

# Active Educational Techniques in Lifelong Learning Centers

Vasiliki Brinia, Angeliki Nikitaki, Dr. Spyridon Kioulanis  
Hellenic Open University, Patra, Greece

To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v6-i1/2593>

DOI:10.6007/IJARPED/v6-i1/2593

*Published Online:* 25 March 2017

## Abstract

Active learning techniques are directly linked to positive effects on learning, as teachers and learners interact through them. Active techniques also enable learners to process solutions, to develop their critical abilities and to learn by doing. The use of active teaching techniques in Lifelong Learning Centres is considered to be very important, because adult learners experience a different learning environment, they are more independent, they take initiatives and they are responsible for their learning. The purpose of the research is to investigate the use and importance of active teaching techniques in Lifelong Learning Centres. The research was carried out through a qualitative method, using semi-structured interviews with open questions, in a random sample of 9 trainees, 8 trainers and 2 managers of Lifelong Learning Centres. The research showed that the active learning techniques affect the learning process positively. The educators also play an important role in that, since they organize and coordinate the learning process and encourage the learners.

**Keywords:** Adult Education, Adult Learners, Trainer/Teacher of Adult Students, Active Teaching Techniques

## Introduction

Training techniques in adult education are directly linked with the learning results and they play a decisive role in the learning process. Active learning techniques are investigated by many scientists in the field of education because they enhance and improve the interaction between educator-learner. The implementation of active techniques enables learners to process solutions, to develop their critical thinking and learn by doing (Kokkos, 2005).

Active teaching techniques satisfy a basic need of adult learners, according to Rogers (1999) and Knowles (1988), which is the need for self-determination, in order for the individuals to actively participate in whatever they are interested in. Active participation of the trainees in the whole learning process is a basic requirement of effective learning (Courau, 2000).

The climate of the learning process is very important to promote the autonomy of the adult learner through the use of active educational techniques, which according to Kokkos (2005) are: discussion, questions and answers, case study, problem solving, role-playing, work groups, brainstorming, demonstration, simulation, educational visit, interview with expert and self-directed learning.

The purpose of this research is to investigate and record the active educational techniques which are used by trainers of Lifelong Learning Centres, through which they form a communication framework and lead the students in a reflective learning process. The research questions are the following:

- What is the importance of the use of active educational techniques?
- What is the role of the trainer in the implementation of active educational techniques?
- How does the use of active educational techniques affect the learning process?

### **Characteristics of Adult Learners**

The adults learners have different characteristics from the under aged. These key characteristics are (Rogers, 1999; Kokkos, 2005, 2008):

- They are in a development process. Many changes happen in adult life, changes related to their mental condition, their physical condition, emotions, relationships and interests.
- They participate in educational programs, motivated from some inner sense of need. Adults participate in educational programs, because they want to and usually for their own personal reasons, e.g. because they want to learn in order to improve their skills, find a better job etc.
- They have specific objectives and expectations. For under aged, education is taken for granted and related to their age. On the other hand, adults choose to be educated for specific reasons and expectations. Usually adults decide to be educated, because they find that they need specific knowledge and skills that will enable them to better cope with the current or future challenges. The most common targets for their education are: job opportunities, fulfilling social roles (e.g. classes for young parents), personal development (e.g. training courses), acquiring prestige and improving their economic and social status.
- They have a wide range of experience. Adults have many experiences, which stem from the events of the adult life, such as profession/job, social responsibility, political roles, family relationships, etc. These experiences benefit and at the same time hinder the educational process. As an advantage, these past experiences can be used in the educational process in order to build new knowledge. However, adults have already formed attitudes, values and beliefs based on their experiences and they cannot easily accept the new knowledge which is offered by education.
- They have standard ways of learning. Adult learners are in a constant learning process (formal or informal) from their school years up to now. Consequently, they have come up with effective ways of learning for them and they refuse to adapt to new teaching methods.
- They have a tendency for active participation. Adults want to participate actively in the learning process, to have a constant dialogue with the educator and the other students and to be treated as responsible individuals. This on the one hand makes the course interesting, but on the other hand trainees often question what the educator teaches and the program content and they counter propose other topics and methods, complicating the process of learning.
- They face barriers to learning. These obstacles, according Kokkos (2005) may be due to:
  - Poor organization of the learning process (e.g. problems of coordination, planning, infrastructure, equipment etc.),
  - Social obligations and duties of trainees (e.g. family, professional obligations etc.),
  - Prior knowledge, values, personal characteristics of learners (e.g. lack of confidence, low self esteem, anxiety).

