Journal of Learning for Development – JL4D

ISSN: 2311-1550

2021, Vol. 8, No. 1, pp. 93-110

To Use or not Use Collaborative Learning Techniques in Teleconference Teaching? A Case Study from the Hellenic Open University

Maria Niari

Hellenic Open University

Abstract: The purpose of this small-scale qualitative research study was to examine the use and perceived value of integrating collaborative learning techniques at teleconferences at the Hellenic Open University (HOU). Qualitative semi-structure interviews with tutors from the School of Humanities at the HOU were conducted in order for the research plan to be fundamentally heuristic and generate original results. Purposeful sampling was chosen for the data collection process, cross-sectional organization for the data classification and thematic analysis for the data analysis. The results of the present research study indicate the parameters needed to be taken into account in order for the tutors to use collaborative learning techniques at teleconference teaching at HOU. An adequate teleconference platform, tutors' training on distance collaborative learning and group dynamics, and a common understanding regarding distance learning and group dynamics in e-learning environments are some of the most significant findings derived from this research study. The role of students, as well as the role of the distance-learning provider, in integrating and adopting distance collaborative learning strategies, are also highlighted by the results.

Keywords: distance collaborative learning, collaborative learning techniques, teleconference, group dynamics, qualitative research, distance education.

Introduction

Educational literature and practice place great emphasis on collaborative learning as a means of knowledge building and a way to enhance learning (Jonassen, Davidson, Collins, Campbell, & Haag, 1995). At the same time, the social and interactive elements of teleconference facilitate the use of collaborative learning pedagogy in distance education, thus, enhancing the connectivity and socio-emotional involvement of the student in the learning process (Kalir, 2020; Faulkner et al, 2019; Rodriguez et al, 2019; Umaña, 2019; Harasim, 1990). However, the characteristics of computer communication (asynchronous communication, text-based communication, computer interaction) create a unique social climate that influences the interactions and dynamics of a group collaborating online (Gunawardena, 1995). Recent studies have shown the importance of examining social factors in computer collaboration and their impact on communication and learning (Kali, 2020; Niari, 2020; Walther & Parks, 2002).

One form of communication and teaching method used in distance education is the teleconference (e.g., Open University, EAP). The choice of presentation and theoretical investigation of this medium serve the need to bridge the communication between tutor and students and students as a group. The term 'teleconference' describes — from a technological and methodological point of view — the

possibility of communication and interaction between geographically remote learners and tutors. According to Taylor (2001, as cited in Koustourakis, Panagiotakopoulos & Vergidis, 2008) teleconference is included as a means of distance learning in the five models used from open universities to provide distance education, as it allows remote geographical students to communicate in real-time using multimedia data.

Anastasiadis adds: "Interactive teleconferencing allows trainees and trainers located in two or more different remote locations to not just communicate by exchanging views or sharing data with each other but to actively participate in a potential interaction environment, the main feature of which is the collaborative construction of knowledge from a distance in real time" (Anastasiades, 2009). Moore (1993, p. 32, as cited in Keegan, 2001, p. 101) also states that teleconference allows the creation of a new form of dialogue between learners, whether or not the teacher is present at the same time. With all forms of teleconference, both groups can learn by interacting with other groups and each individual learner can learn within their own group (Moore, 1993, p. 32, as cited in Keegan, 2001, p. 101).

Harasim (1990), referring to the role of teleconference in education, compares and points out the common elements of teleconference with both distance education and face-to-face training. It is noted that computer conferencing creates a new learning environment irrespective of time and space, which is more social, has more in common with face-to-face training and offers more opportunities for multi-person interaction and multi-person teaching (e.g., teamwork).

The literature review also highlights the value of teleconference both as a teaching tool and as a means of effective learning. The interactive virtual environment of the teleconference creates the appropriate stimuli for active learning, while the diversity enables adaptation to the teaching process according to the respective educational needs. According to Miaoulis, Skourlas & Halaris (2005), the support of educational and research activities of e-learning and teleconferencing systems creates the conditions for the development of high quality and custom-made training programs. In addition, it ensures the participation of a significantly larger number of learners and allows the relatively quick updating of the content of the subject.

Regarding distance collaborative learning, teleconference technology provides a rich communication environment where its various individual tasks can be successfully performed remotely through collaboration. Through the wide range of interaction between the participants and the possibility of contemporary and asynchronous communication, the feeling of learners' isolation is reduced (Lionarakis, Panagiotakopoulos & Xenos, 2005). The same conclusions are reached by a study by the British Educational Communications and Technology Agency (Becta, 2003, as cited in Smith, 2001), where it is stated that teleconference in teaching facilitates collaboration and enriches the experience of distance education by reducing the feeling of isolation, the stimulation of encouragement for interaction but also the motivation of the learners.

An important advantage of the use of teleconference arises from the dynamics of the method in information sharing. With the continuous improvement of technology, the training in the necessary equipment, as well as the continuous familiarization of adult students in the new media, the role of video conferencing is changing. The foundations are being laid for the creation and development of learning communities, as the possibility of connecting with experts and peers from all over the world

opens up. At the same time, this results in the cultivation of multiculturalism, while providing the opportunity to experience national, linguistic and socio-economic diversity.

In addition, teleconference as a means of communication affects the integrated support services where learning takes place (Dearnley, 2003), as it is directly related to social development in the Knowledge Society. In this context, teleconference can be used to provide the (psychological) support and encouragement that students need in distance education (Milioritsas & Georgiadis, 2010; Dearnley, 2003; Carnwell, 2000). With appropriate design, it can cover the needs and expectations of the group by using techniques and methods of active involvement of the participants, by exploring their needs and covering the young people who emerge in the learning process.

Specifically, for the Hellenic Open University (HOU), the research of Milioritsas & Georgiadi (2010) highlighted the benefit of utilizing teleconference as a tool of communication and learning in the educational process. Research findings show that teleconference can make a significant contribution to strengthen the support and guidance of HOU students. Note that this communication certainly presupposes the existence of an organized infrastructure and an operational network for the provision of services (Milioritsas & Georgiadi, 2010).

