Ανοικτή Εκπαίδευση: το περιοδικό για την Ανοικτή και εξ Αποστάσεως Εκπαίδευση και την Εκπαιδευτική Τεχνολογία

The Importance of "Teaching Presence" and the New Role of the Teacher in Contemporary Learning Environments Focusing on Pedagogical Exploitation of Interactive Videoconferencing

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Βιβλιογραφική αναφορά:

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Summary
The present research attempts to investigate the notion of teaching presence as this occurs in an interactive videoconference environment in accordance with the ODYSSEAS project methodological framework.
In order to examine teaching presence in such learning environments, it is vital to study the role of the educator and to identify the necessary skills so that the teacher can teach both the local and the remote class. This research is based on action research methodology and was applied to primary school teachers in Attica and Crete. It involved fifth and sixth grade pupils. The research was furthermore based on interactive videoconference methodology as it is applied in the methodological framework of the ODYSSEAS project as well as on the Blended Learning model. ODYSSEAS project is an interactive videoconferencing project between primary schools in Greece especially in Attica and Crete. The aim of this research is to investigate the role of the teacher's "teaching presence" in order to be able to use pedagogically an open learner-centered environment of collaborative knowledge building. Research findings point towards the emergence of a specific role and the development of specific skills for the teachers, in an educational context that is based on methodological approaches and on content with a strong teaching presence.

Keywords
Interactive Videoconference, ODYSSEAS Project, Blended Learning, Community of Inquiry, Teaching Presence, Teacher's Role, Teacher's Skills

Introduction
Advanced Learning Technologies under pedagogical conditions offer significant potential for the design and implementation of open - minded curricula, giving significant flexibility to the place, time and pace of learning(Anastasiades, 2007).They should not be considered as a neutral means of teaching but should be used in pedagogical terms (Lionarakis, 2006), with the aim of creating collaborative knowledge-building environments (Anastasiades, 2007) and the development of exploratory and critical thinking (Kostoula & Makrakis, 2006) through their creative integration into the wider social and cultural context(Carr & Kemmis, 1986).

In the creation of learning environments on the internet (Graham, McNeil and Pettiford, 2000, Horton, 2000, Jolliffe, Ritter and Stevens, 2001, Anastasiades & Spantidakis, 2006, Anastasiades, 2009) the achievement of learning goals is not influenced by the type of technology which is used for the transmission of information but by the design of teaching methodology (Lionarakis, 2006).

The role of the teacher in a distance learning environment is mainly categorized into three main categories: organizational skills, social skills, mental skills and technical skills(Mason, 1991, Paulsen, 1995, Berge, 1995).The model of the Community of Inquiry (Garrison et al., 2001) is determined by three interdependent components that constitute the educational experience in on-line environments: social presence, cognitive presence and teaching presence.Garrison et al (2001) named the role of the teacher Teaching Presence and defined as a Teaching Presence all that relayed to the designing, facilitating and guiding the cognitive and social processes in order to realize - awareness of personal and educational meanings aiming at better learning results.

The aim of this research is to investigate the role and to highlight the required teachers' skills based on the teaching presence (Garrison et al., 2001) within an open learning environment that pedagogically utilizes the interactive videoconference according to the methodological approach of the ODYSSEAS 2013 program (Anastasiades, 2003).

This article first presents the Theoretical Framework, then the Research Methodology and the article concludes with the presentation of the Results, the Discussion and the Conclusion.

Theoretical Framework
Teaching Presence
The model of the Community of Inquiry (Garrison et al., 2001) in online environments is defined by three interdependent components (processes) to constitute the educational experience in on-line environments: social presence, cognitive presence and the teaching presence. Social Presence: It is defined as the ability of students to show themselves in the online environment, socially and emotionally. Cognitive Presence: It consists of those processes that appear in a collaborative learning environment, and show that students can explore, construct and confirm new knowledge through collaboration, dialogue and reflection. Teaching Presence: Anderson, et al (2001) considers that one parameter of the role of the teacher, which they call Teaching Presence, is organizational design. In most forms of distance learning, the process of organizing and designing the module is larger and requires more time compared to the corresponding process in conventional education. As a second parameter of Teaching Presence, they place in their model the support of the interaction. Supporting interaction during the learning process is critical to maintaining learners' interest, motivation and commitment to active learning. The third category of Teaching Presence considers direct teaching. In this category of "teaching presence", the teacher provides the mental and educational guidance and shares the objective knowledge with the students.Several studies have shown that teaching presence is an important factor in learner satisfaction, learning outcomes and the sense of community in asynchronous discussions(Garrison & Cleveland-Innes 2005, Kanuka, Rourke & Laflamme 2007, Xin & Feenberg, 2006).Appropriate planning of the teaching presence, especially in the integration phase, in order to highlight the main reflection or summarize the main arguments, can help students move to higher levels of thought and presentation of ideas. (Garrison et al., 2001).

