Collaborative distance learning: Developing an online learning community

Maria Stoytcheva

ARTICLES YOU MAY BE INTERESTED IN

Teaching helix and problems connected with helix using GeoGebra
AIP Conference Proceedings 1910, 060008 (2017); https://doi.org/10.1063/1.5014002

A note on the explicit asymptotics of rows and of closed to row sequences of classical Padé approximants
AIP Conference Proceedings 1910, 050001 (2017); https://doi.org/10.1063/1.5013983

An answer to a conjecture on the limit of the iterates of Jackson type operator $G_{s,n}$
AIP Conference Proceedings 1910, 050007 (2017); https://doi.org/10.1063/1.5013989
Collaborative Distance Learning: Developing an Online Learning Community

Maria Stoytcheva

Abstract. The method of collaborative distance learning has been applied for years in a number of distance learning courses, but they are relatively few in foreign language learning. The context of this research is a hybrid distance learning of French for specific purposes, delivered through the platform UNIV-Recr (Strasbourg University), which combines collaborative activities for the realization of a common problem-solving task online. The study focuses on a couple of aspects: on-line interactions carried out in small, tutored groups and the process of community building online. By analyzing the learner’s perceptions of community and collaborative learning, we have tried to understand the process of building and maintenance of online learning community and to see to what extent the collaborative distance learning contribute to the development of the competence expectations at the end of the course. The analysis of the results allows us to distinguish the advantages and limitations of this type of e-learning and thus evaluate their pertinence.

INTRODUCTION

Information and communications technologies have definitely taken root not only in our everyday and professional lives but also in education. From a source of information and a means of communication, the Internet has become a widely used environment for teaching and collaboration.

Bringing together pedagogical innovations, multimedia and network technologies, modern distance learning finds answers to questions related to economic issues in education, issues regarding its role in the recently established information society, the quality of education and, mostly, its accessibility. It also meets the increasing demand of professionals for "lifelong learning" as well as the needs of modern information society. The development of online distance learning is a twofold evolutionary process that has its technological and pedagogical aspects.

The research in the area of online collaboration as a teaching approach at university level proves its efficiency, but it deals mainly with subjects other than foreign language teaching (Henri & Cayrol 2003, Garrison 2007). Besides, the larger part of the research in the area of collaborative learning focuses on online collaboration realized through asynchronous discussion. Other, relatively few researchers deal with e-courses that include both synchronous and asynchronous communication in collaborative activities, with more or less intensive online interactions (Fulton et al. 2015, Karsenti et al. 2013).

Comparatively much less is the research of online collaboration, either synchronous or asynchronous, in the learning of foreign languages. Due to the need for a more in-depth understanding of the processes taking place in collaborative foreign language teaching (FLT) in an online environment, the present study focuses on this still relatively unresearched area with an emphasis on collaborative design and the opportunities it provides for creating an online learning community.

COLLABORATIVE APPROACH AND LEARNING COMMUNITY

A major feature of collaborative learning is the mutual complementation and interdependence between the individual and collective character of learning. Henri and Cayrol (2003) offer a rather broad but clear definition of
the Collaborative Approach as applied in a distance learning environment. In their view, "collaborative learning is an active process aiming at progressive construction of knowledge, using the group as a source of information, a motivational agent, a means of help and mutual support, a preferred place for interaction, aiming at collective development of knowledge. It takes into account both the individual and reflexive character of learning, on the one hand, and the social relation through interaction in the group, on the other. Here, the group is the catalyst of learning. By setting a common goal and undertaking a common task, the group learns and constructs its knowledge. At the same time, this allows each learner to come up against the ideas, views and opinions of the rest of the group, which, in turn, bolsters his or her learning."

Collaborative learning and the formation of a learning community are two interrelated terms. On the one hand, the collaborative activities included in a collaborative online distance learning scenario are a key factor supporting the development of a learning community. On the other hand, the formation of a learning community in the framework of collaborative learning is an indicator of the success of this learning. The learning community is not just a group of people who have come together to gain some knowledge, but a community with a life and history of its own, where each person's opinion matters, decisions are made after discussion and there is an atmosphere of trust and respect.

As pointed out by Swan et al. (2009), the application of the constructivist approach and the creation of a learning community are the necessary conditions for the efficient construction of knowledge in online learning. Within this context, Garrison et al. (2000) have developed a comprehensive framework representing a model of a learning community, which can be used both for the application and study of online teaching at university level. It is a dynamic model involving the basic elements necessary for the establishment and successful functioning of a learning community, with collaborative learning at its heart. It comprises three main interrelated elements: cognitive presence, social presence and teaching presence. According to Garrison et al. (2000), for the realization of a high-quality collaborative process and the subsequent establishment of a learning community, all three types of presence have to be existent and have to interact effectively.