The finding that teleconference, under specific pedagogical conditions, contributes to improving the environment of communication and interaction between teachers and learners is widely accepted by researchers (Latchem, 2002; Kerrey & Isakson, 2001). At all levels of education, teleconference is an important technological tool which, under certain pedagogical and social conditions, can make a significant contribution to: the opening of the educational organization to wider social and learning environments; the encouraging of social negotiation and critical viewing of contemporary local biographies of the microcosm; and cultivating the spirit of cooperation, the necessity of empathy and the culture of daily consultation with other mentalities, attitudes, and perceptions (Anastasiades, 2007).

Therefore, teleconference can be used as an educational tool that allows learners and trainers (locally and/or temporally) remotely, to communicate, share data and educational resources, and to actively participate in a dynamic interaction environment whose main feature is the collaborative building of knowledge at a distance, in real time. At the same time, teleconference can be used to:

- satisfy multiple intelligences and learning styles (Gardner, 1993),
- promote individualized support at the same time as collaborative and experiential learning,
- contribute to the creation of an academic climate, and
- support multiculturalism.

According to Laurillard (1993), though, teleconference while a presentable means of transmitting lectures and promoting distance education, is at the same time "inconsistent" (p. 167). Apart from the technical problems (access, time, sound) that the participants may face, the cost of equipment and connections, as well as the incompatibilities in the media used are additional difficulties in its widespread use. At the same time, training of both teachers and students is necessary for the successful use of teleconferencing.

In addition, despite the fact that teleconference supports the two-way transmission of audio, video and data in real time, it does not seem to create the sense of interpersonal relationship and contact that

is observed in face-to-face teaching environments (Schweizer et al, 2003 ; Bonk et al, 1998; Collins, 1991), as participants do not share a common three-dimensional space, they see only what the camera is projecting, and the non-verbal cues are blurred (Bruce, 1996). As Angiolillo et al note (1997), participants cannot utilize the "gaze awareness" as, while there is eye contact, one cannot see the others' eyes. For this reason, the emphasis nowadays is on the construction of teleconference systems that are able to provide a high-definition, live image (Anastasiades, 2007).

Another point of criticism about teleconference, despite its practical advantages, is the lack of focus on the quality of teaching and learning. Bollom et al (1989) found that the opportunity for interaction and discussion with students was rare. Their study found students reluctant to use the possibility of teleconference to discuss individual issues and ask questions. On the contrary, teleconference seemed to be used more in the form of lectures/presentations. Similarly, Freeman's (1998) study showed no improvement in student-teacher interaction and collaboration. Instead, time was lost in technical difficulties and the likelihood of distraction was increased in remote areas.

Moreover, in the study of Dallat et al (1992), although advantages were found from the use of teleconferencing for both students (mainly in terms of time and cost) and for the university itself (strengthening its public image through the new approach to education), tutors noted that teleconference did not allow students to enjoy a fully effective learning experience (Dallat et al, 1992, p. 17). In addition, the same study notes that students were not given the opportunity to interact with each other or with the teacher. We could argue that the opportunities for interaction depend on the educational planning and the respective activity.

This observation brings us closer to another point that is crucial for the use not only of teleconference but also of any other technological means or method—the educational planning. Teleconference is a challenge for teachers not to manipulate its technological equipment but to exploit its potential to improve and enrich teaching and learning. Teleconference is a teaching and learning tool; it needs creative instructors, training and appropriate educational planning, in order to benefit most from using it.

In the same vein, there are various approaches and models, which combine well-known learning theories and teaching practice on Computer Supported Collaborative Learning (CSCL). The main teaching models are: Knowledge building (Scardamalia & Bereiter, 1994), Progressive Inquiry (Hakkarainen & Sintonen, 2002; Muukkonen, Hakkarainen & Lakkala, 1999; Lehtinen, 2003), Knowledge Integration (Hoadley & Linn, 2000; Bell & Linn, 2000; Linn, Bell & Hsi, 1998), Knowledge Creation (Lipponen, Hakkarainen & Paavola, 2004), and Social Theory of CSCL (Stahl, 2002; 2004). These models are technological applications that support the implementation of collaborative learning activities. In other words, they serve the concept of cooperation more than collaboration, while it is found that none of the existing models is sufficient by itself to support distance collaborative learning during teleconference teaching.

Meanwhile, many collaborative learning techniques could be used in a teleconference. The most common practices and techniques are the following: collaborative writing, technology-mediated discourse, group exploration, problem-based learning, project-based learning, Think-Pair-Share, Jigsaw.

In this context, 'group dynamics' is a critical component of collaborative distance learning, however, no research effort has been attempted to date to clarify its role in learning from a theoretical point of view, other than Niari's doctoral dissertation (2020). Special emphasis has been given to the technological dimension of distance collaboration and communication and not to the pedagogical exploitation of collaborative learning activities. The finding of the gap and the difference between the evolution of information and technological possibilities on the one hand, and the pedagogical and didactic view on the other confirms the importance of the present research and emphasises its contribution to the field.

Purpose of the Research Study

The purpose of the small-scale qualitative research study was to examine the use and the perceived value of using collaborative learning techniques at a teleconference at the School of Humanities of the Hellenic Open University (HOU).

The aforementioned purpose was divided into objectives, in order to be addressed properly. The objectives were the following:

- To investigate the reasons why tutors use or intend to use collaborative learning techniques in distance teaching.
- To investigate the reasons why tutors do not use or hesitate to use collaborative learning techniques in distance teaching.
- To record the perceived benefits from the use of collaborative learning activities in distance learning.
- To investigate under which conditions tutors can integrate collaborative learning techniques in their teaching.
- To explore the concept of 'group dynamics' through the prism/lens of tutors in a teleconference class.

Research questions that defined the research study were:

1. Why tutors use or hesitate to use collaborative learning techniques in distance teaching?
2. What is the perceived value of using collaborative learning techniques in distance learning?
3. Under which conditions tutors may use collaborative learning techniques?
4. How do tutors understand the concept of 'group" in distance learning process?

Methods

The research study used qualitative semi-structure interviews with tutors from the School of Humanities at the HOU. The semi-structured type of interview was chosen in order to encourage the participants to develop with their own personal and unique way of thinking and views to the issues investigated (Bird et al, 1999). Moreover, the investigative format of interviews was adopted as this kind of interview is designed to be fundamentally heuristic and tries to develop hypotheses rather than collect facts and figures (Cohen, Manion & Morrison, 2008; Oppenheim, 1992).