ICT and Distance Learning

Distance Learning (Keegan 1996, 2000, 2006) has been recognized as a learning practice that supports a model of access to knowledge that is flexible. Lionarakis (2003) considers that distance learning is one that: "teaches and empowers the learner how to learn by himself and how to operate autonomously towards a heuristic path of self-learning" in the context of a polymorphic education (Lionarakis, 2006). Lionarakis (2006) highlights its pedagogical character and its multiple choices and adaptations, so that the concept of "physical distance" is not an obstacle. Therefore, the quality of education does not depend on distance (Lionarakis, 2003).Papert notes how we learn by constructing knowledge structures (Papert, & Idit, 1991); (Jonassen et al., 2003), applying it to educational technology through cognitive processes such as information retrieval, content creation, decision making, design (Jonassen et al. 2003), to emphasize that PCs support cognitive processes (Jonassen, 2000). Constructive computer-based learning exploits cognitive and metacognitive functions and re-organizes the ways in which students represent their knowledge (Jonassen, 2000). The concept of polymorphism in distance learning means a philosophy, a view, a dimension and a methodology for specific pedagogical practices in teaching and learning, which are characterized by numerous choices and adaptations (Lionarakis, 2006). An educational environment that is shaped by the combination of the traditional method of the educational process and the applications of information and communication in learning spaces is called "hybrid" (Anastasiades, 2000a, Watson, 2010).It essentially constitutes "the conceptual and functional integration of traditional educational methods and new modern approaches" (Anastasiades, 2000b). The pedagogical approach of the ODYSSEAS 2013 program was used in this research. It is an open learner-centered teaching environment of collaborative knowledge building with emphasis on the use of Interactive Teleconferencing (Anastasiades, 2007, Anastasiades, 2009; Anastasiades, et.al, 2010). Interactive Videoconferencing (IVC) allows students and teachers to see, listen and discuss specific topics and in a modern way (Ehrhard & Schroeder, 1997, Roblyer, 1997). In the phases of development of the proposed pedagogical approach of the ODYSSEAS 2013 program (Anastasiades, 2007), the primary focus is on the design of the teaching methodology and especially on designing the stages of teaching, defining of the communication model, the program. (Anastasiades, 2007, Anastasiades, 2009; Anastasiades, et.al, 2010). Four main stages of the teaching approach are proposed that were developed over time and were reviewed on the basis of the annual evaluations (Anastasiades, 2003; 2006; 2007).

The new skills of teachers

Today's social demand tends to leverage new technologies. The challenge of education is to prepare citizens capable of learning by choosing what they will learn and what they have to read to learn. The only thing we know about the society that the people we are training today is that it will be different from today. (Vrasidas & McIsaac, 2001). The professional use of new media at school makes it necessary for teachers to possess skills that are crucial in order to create learning environments based on new media to work with professional consistency. They should also have skills that enable them to make their students skilful in their relationship with the media. At this point, two types of skills can be distinguished: Media-Pedagogical Skills and Media-Teaching Skills. (Sofos, 2005). It is therefore necessary to cultivate

on the part of the teacher skills that have to do with the use and exploitation of new media at school.

Methodology
Aim and objectives of the survey
The main aim of this research is to investigate the role of the teacher's "teaching presence" in order to be able to use pedagogically an open learner-centered environment of collaborative knowledge building within the pedagogical approach of the ODYSSEAS 2013 program.

Based on the specific context of the problem of the present study, we present the central objectives of this research:

The first objective is to explore the role of the teacher in an open learner-centered learning environment of collaborative knowledge building.