**CONTEXT OF THE RESEARCH**

The distance learning course of French for Tourism - FOS Tourisme, on which the present research is based, is a hybrid online course that includes an alternation of classroom and distance learning periods, the distance learning ones, which are delivered through the UNIV-Rcr platform (Strasbourg University, France), comprising its main part (about 80%). Most of the work, tasks, activities and interactions typical of the collaborative process are carried out distantly.

All teaching aims are realized online; however, there is time allocated for some of them in the classroom periods too. These include the development of speaking skills and presentation skills. The choice of the hybrid distance learning type was to some extent determined by the specifics of foreign language teaching, where the development of competences related to the use of spoken language is relatively more difficult to achieve in a distance learning environment. On the one hand, to develop these competences online the course contents include video- and audio-based tasks which allow learners to hear native French speakers' language, as well as synchronous audio and video Skype group discussion sessions on various areas of the French language (to develop speaking skills and professional competences simultaneously). On the other hand, students work face to face in the classroom periods, where the focus is also mainly on developing speaking skills. The short classroom attendance periods are distributed equally at the beginning, the middle and the end of the course and each has its particular aims and tasks.

**Learning Scenario**

The learning scenario of FOS Tourisme course is based entirely on collaborative work. Collaborative work puts learners in real situations and creates the prerequisites for intensive interactions allowing joint construction of knowledge. Besides, the application of this approach is characterized by mutual complementation and interdependence of the individual and collective character of learning. Most often learning is stimulated by socio-cognitive conflicts and knowledge is constructed through reconsidering one's views as a result of discussions, presenting arguments for an opinion and exchange of information and ideas among the learners.

Students work together in small groups or teams under the guidance of an online tutor to carry out a common, real-life professional task, which leads to creating a common output in the target language. The task puts the students in a problem-solving situation. It is authentic (related to typical professional activities), complex, performed
in consecutive stages using a variety of interrelated activities and aims at creating concrete production in a specific context. In brief, it is oriented to achieving a common goal through collaborative work.

The major part of the learning activities is carried out online on the UNIV-Rct distance learning platform. The learning scenario includes the alternation of individual and collaborative activities which are also interrelated and interdependent. This interdependence is shown by the "connection between the production at the end of the previous activity and the object of the activities that follow" (Quintin et al. 2005). Thus, the learning scenario for each seminar of FOS Tourisme course consists of two consecutive interrelated and interdependent stages (Fig.1).

The online interactions in the course are carried out entirely in French and are an integrative part of the learning process. In FLT the language is both a teaching instrument (it is the main means for mediation) and a goal of language learning (Lamy et al., 2007 in Mangenot 2008). For this reason, the interactions in French that we urge on our students during the realization of the tasks are part of the strategies for achieving the goals of the language course. The online interactions are planned at the learning scenario stage and are defined in the task description in the form of guidelines for work, every effort being made to provide only a moderate amount of prescription so that students can have the opportunity to use their own initiative regarding the organization of work.

Tutoring is an integrative part of the learning scenario. It is the main connecting element between all participants in the system. In the learning process the tutor carries out both proactive and reactive distance guidance depending on the needs and the stage of learning, the proactive guidance being predominant at the beginning and later turning to reactive due to the increase of learner autonomy.

**METHODOLOGY OF THE STUDY**

The epistemological position adopted for the present study is associated to the socio-constructivist paradigm, the objective being to understand the rules of constructing the dynamics of the learning community. The study combines quantitative and qualitative methods for the collection and analysis of data obtained from several types of sources and, by cross-checking them using the triangulation method, aims at achieving a higher credibility of the results, providing reliability of the research and increasing data validity.

The data, which were collected using different methods (questionnaires, interviews, online observations), allow not only to study students’ opinions and their relations, but also to observe the real interactions in the medium adding the experience of the tutor/researcher as a participant in the learning process and her personal judgments, which complement the general picture.
RESULTS AND DISCUSSION

The collaborative scenario is most often related to the concept of learning community, where learners construct their knowledge together, sharing common goals and common microculture. On the basis of the theoretical study, to analyze the data we have determined five main categories and the respective indicators to study the process of formation of a learning community, namely engagement (in cognitive, socio-affective and reflexive aspect), collaboration (socio-cognitive interactions, socially constructed knowledge), productivity/organization (efficient work organization, efficient problem solving), sense of belonging to the learning community (related to the social presence, creation of a common micro culture, common language, common history) and group cohesion (confidence, support and encouragement between students, empathy, group identity). Due to the amount requirements for the present paper, we will deal mainly with the category of collaboration.

