;
- developing motivation for learning;
- development of critical, creative and lateral thinking;
- development of pro-social attitudes and behaviors.

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