The stages of the research process were as follows (see also Table1):

i. Preparation of Interviews

In this phase, the preparation and organization of the interviews took place (Creswell, 2016; Robson, 2010; Cohen, Manion & Morrison, 2008), i.e., the interview type was chosen, the question axes were designed, the interview protocol was decided upon (Creswell, 2016; Robson, 2010), and the sample was selected. In addition, the first communication was made with the interviewees.

ii. Data Collection

The data for the research were derived from the answers to the interview questions. The interviews were conducted by telephone, were recorded with the consent of the participants and were cross-checked/validated by the research subjects.

iii. Data Analysis

In this phase, the data were coded and analysed based on the research objectives. The results from the analysis were discussed with the literature review findings and conclusions were drawn.

Table 1: Stages of Research Process

Time	Phase	Stage	Procedure
July 2018	1	1	Preparation of interviews
August – September 2018	2	1	Data collection
		2	Transcription of interviews
September – October 2018	3	1	Data analysis
		2	Conclusions

Participants

Purposeful sampling was chosen for this research study. According to Creswell (2016), purposeful sampling is synonymous with qualitative research, data collection and analysis. As the objectives were to investigate the use of collaborative learning techniques in teleconferences at the HOU, rather than replicate a model, the choice of expert sampling seemed more adequate.

The tutors were chosen according to the following characteristics:

- *To have taught via teleconference during the previous academic year*. During the academic year 2017-18, teleconference teaching was introduced for the first time in several modules at the School of Humanities, whereas for the rest of the modules a blended type of distance education continued. The selected tutors had taught only via teleconference and had only remote contact and communication with the students (instead of four face-to-face meetings like the rest of the tutors).
- *To be aware of the principles of distance education and adult education*. The aim was to find tutors who knew the principles of group dynamics and collaborative learning. (In fact, this was not entirely possible, as the tutors did not seem to have a clear picture of what group dynamics are, while appearing more confident about collaborative learning.)

Only four tutors responded to the aforementioned criteria and were willing to participate in the research study. All of them were tutors at the post-graduate program 'Educational Sciences'. As for their demographic characteristics and in order to preserve anonymity, it should be mentioned that they are three women and one man. All of them had some relevant experience in teaching at HOU, and it was their first time teaching via teleconference.

Data Collection

Open-ended questions were used in the interviews. Open-ended questions were preferred because they allow a relatively high degree of flexibility in the answers, enable participants to better express their experiences without being biased by the researcher's views or previous findings, allow the researcher to intervene for clarifications and highlight issues and information not predicted by the researcher (Robson, 2010; Creswell, 2016; Faulkner et al, 1999). However, the interviews last longer and the analysis is time consuming; for this reason, the axes and the basic questions of the interviews were designed with the research purpose and the research questions as a guide.

Regarding the process, the interview protocol was designed with five basic questions (Creswell, 2016), guided by the research questions of the research study. Each category of questions corresponds to a research question and is divided into axes and sub-axes. Both the axes and the questions of the interviews arose from the coupling of the research purpose and the questions with the previous literature review. Table 2 indicates how interview plan was created:

Table 2: Interview Protocol

Interview Protocol

Interview with tutors who taught via teleconference at the HOU during the academic year 2017-2018

Question axes:

A. Use of collaborative learning techniques in the teleconferences
B. Perceived value of using collaborative learning activities
C. Concept of group dynamics

Structure:

A. Information for purpose and guarantees for confidentiality

B. Interview questions

(Axes and clarification questions)

1) Have you used collaborative learning techniques in your teaching?
   - If YES: Would you like to give me more information about the techniques / methods you used and the process of organizing and implementing them?
   - If NO: What prevented you from using collaborative / group techniques in your teaching?
2) For what reasons would you use collaborative / group techniques in your teaching?
3) What opportunities and benefits do you find in utilizing group / collaborative activities in your teaching?
4) What do you think you may need in order to apply some collaborative techniques in your teaching?
5) How do you understand the concept of team in your teaching and department?

C. Closure and Thanks

Regarding the conduct of the interviews, after guarantees were given for the confidentiality of the information, the respondents were informed about the purpose of the research study. Permission to record the interview was also requested and assurances were given as to the protection of personal data. At the end of each interview, the researcher thanked each participant for participating in the interview and his/her contribution to the implementation of the research study and promised to inform them about the progress of the research. Each interview was recorded on the researcher's computer and then was transcribed. At the end of the recording, the text of each interview was sent to each respondent separately, in order to be checked. The subjects of the investigation responded immediately by giving their approval to use the information as it is. In one case, small corrections were made to the transcribed text and the data were analysed based on them. Thus, an attempt was made to ensure the reliability of the data collected from the interviews (Lincoln & Cuba, 1985, as cited in Woods, 1999, p. 177).

Data Analysis

In qualitative research, there are many and varied ways of approaching and analysing research data, depending on the research material available to the researcher but also based on the research planning that has been followed to conduct the research. In the face of dense, voluminous and/or chaotic research data collected in semi-structured (or unstructured) ways, what the researcher is called upon to do is to organise and classify this material, to analyse it and to examine whether it is possible to generalise these research products to a broader reality or whole (Mason, 2009). It is noted that both the actions of organization and classification, as well as the analysis of data, are not conceptually neutral; they are based on epistemological, methodological assumptions and involve the ethical and political choices of the researcher. For this reason, it requires a high degree of honesty, accuracy, systematicity and reflection on the part of the researcher, during all phases of the research process, i.e., the collection, analysis, interpretation and presentation of the research data and findings.

For the classification and analysis of the data collected in each phase of the research process, we decided — based on the purpose and the research plan — to use the cross-sectional or categorical organisation of the material. According to the interdepartmental or categorical approach, the texts of the different cases are divided into sub-sections or excerpts and the researcher organises the data based on a gradually formed common system of codes or classification categories. This process is called coding or categorisation and includes the detailed and usually the line-by-line rendering of meaning or properties in the research material, with the aim of its gradual coding (Iosifidis, 2008). The different categories and subcategories that are formed give a brief description of the content of the individual parts of the text. Codes/categories are derived mainly from the text and are not imposed in advance by the researcher, as the qualitative approach is usually inductive (Patton, 1990).