The second objective is to investigate the role of "teaching presence" in an open learner-centered teaching environment of collaborative knowledge building.

The third objective is to design and implement a web-based distance learning environment for teachers to develop skills in an open, learner-centered, collaborative learning environment.

Type of survey
This is a qualitative research that is characterized as cross-sectional and on-the-spot. As a basis for investigating the teacher's skills, we used Garrison et al (2001) model as a basis: Organizational Skills, Interactive Skills and Teaching Skills, combined with the Berge model (1995) relating the existence of technological skills in the educational videoconferencing process.

Research questions
The research questions arising from the research objectives are as follows:
• What is the new role of the teacher in modern learning environments in the context of an open learner-centered teaching environment of collaborative knowledge building?
• What are the teacher's new skills in the context of an open learner-centered learning environment of collaborative knowledge building?
• What are the components of an Educational Teacher's Distance Learning Environment on the role and skills of the teacher in an open learner-centered learning environment of collaborative knowledge building?

Population of research
The research project of this proposal focused on the role of the teacher in an interactive teleconferencing educational environment. The survey was conducted among teachers who participated in educational processes through an educational interactive teleconferencing environment within the pedagogical approach of the "ODYSSEAS 2013" program. The program included 10 teachers from 8 Primary Schools with 5th or 6th grade students.
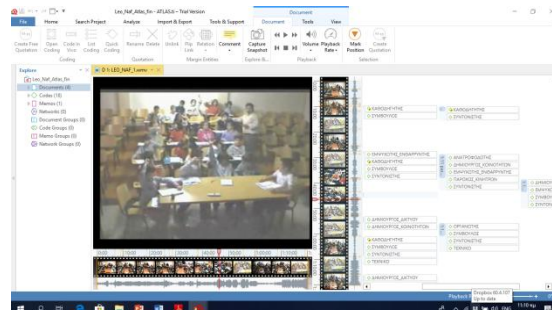
Timetable, steps and means of data collection
The collection of research data was done through bibliographic search, interview, and observation. Initially, interviews were conducted by teachers participating in the ODYSSEAS 2013 program. The interviewer's data reveals the role of the teacher, as reflected by the views of the teachers involved in the pedagogical exploitation of the ODYSSEAS 2013 program. The interviews revealed the axes on which the video recordings will be observed

The video footage of the 16 teleconferences that took place between March and May 2013 was used to observe the teachers. The recorded material records the actions and

behaviors of the subjects. Finally, a distance learning training material was designed and implemented through the Chamilo e-learning platform in conjunction with the exploitation of the H5P application. The content analysis of recorded interview texts as well as content analysis of videoconferencing was done through the AtlasTi 6.0 as well as AtlasTi 8.0 software.
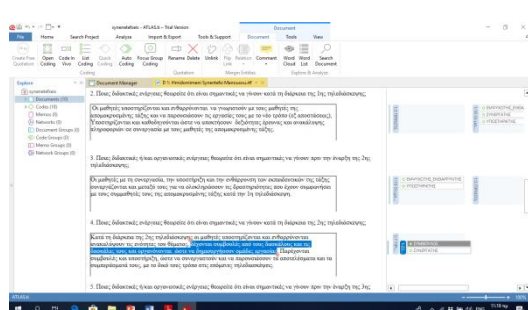
Analysis of interviews via	Analysis of videoconferencing via
Atlas ti 6.0 software	Atlas ti 8.0 software

Framework of Ethics

As minor children participated in the process of recording interactive teleconferences, the Pedagogical Institute's decision to place the whole process under its auspices was secured. In addition, all pupils' parents have been authorized to consent to their children's participation in the educational environment of the interactive teleconference, and they agree to record teleconferencing for research purposes.

Results - Discussion

An important factor that was the foundation in the present research is the concept and the role of the "teaching presence" in the educational environment of interactive teleconferences in the framework of the pedagogical approach of the ODYSSEAS 2013 program.

Teaching Presence includes the following categories: 1. Teaching Management, where it refers to "what" and "how" will be taught and even includes its timetable; 2. Supporting Interaction, which includes defining issues in order to achieve understanding, encouraging students, defining the learning climate and promoting the discussion, 3 Instant teaching, where discussions are summarized and the online discussion is illustrative. (Garrison et al., 2001).