- They develop defense mechanisms and resignation. This may occur when internal obstacles prevent the adult learner from sharing new insights and redefine previous knowledge, values and habits.

### **Requirements of effective adult learning**

The special characteristics of adult learners create some special conditions under which adult learners can be trained effectively (Kokkos, 2005):

- The training is voluntary. Adults participate in training programs because they want it and they need it, not because they are obliged to do so. If they are forced to participate in the educational process, it has almost always negative effect.
- Learning objectives are clarified. The educator ensures that the objectives of the participants are clear, realistic, linked to their experiences and fulfill the objective needs of professional and social entourage.
- The course is organized at all levels. When the program has shortcomings in terms of infrastructure, educational material, secretarial support, meeting financial and other obligations to the participants, a negative behavior of learners is often observed.
- The content is directly related to the needs and experiences of learners. The topics, examples and problems are examined closely and they are related to situations that are faced or will be faced by learners. It is necessary for the educator to provide triggers to learners in order to use their experiences, to process them and learn from them.
- The preferred learning styles are taken into account. Every student has their own particular ways of learning and, therefore, teaching must be organized on the basis of these ways.
- Active participation in the educational process is encouraged. The educator should let the learners take initiatives and motivate them to actively participate in the educational process. Active participation is encouraged with the development of learners' participation and the use of educational techniques in the teaching process, such as discussion, questions and answers, group work, brainstorming etc. The efficiency increases sharply when active learning techniques are used.
- The barriers faced by learners in learning, and the ways to overcome them are explored. The trainer tries to distinguish obstacles that impede learning and try to overcome them.
- The learning climate is characterized by effective communication, collaborative spirit and mutual respect. There are interactive relationships between trainers and trainees, which are characterized by honesty, respect, trust and acceptance. In this context, the trainer does not only transfer knowledge, but serves a role as a coordinator and facilitator in the educational process.

### **Active Learning Techniques**

The active participation of learners is achieved through the implementation of educational techniques that promote the dialogue and the debate within the educational team. The use of such techniques is considered very important because the students learn effectively through them, they gain more confidence, they become more autonomous and enable them to communicate more effectively, to collaborate and to think critically (Kokkos, 2005).

Important research has been conducted in the field of adult education and it has shown that active learning techniques lead to high learning outcomes but also on deeper learning (Allodi, 2007; Biggs & Tang, 2007; Johnson et al., 1993; Miller & Crocchia, 1997). Research has also revealed that active techniques are important for every level of education, and

contribute effectively to learning (Prince, 2004; Jarvis, 2007; Cimer, 2007).

Additionally, according to Mpetziou & Mpampanelou (1999), the education process which is based on participatory learning techniques encourage learners to use their experiences as a source of learning, while strengthening their autonomy and self-consciousness.

Training techniques which are used in adult education programs are (Kokkos, 1998):

- Presentation: The educator speaks and presents an issue to trainees.
- Practical exercise: This individual or collective work mainly consists in exploring an issue, solving a problem, conducting an experiment etc.
- Case study: It is a complex form of practice. In the case study, a real or hypothetical example that reflects a broader situation is presented to the students in order for them to analyze it in depth and to explore alternative solutions to the problems that emerge.
- Role playing: According to Courau (2000), role playing is a participatory technique that puts the students in a situation similar to realistic conditions.
- Questions and answers: The students learn about the object of learning through questions and answers, for this reason it is called maieutic technique.
- Discussion: The exchange of views within the educational group regarding a theme or problem in order to obtain alternative solutions or conclusions.
- Avalanche: The discussion focuses on expressing views in order to promote and explore the impacts on an issue.
- Brainstorming: The students are motivated to have a free, spontaneous expression of ideas.
- Demonstration: The teacher performs an educational action and then the students repeat the action they observed.
- Working groups: The students are organized in groups in order to complete appropriate structured activities and tasks (Brody & Davidson, 1998).

### **Criteria for choosing active learning techniques**

Active learning techniques promote the active participation of learners in the learning process but they do not guarantee any success. Not all educational techniques are suitable for a course, which is why the trainer needs to choose the appropriate technique and to combine and rotate techniques depending on the learning climate that develops in the room (Kokkos, 1998).