Thematic analysis came up as the ideal method for the research study purpose. Thematic analysis is a user-friendly method that is widely used in the analysis of data derived from qualitative research. It is a method of identifying, describing, referencing and 'schematizing' repetitive semantic motifs, i.e., 'topics' arising from research data, and is a key tool for all researchers in qualitative research (Braun & Clark, 2006; Holloway & Tondres, 2003; Roulston, 2001). One of its advantages is that it is characterised by theoretical freedom and flexibility, as its choice as a method of analysis does not in itself presuppose the commitment of researchers to specific ontological or epistemological positions, as is the case with other qualitative analyses (e.g., interpretive phenomenological analysis is bound to

a phenomenological orientation) (Braun & Clarke, 2006). It is the task of the researcher, therefore, to determine his/her analysis epistemologically and theoretically, mainly on the basis of his/her research questions.

Findings

This section (and Figure 1) describe and list the findings from the coding of interview responses.

Regarding the use of collaborative learning techniques in teleconference (Research Question 1), the answers of tutors vary. Two of them had not used collaborative learning techniques, although they would have liked to. The reasons for not using collaborative learning techniques are mainly technical, as the software/platform used was not appropriate nor did it support collaborative learning techniques. HOU uses Skype for Business, which is mainly suitable for corporate teleconferences and does not support collaborative learning techniques. In addition, tutors were informed too late about the assignment of their group of students; hence, they did not have enough time to be prepared properly nor they had been trained in using collaborative learning techniques in distance learning. Another inhibitory factor was the educational framework itself and the inadequate educational material, which was designed for individualised learning and did not support collaborative learning at a distance.

However, these tutors attempted to incorporate collaborative learning techniques, such as group discussion, in the forum and peer review, though, unsuccessfully. The response of students to these attempts at first was very positive. However, in the end, the activities were not completed and the students did not engage in distance collaborative learning. A possible explanation attempted by tutors was that students did not have enough time to spend on those activities (due to their busy schedule) or, as those activities were not mandatory in the syllabus, they ignored them (lack of motivation).

The other two tutors claim to have used collaborative learning techniques, although the teleconference platform did not favor it. They mainly used the following techniques: brainstorming, group work, questions-answers, case study. The forum discussion, although suggested by tutors as a technique, did not meet students' preference. It should be noted that students' collaboration, as well as the completion of collaborative activities, was not conducted through the official platform but mostly thanks to the use of other means and tools, such as private chat on social media and Viber. Hence, tutors did not have the chance to monitor nor assess the process.

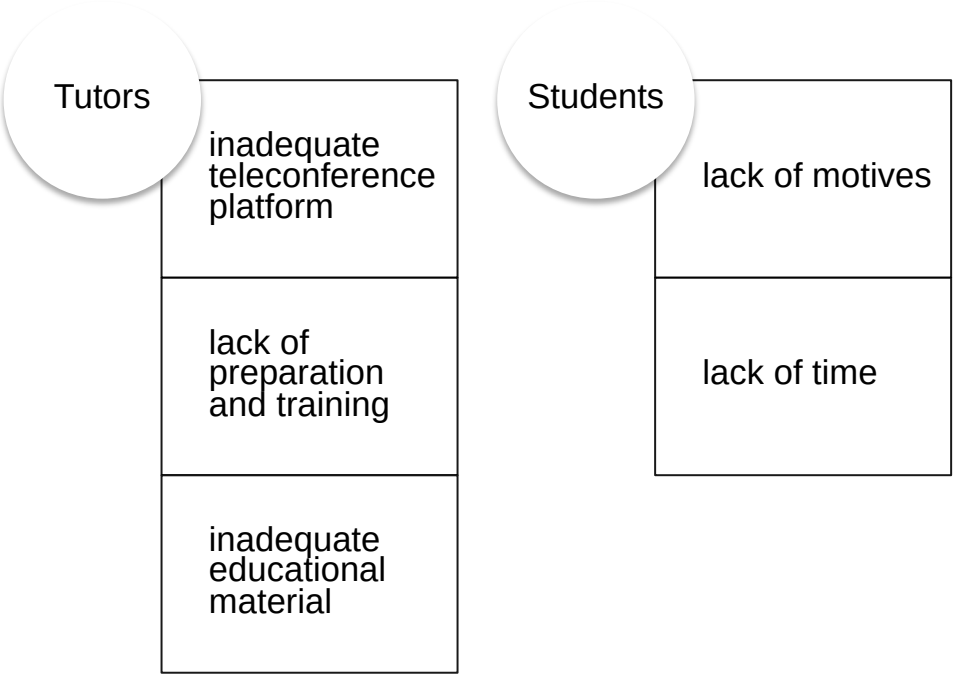

Figure 1: Reasons for not using collaborative learning techniques at teleconference

Regarding the perceived value of using collaborative learning techniques in distance learning (Research Question 2), all tutors agreed that collaborative learning techniques are particularly important in teleconference, as they enhance students' social presence and sense of belonging in a learning community. In addition, they said that using collaborative learning techniques in distance learning can reduce the sense of isolation that students may feel and encourage the expression of introverted persons. At the same time, it makes teaching more interesting, while enhancing the active participation of students. This is especially important as it cultivates rich interactions between students and the tutor, as well as between students themselves, helps all participants to better understand concepts or carry out assigned tasks, and facilitates the enrichment of cognitive content with different points of view, illuminating the issues from different angles and perspectives.

Relevant quotations:

> T_1: "In my opinion, collaborative learning techniques are especially important in teleconference, as they enhance the social presence and the sense of belonging to the team. In addition to that, students could enrich the cognitive content of syllabus with their views and opinions."
>
> T_3: "Well, they are necessary for more effective learning. In my opinion, through collaborative teaching, all participants are facilitated to better understand concepts or to carry out activities assigned to them. The 'strongest' in a group can effectively help his/her classmates but he/she also learns through teaching; because, as we all know, through teaching we always learn. That's one reason."
>
> T_4: "In order to involve in the educational process as many students as I can, to give them reasons and motivation to cooperate with others and because I firmly believe in the strength of the team in relation to the strength of the individual, I try to use collaborative learning

techniques. Moreover, I try to make my teaching more interesting, because I do not want students to act like passive recipients of knowledge, rather than to actively participate in learning process, gaining the greater possible benefits through participation."