In relation to the first research question, the role of the teacher in the four phases of the design framework of the modern educational environment of interactive teleconferencing is presented in three axes, the three categories of didactic presence, according to the model of the exploration community of Anderson et al (2001): Organizational Design, Interaction Support, and Direct Teaching.

In accordance with the first category of the "teaching presence" model, the Organizational Planning, the teacher in the pedagogical exploitation of the ODYSSEAS 2013 program operates in the following roles: as an Organizer, as a Coordinator and as a Technician.

> *Organize and coordinate conversation between students to encourage them to show off their impressions. (4:14)*
> *I believe that the good cooperation of teachers and the organization helps children to work better together with each other. (8:24)*
> *Organization and support of network communication between the participating classes. Organizing and facilitating pupils viewing on a large screen as well as transmitting audio so that communication between students is as good as possible. (7:10)*

In accordance with the second category of the "teaching presence" model, Support for Interaction, the teacher in the pedagogical approach of the ODYSSEAS 2013 program works in the following roles: as a Creator of a Learning Community, as an Animator - Encourager, as a Provider of Incentives and as a Supporter.

> *They (the teachers) support and guide students to acquire new skills and be convinced and encouraged to explore and discover collaboratively without being in the same place. (2:17)*
> *Students are encouraged and coordinated through the dialogue to process the stimulus and are encouraged to exchange ideas and opinions. (10:19)*
> *Teachers provide incentives to separate students into groups that will study the different aspects of the subject they chose. (6:19)*
> *Teachers encourage and support each group to present their plan based on the summary they have done, and to understand the plan created by their respective team based on the summary they have heard.(7:30)*

In accordance with the third category of the "teaching presence" model, Direct Teaching, the teacher in the pedagogical approach of the ODYSSEAS 2013 program works in the following roles: as a Recipient, as a Leader, as a Flexible Transformer, as an Assistant and as a Counselor.

> *Teachers support the emergence of positive points as well as highlighting the points they would like to change. (10:40)*
> *Students with the co-operation and guidance of the teachers create their work. (2:27)*
> *Teachers need to have all organized and prepared the process and be flexible and ready to face potential difficulties. (8:30)*
> *Teachers help and support each group of students to present the information gathered on the sub-section of the topic they chose to investigate. (6:22)*
> *Students with the collaboration and the counseling of classroom teachers create their work which can be painting, presentation software, animation, co-operative fairy tale or anything new suggested by children. (1:22)*

The findings in this first research question are consistent with the Evmorfopoulou & Lionaraki (2015) research on the role of the teacher in mixed and polymorphic models, which finds that the role of the teacher in using of ICT and the role of modern educational school education in mixed and polymorphic models is to transform theoretical knowledge into practice, to set targets, to design, to be a flexible transformer, an evaluator, a feedback agent and organizer, a communication network creator, a provider of incentives, a facilitator and assistant, a creator of learning communities, a student partner and counselor, a mentor and animator.

In relation to the second research question, the teacher's skills in the four phases of the design framework of the modern educational environment of interactive videoconferencing are presented in three axes, the three kinds of didactic presence, according to Garrison et al (2001): Organizational Design, Interaction Support, and Direct Teaching. In accordance with the first category of the "teaching presence" model, organizational planning, the role of the instructor in the pedagogical exploitation of the ODYSSEAS 2013 program is manifested by the following skills: organizing the actions and interaction of students and teachers, coordinating the timetable and the activities of students and teachers, handling the technical means in the various phases of the program and solving technical problems when necessary. In accordance with the second category of "teaching presence" model, Support for Interaction, the role of the instructor in the pedagogical approach of the ODYSSEAS 2013 program is manifested with the following skills: recommends students and teachers, creates an atmosphere of familiarity, highlights the opportunity for acquaintance , collaboration and discovery by the students of the two classes, encourages and encourages students to interact and express their opinions, mobilizes students to interact, gives a chance so that students can interact and work together, supports students in their interaction with their classmates.In accordance with the

third category of "teaching presence" model, direct teaching, the role of the instructor in the pedagogical approach of the ODYSSEAS 2013 program is manifested by the following skills: working in harmony with other teachers, directing questions to local and remote students, providing students with information about the issues that concern them, guiding students to perform their work and presenting them to their classmates, advising students and helping them in their work, summarizing the views of local and remote class students, providing feedback and rewarding students for their work.