Online Collaboration for Developing an Online Learning Community

Generally, collaboration is related to the socio-cognitive interactions that take place in the framework of learning. The main indicators used to determine the presence of a real collaboration are socially constructed knowledge, efficient and creative exchange, positive and constructive socio-cognitive dynamics, positive interrelation and shared resources. To trace the collaboration process, we have compared the questionnaire data from the beginning and the end of the course, the data from the online observations during the course and the interviews with students during the course, which provide information about the whole learning process at all its stages.

The course was taken by 25 students, for whom distance learning was a completely new form and who used a distance learning platform for the first time. For most of them (72%), team work was also a new experience. The survey data reveal that almost all students found collaborative work interesting (96%) and useful (92%). Nevertheless, 52% admitted that collaborative work was more difficult that individual and more demanding, especially when carried out online. The reasons for this are, in the first place, organizational difficulties (synchronizing their free time with that of the rest of the team, work organization and management); in the second place, difficulties of cognitive character (joint discussions and reaching a decision distantly, adjustment of work styles); and, in the third place, difficulties of socio-affective character, such as the regulations of interpersonal relations within the team, the need to bear with the other team members, tolerate other students' opinions and make compromises in the name of the joint work.

In interviews the students declared: "Working in a team was more difficult for me, because the responsibility was greater. It required more time and effort."; "It was more difficult due to the fact that we could not all be online at the same time or that somebody had problems connecting to the Internet. Otherwise, this type of teamwork was easier, because you could always rely on a team member for help and we corrected each other's mistakes or added something new."; "Team working was more difficult in view of how to make the team work as a partnership, collectively. I think we did a good job. There is something very important - teamwork requires collective thinking and collective responsibility, but without ignoring our own personal responsibility. Having both rights and obligations is very stimulating and leads to good results."; "It's a little more difficult because you have to keep to a certain date and time, observe your colleagues' opinions. Like in real life, isn't it?"

The explanation for the difficulties mentioned above can be found in our students' underdeveloped self-control and autonomy competences as well as in their insufficient collaborative work skills at the beginning of training. In fact, distance learning requires more effort in this respect and more responsibility regarding the management of their own learning. Still, it should be noted that the situation became considerably better after the first teaching unit. According to 95% of the students, their communication and teamwork skills have evolved positively over time.

As can be seen from Table 1, communication was mainly with regards to work organization and the joint work on specific tasks, much of it had a cognitive objective (clarification and comments on the course content) and relatively little had a socio-affective character (to maintain good relation in the team).

As can be expected, during individual activities interactions were not particularly intensive and the time that students spent on the platform was relatively little at this stage. The tracks of learner activity on the platform registered by the system show that students entered the platform mainly to use learning materials (sometimes online, but most often to download them on their computers), do interactive exercises or self-assessment tests or deposit their work. They rarely sought help from the tutor or their colleagues when performing individual activities. They relied mostly on the instructions in the learning website, additional resources and the weekly learning chat, where they could ask their questions and receive additional explanations.
I communicated with my team in order to:

<table>
<thead>
<tr>
<th></th>
<th>Very often</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Organize our work effectively</td>
<td>84%</td>
<td>16%</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>- Work on the specific tasks</td>
<td>76%</td>
<td>24%</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>- Clarify and comment the course content</td>
<td>60%</td>
<td>20%</td>
<td>12%</td>
<td>8%</td>
</tr>
<tr>
<td>- Maintain good relationships with team members</td>
<td>28%</td>
<td>44%</td>
<td>14%</td>
<td>14%</td>
</tr>
</tbody>
</table>

TABLE 1. Intensity and direction of online interactions (end-of-course survey data)

The online observations in the platform show that the interactions increased during teamwork, because of the nature of the activities, which required joint work on the tasks. In the first semester, however, they were still chaotic and erratic. Team chats were rare and those that took place were short and not particularly effective. Not all students managed to take advantage of all technological means for collaboration available at the beginning. The main reasons were their poor orientation about the functionality of these means as well as their insufficient experience of online distance work. At this stage, the timely intervention by the tutor was of paramount importance, since this was a critical moment which affected the whole future collaborative online process. After receiving several emails with guidance about the possible means and modes of collaboration and the tutor's comments in the weekly group chats, all students gradually changed the way they worked together and this led to serious improvements after the second semester.