More specifically, regarding the benefits from the use of collaborative learning techniques in teleconference, tutors point out the following (see also Figure 2):

- It creates a sense of 'class' (absent from teleconference), gives more opportunities to students to meet their colleagues and cultivates a positive climate for learning.
- The isolation felt by a distance learning student is greatly alleviated and the chances of dropping out are reduced.
- The exchange of educational experiences, the interaction, the sense of "belonging" to a learning community, as well as peer evaluation and peer learning are encouraged.
- As long as there is proper management of group dynamics and monitoring of the process by the tutor, everyone finds the role they wish to have, gradually enters an activation rhythm and may perform better compared to an individual activity, without losing the individual rhythm of study.

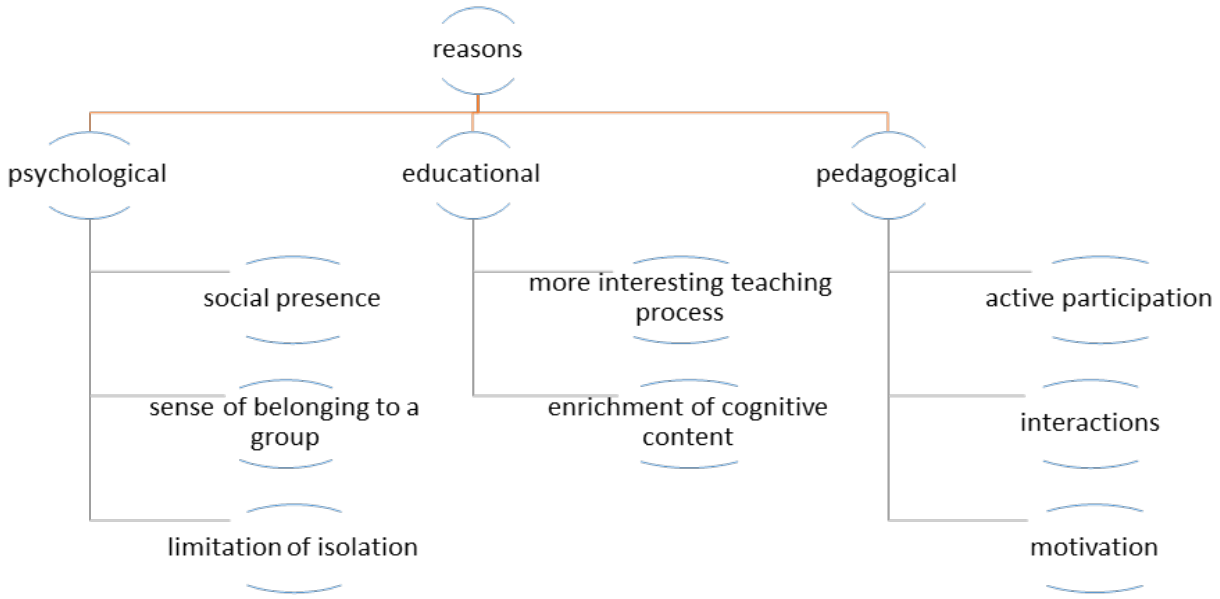

Figure 2: Reasons for using collaborative learning techniques at teleconference

When tutors were asked what they would need in order to apply collaborative learning techniques in teleconference (Research Question 3), they stated the following (see also Figure 3):

- appropriate tool / software to support teamwork
- training on the tool
- training on collaborative learning techniques in an e-learning environment
- training on group dynamics concepts

- support on distance collaborative learning (concept, process, planning, organizing, monitoring, etc.), in order to encourage students to participate more actively.

In addition, T_1 notes the following:

> T_1: "I would like to underline the following point. As the educational material used in the course as not been updates for years, we (the tutors) are obliged to dedicate a part of the teleconference to lecturing. This is necessary, because we have to introduce students to concepts that, although not in the books and not required in the exams, are useful to the learning process itself. It has to do with contemporary concepts, such as MOOCs, forms of digital material, platforms, and more generally contemporary concepts of space of which they should be aware. This prevents us from using collaborative learning techniques during the teleconference. So, the solution could be – in my opinion – to update the material, so as the tutor can reduce or completely eliminate the lecture from the teleconference."

Tutors' expressed needs	appropriate tool/software
	training on the tool
	training on distance collaborative learning & group dynamics
	integration of distance collaborative learning to the educational design
	updated educational material

Figure 3: Tutors' expressed needs for integrating collaborative learning techniques at teleconference

Regarding the fourth research question "How do tutors understand the concept of 'group' in distance learning?", tutors do not seem to have had a common understanding regarding the concept nor the levels of structure of the groups (see Figure 4).

Thus, there is the perspective that wants the group as motivation:

> T_1: "The group gives a strong motivation to the weak student to continue studying. The same seems to happen to the tired one. To the strongest student, to find more interest and not just to complete the module. In the learning process itself, creates a climate where many poles are created and corresponding triggers that inevitably lead the dialogue to deeper levels. It's a win-win situation, where everyone can benefit from."

In addition, there is a distinction between group work and group activities. Each student section is a group in itself; however, students also participate in sub-groups depending on the activities and tasks assigned to them.

> T_2: "Well, there are groups with duration and groups for shorter activities. The members of the class participate in more than one group."

T_3: "Well, the whole group could be divided into smaller sub-groups, which could be people with different skills. […] Meanwhile, each class is an independent group in itself."

Moreover, the understanding of the stages of group development is pointed out in relation to the tutor's role and the goal setting. This perception is more concise and touches on many of the dimensions of group dynamics.

T_4: "As a constant effort of the tutor to manage different people and to contribute to development of a dynamic that may not seem how important it is at first glance. It is a huge challenge, but at the same time a great satisfaction to see people who did not know each other before the X training program, to disagree, to agree, to produce results, to bond and finally to be upset that the program ends. In other words, to see how the individual goals transform into group goals."