The findings in the second research question agree with the results of the Sofos (2005) research where two types of skills can be distinguished: Mid-pedagogical skills and mid-didactic skills. Sofos classifies the media-didactic skills into six categories: 1. Technological or instrumental skills, 2. Media-functional knowledge, 3. Work coordination and organizational skills, 4. Skills in teaching design and implementation of teaching, 5. Aesthetic and emotional skills, 6. Ethics-related skills, 7. Skills referring to the knowledge of the school as a system, 8. Socio-critical skills.

Conclusions

An important factor which has been the foundation in the present research is the concept and the role of the Teaching Presence in the educational environment of interactive videoconferences in the framework of the pedagogical approach of the ODYSSEUS program. In other words, the role the teacher is called upon to play when designing and implementing teaching interventions within the educational environment of the interactive videoconference. This is in fact the contribution of this research. While the teaching role has been investigated, the role of the teacher in ICT environments (Garrison et al, 2001, Sofos, 2005, Evmorfopoulou & Lionarakis 2015) this research has investigated and highlighted the role of the teacher and teaching presence in an open learner-centered environment with an emphasis on interactive videoconferencing.

Teaching Presence includes the following categories: 1. Teaching Management, where it refers to "what" and "how" will be taught and even includes its timetable; 2. Support for Interaction, which includes defining issues in order to achieve understanding, encouraging students, defining the learning climate and promoting the discussion, 3 Direct teaching, where discussions are summarized and the online discussion is illustrative. (Garrison et al., 2001).

The role of the teacher in the four phases of the design framework for the interactive learning environment of interactive videoconferencing is illustrated in the table below.

	Teacher's role													
	Organizational Design			Interaction Support					Direct Teaching					
ROLE	Organizer	Moderator	Evaluator	Learning Community Creator	Encourager Animator	Incentive Provider	Supporter	Feedback Generator	Leader	Flexible Transformer	Assistant	Consultant	Technician
PHASE													

1st	X	X		X	X	X	X	X	X	X	X		X
2nd	X	X		X	X	X	X	X	X	X	X		X
3d		X		X	X		X	X	X	X	X	X	X
4th		X	X		X		X	X	X		X		X

Summary table of the role of the teacher in each phase (according to the planning framework) of the educational environment

In this table, the role of the teacher is initially presented in three axes according to the three categories of didactic presence, according to the model of the exploration community of Anderson et al (2001): Organizational Design, Interaction Support, and Direct Teaching. The role of the teacher is presented in these three categories as a result of the research process, through the analysis of the content of the interviews of the teachers participating in the ODYSSEAS 2013 program as well as the video footage analyzed. Teacher's Teaching Presence in the contemporary educational interactive conferencing environment is presented as follows: In the first and second phases of the educational environment, the teacher's Teaching Presence appears in the three categories: Organizational Design, Interaction Support, and Direct Teaching. In the third phase, Direct Teaching is dominated, while in the fourth phase the teacher's Teaching Presence appears in all three categories: Organizational Design, Interaction Support, and Direct Teaching.

According to the results of the research on the role of the teacher, in the first and second phase of the educational environment, the teacher works as an organizer and moderator, as a Learning Community Creator, Assistant and Technician The third phase is dominated by the Direct Teaching class, where the teacher works mainly as a Recipient, Leader, Flexible Transformer, Assistant, Advisor and Technician while in the fourth phase there are all three categories of Organizational Planning for Support of Interaction and Direct Teaching, but to a lesser extent the first two phases of the training program, so the teacher acts as Coordinator and Assessor as an Encouragement - Stimulant and Supporting as a Feedback, Leader, Assistant and Technician.

Future research
In the context of this research, it was attempted to identify the role and skills of the teacher in an educational interactive teleconferencing environment, specifically in the context of the pedagogical approach of the ODYSSEY 2013 program. It would be desirable to extend research into conventional education environments to identify differentiation of the role of the teacher in the conventional class. Moreover, the increasing development of distance learning environments at all levels of education brings to the fore the need to explore the role of the teacher in distance learning environments in academic and adult learning environments.

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