**Awareness of the Benefits of Collaborative Work**

Although they thought collaborative work more difficult, the majority of the students (84%) appreciated its advantages, realized the benefits it carries and were happy with the collaborative focus of the course (Figure 2). What students found attractive in it was that it allows for the exchange and sharing of information, ideas and experience (100%), sharing and/or confrontation of different views (76%), change of views when hearing other opinions (92%), development of teamwork skills (84%), gaining skills to tolerate other people's opinion and argue your point without causing conflicts (72%).

![Collaboration](image_url)

**FIGURE 2. Awareness of the benefits of collaborative work - Mean values - End-of-course survey**
Socially Constructed Knowledge

In fact, most students admitted that they had further developed their knowledge learning from other team members, changed their views as a result of somebody else's arguments (84%) and improved their work habits under the influence of a team member, adopting new ideas (92%) (Figure 3).

Here are some opinions given in the end-of-course interviews: "We have learned to work as a team, as it is in real life, and to be more tolerant to different opinions"; "This work brings us together, we share experiences and knowledge"; "You learn to be open-minded, respectful of other people’s opinions and work, to be proactive and responsible”.

Positive Socio-Cognitive Dynamics

In the questionnaire 84% of the respondents say that they could rely on their colleagues for help when necessary and nearly as many noted that they provided help in a cognitive or affective aspect. Practically, students are unanimous that the establishment of mutual trust and positive atmosphere in the team was important for the successful completion of the work (Figure 4).
Students also expressed their satisfaction at the fact that in most cases they managed to achieve the required quality of joint production, which they would not have achieved if they had worked individually. Besides the richness of ideas and the opportunity to share their experience, what students also found attractive in teamwork was the help they could get from the rest of the team and the tutor.

Relatively few students (28%) said they preferred individual work mostly because they considered decision-making from a distance more difficult or liked to rely on themselves when organizing their work. At the same time, only 8% thought that they would have completed their tasks better if they had worked individually. It is an interesting fact that they realized and admitted the advantages of teamwork but were less disposed to collaboration. In the interviews some of them mentioned that they could not see any benefits for themselves because they felt more competent, responsible and involved than the rest and thought they contributed more than they got from the group; others simply said that they did not wish to be engaged in the organization of the learning process or comply with the engagements or methods of work of the others.

As Henri and Cayrol (2003) point out, the disposition to collaboration varies depending on the personality and the expected benefits from this collaboration. Discontent with collaborative work can be explained, on the one hand, with the different ways of work and learning strategies that individual have, especially with regards to the sense of responsibility, accurateness and involvement in the learning process, and, on the other, with the different level of linguistic competence.

Actually, the majority of the students on our course expressed preference for collaborative work. Judging from the analysis of the chat results in the platform and the interviews, collaboration is the category with the highest percentage growth from the beginning until the end of the course (Figure 5).

![Collaboration graph](Figure 5. Gradual growth of collaboration (by number of references related to this category) – interviews and chats analysis)

Collaboration is only one of the elements contributing to the formation of an online learning community. It is a complex process that learners go through. Actually, an online learning community develops gradually and has different characteristics at the different stages of the course.

At the end of the course students state that they felt part of a special learning community that had its own life and rules, had developed its own specific language and had its own place on the Internet, where one could find help or just share something at any time. Almost all students admitted that they had gladly demonstrated the way they worked and explained what exactly the nature of their study was to their family and friends. They felt privileged to be part of the course and the community.

**CONCLUSION**

The creation of a learning community and the perception of this community by the learners is an important condition that promotes student learning (Daele & Lusalusa, 2003). The sense of belonging to a learning community and the interpersonal relations that are established are motivational factors in collaborative learning (Decamps & al. 2004).
Collaborative learning requires cognitive and metacognitive skills as well as social, psychological and emotional predisposition (Henri et Cayrol, 2003). In fact, our students had to learn to work together in collaboration while acquiring knowledge and competences in the subject area.

The students managed to adapt to the new mode of work, which, according to the questionnaire data, helped them not only achieve the course aims in a different, more interesting way, but also develop additional skills such as teamwork in a distance learning environment.

The experience from the conducted study shows that, when applied in a distance learning environment, the Collaborative Approach provides particularly favorable conditions for intensive online interactions and group dynamics promoting the formation of an online learning community, which, in itself, is an indicator of the successful realization of the learning and research objectives set before the course.

REFERENCES