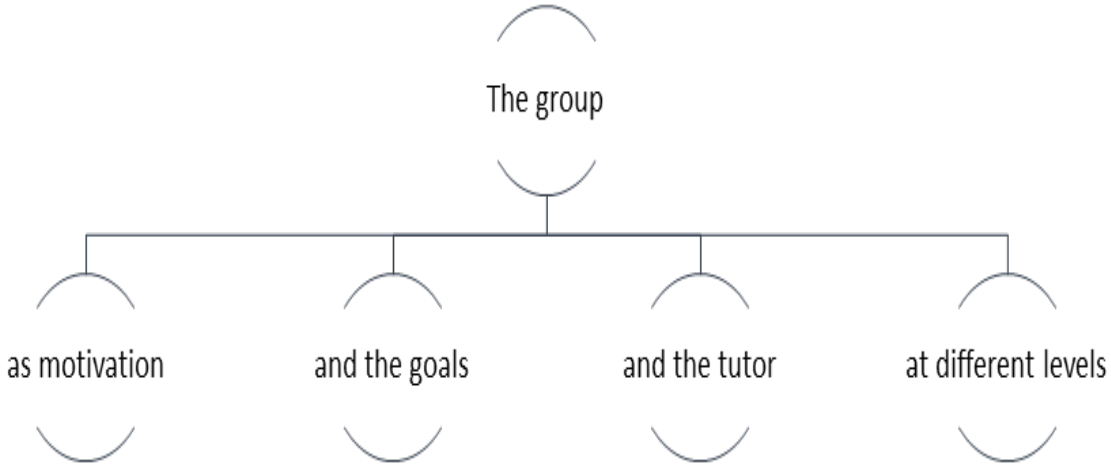

Figure 4: Different options of group as a concept

Discussion

Regarding the collaborative learning techniques used in teleconference at the School of Humanities of the HOU, the research findings do not support the idea that they have been used at all or at least in a proper way. Obstacles mentioned by HOU tutors were the inadequacy of the teleconference tool, the insufficient preparation and training of tutors, the inadequacy of the educational material, the lack of time and the reluctance of the students. We do not have data in the literature to confirm or reject these assumptions, so these findings pave the way for new research studies and work.

However, two tutors attempted to use brainstorming, working in groups, questions-answers, and case study as collaborative learning techniques during their performance at teleconferences. These are common adult education techniques (Courau, 2000; Kokkos, 1998), which are widely used in face-to-face teaching. The reasons for using these collaborative learning techniques at teleconferences at HOU are — according to tutors — the strengthening of the social presence and the active participation of the students, the limitation of the sense of isolation and the facilitation of multiple interactions through dialogue. These goals are in line with the goals of Mezirow's Transformative Learning theory, where the development of communicative learning, i.e., enhancing the ability of the individual to understand

and share ideas, thoughts and feelings with others through rational discourse, prevails over instrumental learning (Mezirow et al, 2006; Mezirow, 1991, as cited in Tsiboukli, 2008).

However, it is not confirmed by the interviews that the conditions mentioned by Mezirow (Mezirow et al, 2006) are essentially met as necessary for effective participation in the discourse. After all, there are no examples of critical educational science that considers educational reform participatory and collaborative, according to Carr and Kemmis (2002, p. 208), as they lack features such as interaction, collaboration, experiential approach or learning, or skills such as critical thinking, creativity, and reflection. Hence, while tutors recognise the benefits and positive contribution of using collaborative learning techniques at a teleconference, in practice they do not take full advantage of them.

The forum discussion did not proceed at any stage of the educational program, confirming the literature on the inaction of the HOU forum (Niari, 2013; Niari & Mavroidis, 2015).

The tutors' answers regarding the concept of 'group' are rather interesting, because as it emerged from the findings there is no common understanding. No research was found in the literature review that focuses on the definition of the concept 'group' in general and in 'group in distance learning' in particular. What is interesting here is the emergence of the definition of the concept group in distance learning on one hand, and the different levels of group structure on the other hand. As the research points out, there are several perspectives:

- the pedagogical perspective, which sees the group as an incentive/motive in order for students to participate and engage to the learning process,
- the instrumental perspective, which distinguishes the group as a means of implementing collaborative activities, and
- the organizational perspective which sees the group as a form to monitor and organise the educational process.

Conclusion

Concluding the elaboration of the findings from the empirical research with regard to the relevant literature and the research questions, the following conclusions were drawn:

The use of collaborative learning techniques at a teleconference at HOU is not mandatory nor is it included (although it is not prohibited) in the course syllabus. This fact often discourages tutors from integrating them in teleconference teaching. In fact, there is no suitable teleconference tool or software that supports and facilitates the use of collaborative learning activities during a teleconference at the HOU (at least for now). In addition, tutors need training on the distance collaborative learning techniques and strategies they could use, the role they are called upon to take during their implementation, and the value and aspects of group dynamics.

In connection with this finding is the need to create a common understanding regarding distance learning and group dynamics in an e-learning environment. As already mentioned before, distance collaborative learning has various dimensions and techniques, from which tutors could benefit in many ways. A very important issue is the distinction between the concepts 'group dynamics' in general and 'training group' in particular. A set of students can be seen as a group with distinct goals and roles at three interrelated levels (micro-, medium-, macro-level). The role of the tutor varies

depending on the activity, and the level or the stage that a group goes through. In addition, the interactions of the groups with each other and the dynamics that are developed can equally affect the learning process and students' experience. The distinction between the concepts and, consequently, between the processes is an important element for the successful integration and utilisation of collaborative learning techniques at a distance learning program.

Students, for their part, at least theoretically, are encouraged to participate in group activities, nevertheless, they often refrain from collaborative activities due to lack of time, infrastructure and support mechanisms. This conclusion highlights the importance of choosing the appropriate collaboration technique, and its connection with the educational goals of the program, the educational needs of the students, the structure of each program and the general philosophy of the educational institution.

The distance-learning provider — in this case, HOU — seen as the broader context in which distance collaborative learning takes place, needs to be able to support distance collaborative learning activities. This means practically using platforms and software that support collaboration at a distance, training tutors on the possibilities, benefits and techniques of distance collaboration and motivating them to incorporate them in teaching. It should be noted that we are not necessarily talking about the use of the most modern and expensive digital tools (the issue of benefit / cost has already occupied us), but about the use of existing — often free — applications/software, which both tutors and students are familiar with.

References

Anastasiades, P. (2007). Interactive VideoConferencing (IVC) as a crucial factor in distance education: Towards a Constructivism IVC Pedagogy Model under a cross curricular thematic approach. In E. Bailey (Ed.), *Focus on distance education developments*. Nova Science Publishers, Inc.

Anastasiades, P. (2009). *Interactive videoconferencing and collaborative distance learning for K-12 students and teachers: Theory and practice*. Nova Science Publishers, Inc.

Angiolillo, J. S., Blanchard, H. E., Israelski, E. W., & Mané, A. (1997). Technology constraints of video-mediated communication. In K. E. Finn, A. J. Sellen & S. B. Wilbur (Eds.), *Video-mediated communication* (pp. 51-74). Lawrence Erlbaum Associates

Bell, P., & Linn, M. C. (2000). Scientific arguments as learning artifacts: designing for learning on the Web in KIE. *International Journal of Science Education, 22*(8), 797-817.

Bird, M., Hammersley, M., Gomm, R., & Woods, P. (1999). *Educational research in practice. Study manual.* Hellenic Open University.

Bollom, C. E., Emerson, P. A., Fleming, P. R. & Williams, A. R. (1989). The Charing Cross and Westminster Interactive Television Network. *Journal of Educational Television, 15*(1), 5-15. doi: https://doi.org/10.1080/0260741890150102.

Bonk, C. J., & Cunningham, D. J. (1998). Searching for learner-centered, constructivist, & sociocultural components of collab educ lrng tools. In C. J. Bonk, & K. S. King (Eds.), *Elec collaborators: Learner-centered tech's for literacy, apprenticeship, & discourse* (pp. 25-50). Erlbaum.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. doi:http://dx.doi.org/10.1191/1478088706qp063oa

Bruce, V. (1996). The role of the face in communication: Implications for videophone design. *Interacting with Computers, 8*, 166-176.

Carnwell, R. (2000). Pedagogical implications of approaches to study in distance learning: Developing models through qualitative and quantitative analysis. *JAN, 31*(5), 1018-1028. doi:https://doi.org/10.1046/j.1365-2648.2000.01394.x

Cohen, L., Manion, L. & Morrison, K. (2008). *Educational research methodology*. Metaichmio. [in Greek]

Collins, A. (1991). Cognitive Apprenticeship and instructional technology technical report. In B.F. Jones & L. Idol (Eds.), *Dimensions of Thinking and Cognitive Instruction*. Lawrence Eribaum Associates.

Courau, S. (2000). *The basic tools of the adult educator*. Metaichmio. [in Greek]

Creswell, J. (2016). *Research in education. design, conduct and evaluate quantitative and qualitative research.* (2nd ed.). Ion Publications.

Dallat, J., Frazer, G., Livingston, R., & Robinson, A. (1992). *Videoconferencing and the adult learner.* University of Ulster.

Dearnley, C. (2003). Student support in open learning: sustaining the process, *International Review of Research in Open and Distance Learning, 4*, 1.

Faulkner, J. T., Rodriguez, J., Baker, C., Arora, S., Welsh, C., & Morrison, K. D. (2019). *Interactive timeline for a teleconference session*. United States Patent, Patent No.: US10,171,256 B2. Date of Patent: Jan. 1, 2019. https://patents.google.com/patent/US10171256B2/en.

Faulkner, D., Swann, J., Baker, S., Bird, M., & Carty, J. (1999). *Child development in the social environment, methodology manual.* Hellenic Open University. [in Greek]

Freeman, M. (1998). Video conferencing: A solution to the multi-campus large classes problem? *British Journal of Educational Technology, 29*(3), 197-210.

Gardner, H. (1993). *Multiple intelligence*. Basic Books.

Gunawardena, C. N. (1995). Social presence theory and implications for interaction and collaborative learning in computer conferences. *International Journal of Educational Telecommunications, 1*(2/3), 147-166.

Harasim, L. (1990). *Comparative adult education, practice purpose and theory.* Longman.

Hakkarainen, K., & Sintonen, M. (2002). The interrogative model of inquiry and computer-supported collaborative learning. *Science & Education, 11*, 25–43. doi:https://doi.org/10.1023/A:1013076706416.

Hoadley, C. M., & Linn, M. C. (2000). Teaching science through online, peer discussions: SpeakEasy in the Knowledge Integration Environment. *International Journal of Science Education, 22*(8), 839-857.

Holloway, I., & Todres, L. (2003). The status of method: flexibility, consistency and coherence. *Qualitative Research, 3*, 345-357.

Iosifidis, T. (2008). *Qualitative research methods in the social sciences* (2nd ed.). Kritiki.

Jonassen, D., Davidson, M., Collins, M., Campbell, J., & Haag, B. (1995). Constructivism and computer-mediated communication in distance education. *American Journal of Distance Education, 9*(2), 7-26.

Kalir, J. (2020). Social annotation enabling collaboration for open learning. *Distance Education, 41*(2).

Keegan, D. (2001). *The foundations of distance education*. Metaichmio. [in Greek]

Kerrey, B., & Isakson, J. (2001). The power of the internet for learning: Moving from promise to practice. *Report of the Web-based Training Educational Commission*. Washington DC.

Kokkos, A. (1998). Communication elements. In A. Kokkos & A. Lionarakis (Eds.), *Open and distance education: Teacher-student relations* (Vol. B, pp. 53-102). Hellenic Open University.

Koustourakis, G., Panagiotakopoulos C., & Vergidis, D. (2008). A contribution to the Hellenic Open University: Evaluation of the pedagogical practices and the use of ICT on distance education. *International Review of Research in Open and Distance Learning*, *9*(2). doi: https://doi.org/10.19173/irrodl.v9i2.424

Latchem, C. (2002). ICT-based learning networks and communities of practice. *Media and Education, 8*, National Institute of Multimedia Education (NIME), 1-13.

Laurillard, D. (1993). *Rethinking university teaching: A framework for the effective use of educational technology*. Routledge.

Linn, M. C., Bell, P., & Hsi, S. (1998). Using the internet to enhance student learning in science: The knowledge integration environment. *Interactive Learning Environments, 6*(1-2), 4-38.

Lionarakis, A., Panagiotakopoulos, C., & Xenos, M. (2005). Open and distance learning: Tools of information and communication technologies for effective learning. In A. Lionarakis (Ed.), *Open and distance education. Pedagogical and technological applications*, Vol. D. Hellenic Open University.

Lipponen, L., Hakkarainen, K., & Paavola, S. (2004). Practices and orientations of CSCL. In J-W. Strijbos, P.A. Kirschner & R.L. Martens. (Eds.), *What we know about CSCL and implementing it in Higher Education* (pp. 31-50). Kluwer Academic Publishers.

Mason, R. (1998). Models of online courses. *ALN Magazine, 2*(2). http://universidadabierta.org/descargas/mason.pdf.

Mezirow, J. et al. (2006). *Transformational learning*. Metaichmio. [in Greek]

Miaoulis, G., Scourlas, C.., & Chalaris, I. (2000). Collaboration of heterogeneous video conferencing infrastructures to support highly interactive educational processes: Contribution from the experimental operation of distance learning networks ABL, AV & AW. In *2nd Panhellenic ETPE Conference with international participation: "Information and Communication Technologies in Education", 2000*. http://www.etpe.gr/files/proceedings/uploads1/paper111.pdf. [in Greek]

Milioritsas, E., & Georgiadi, E. (2010). Effect of teleconferencing on the learning process of HOU. Opinions of students and tutors of the modules EKP65-EKE50. *Open Education – The Journal for Open and Distance Education and Educational Technology, 6*, 152-167. [in Greek]

Muukkonen, H., Hakkarainen, K., & Lakkala, M. (1999). Collaborative technology for facilitating progressive inquiry: Future Learning Environment tools. In C. Hoadley & J. Roschelle, (Eds.), *The proceedings of the CSCL '99 conference* (pp. 406-415). LEA.

Niari, M. (2020). *Integrating group dynamics in distance collaborative learning*. (Doctoral dissertation). Hellenic Open University. https://www.didaktorika.gr/eadd/handle/10442/47547

Niari, M. (2013). *The Pygmalion Effect in distance education. Case study: The program "Studies in Education" of HOU*. (Master's dissertation.) Hellenic Open University. [in Greek]

Niari, M., & Mavroeidis, I. (2015). Development of the three dimensions of the Community of Inquiry framework at the Hellenic Open University: Examples and suggestions. In A. Lionarakis, S. Ioakimidou, G. Manousou, M. Niari, T. Hartofylaka, & S. Papadimitriou (Eds.), *8th International Conference in Open and Distance Learning - ICODL 2015*, Vol. 3A, (16-28). doi: http://dx.doi.org/10.12681/icodl.49

Oppenheim, A. (1992). *Questionnaire design, interviewing and attitude measurement*. Pinter.

Patton, M. (1990). Qualitative evaluation and research methods (pp. 169-186). Sage.

Robson, C. (2010). *Real world research*. Gutenberg. [in Greek]

Rodriguez, J. A., Thomas, J., Faulkner, J. T., Baker, C., Arora, S., Welsh, C., & Morrison, K. D. (2020). Adding recorded content to an interactive timeline of a teleconference session. United States Patent. Patent No.: US10,630,740 B2. Date of Patent: Apr. 21, 2020. https://patents.google.com/patent/US10630740B2/en.

Roulston, K. (2001). Data analysis and 'theorizing as ideology'. *Qualitative Research, 1*(3), 279-302. doi: https://doi.org/10.1177/146879410100100302.

Scardamalia, M., & Bereiter, C. (1994). Computer support for knowledge building communities. *The Journal of The Learning Sciences, 3*(3), 265-283.

Schweizer, K., Paechter, M., & Weidenmann, B. (2003). Blended learning as a strategy to improve collaborative task performance. *Journal of Educational Media, 28*, 211–224.

Smith, M. K. (2001). Kurt Lewin: Groups, experiential learning and action research. *The Encyclopedia of Informal Education.* http://www.infed.org/thinkers/et-lewin.htm.

Stahl, G. (2004). Building collaborative knowing. In J-W. Strijbos, P.A. Kirschner & R.L. Martens. (Eds.), *What we know about CSCL and implementing it in Higher Education* (pp. 53-85). Kluwer Academic Publishers.

Stahl, G. (2002). Contributions to a theoretical framework for CSCL. In G. Stahl, (Ed.), *Proceedings of CSCL 2002* (pp. 62-71). LEA.

Tsiboukli, A. (2008). Transformational Learning: exploring and transforming group learners' perceptions of the role of the adult educator. In *Proceedings, 3rd International Conference of the Scientific Association of Adult Education*, 2008, (σελ. 1-17). Scientific Association of Adult Education. [in Greek]

Umaña, A. M. M. (2019). Challenges of University teaching in the construction of collaborative learning spaces in distance education (pp. 73-81). In G. Ubachs & F. Joosten-Adriaanse (Eds.), *Blended and online education within European university networks, Proceedings*, EADTU, October, 2019.

Walther, J. B., & Parks, M. R. (2002). Cues filtered out, cues filtered in. In M. L. Knapp & J. A. Daly (Eds.), *Handbook of interpersonal communication* (pp. 529-563). Sage.

Woods, P. (1999). Qualitative research. In M. Bird, M. Hammersley, R. Gomm, & P. Woods (Eds.), *Educational research in practice. Study manual*, Vol. 2 (pp. 147-230). Hellenic Open University. [in Greek]

Author:

Maria Niari is a tutor at the Hellenic Open University. She holds a PhD in Open and Distance Learning. She has conducted research and published work on collaborative learning, group dynamics, educational design, online education and support, and adult training. She has been involved with the management and coordination of research projects in Greece and Europe. Her research work has been published in international scientific journals, conferences, and meetings (blind, peer reviewed). She has recently co-authored the book *Open badges as recognition and assessment tools in learning frameworks: Perspectives and case studies from their use in Greece and Europe.* Email: niarimaria@gmail.com

Cite this paper as: Niari, M. (2021). To use or not use collaborative learning techniques in teleconference teaching? A case study from the Hellenic Open University. *Journal of Learning for Development, 8*(1), 93-110.