The choice of active learning techniques must take into account various criteria (Kokkos, 2008):

- The educational purpose of the program

The educational purpose and the program's educational objectives contribute to the selection of training techniques. For example, if the objective is to complete a learning action in a short time, the presentation is considered to be the most appropriate educational technique, perhaps combined with discussion and answers and questions, as no time is required to implement it. However, if the purpose of the program is for the students to discover a new concept through their own effort and participation, then appropriate techniques are the case study, role play etc.

- The nature of the learning object

The nature and kind of the learning object determine the choice of educational techniques. If, for example, the learning object is about methodological guidelines, the presentation is considered as the most appropriate technique. But if the topic relates to some theoretical knowledge, which should be linked to the practice and to assimilate the students, then appropriate instructional techniques are teamwork, practical exercise, case study and role playing.

- The educator's skills

Sometimes an educator is able to implement only a specific educational technique. However this should not discourage the educators and they should try other educational methods.

- The learning ways and educational characteristics of learners

- 

The preferences of learners and the ways in which they learn should be taken into account when planning the educational strategy.

- The learning climate

The learning climate within a training group should be taken into account for the selection of active educational techniques. For example, if the students are skeptical, it is better to implement a practical exercise, a case study or even questions-answers rather than brainstorming or role-playing. If a group is described by friendliness, cooperation and trust, it is appropriate to use techniques such as group work, brainstorming, discussion and role-playing.

- The available time / Timing

The available time is a binding criterion for the selection of the appropriate educational technique. Some active techniques, such as practical exercises, case study and role playing take some time to be completed. Presentation and questions and answers require less time. Timing is also important. For example, after lunch, when learners are quite relaxed and languid, it is more appropriate to use active techniques such as role playing and group exercise.

- The available resources

The implementation of certain techniques is affected to a large extent by the limits of the education program budget, as workshops, special logistics, equipment (e.g. computer, overhead projector, TV, etc.) may be needed.

It is clear that the choice of appropriate educational techniques, based on the criteria above, seeks the best efficiency in the teaching of new learning objectives. Moreover, the educational technique in each module should be clearly defined at the design stage (Giannakopoulou, 2003).

### **Relevant Literature**

Active learning techniques have been an interesting topic of research. Many Greek and foreign researchers have studied the use and benefits of active learning techniques both for students and for adults. Johnson et al (1993) carried out a comparison of teamwork with individual learning in terms of academic performance of students, but also regarding their effect in self-esteem and social acceptance. The results showed that students with high

abilities perform better with the use of teamwork rather than using the individual method, and they also have higher academic self-esteem.

Moreover, the research of Ghaith (2002) examined the benefits of learning by active learning through technical working groups. The results of the research showed a positive correlation between the use of active techniques and the support the learners feel they receive for academic and personal support by the teacher and other students. Additionally, the use of active techniques contributes to high academic performance.

Panagakos (2001) points out the necessity of technical working groups as a main learning approach, in order to facilitate the social interaction and communication. The implementation of a teaching experiment on students proved that the working groups developed acceptance and encouragement relations. Members helped each other, resulting in the increase of self esteem of the weak and moderate students. Additionally, the low performance and problematic behavior of some students changed and managed to adapt to working in groups.

The research of Kotti (2008) examined whether the methods of experiential learning are implemented in Second Chance Schools. The results showed that active methods are not used very much; teachers usually follow the traditional way of teaching. However, they have realized that it is important to discuss and exchange ideas during the course.

Kokkos (2004) showed that educators who are registered in the Register of Trainers do not often use active techniques and even some of them are confusing the use of active techniques with using multimedia. The research of Goulas (2006) showed that teachers use extensively the technique of presentation; half of them use discussion techniques / dialogue and one third use practical exercise in the class.

The research of Ioannou & Athanasoula-Reppa (2008) highlights the importance of the use of active-participatory techniques in modern adult education and training. The empirical research conducted in 39 adult learners verified that active techniques bring better results in learning of adults. However, the problem remains because the use of such training techniques is not particularly frequent in adult educators.

The research conducted in Greece on the use of active techniques in adult education programs is not extensive. Most studies focus on under aged students and very few refer to adult programs. This emerges the need for more research and to consider the views of the trainers for the use and exploitation of these techniques during the learning process.

### **Research Questions**

The purpose of this research to explore and record the active educational techniques which are used by trainers in Lifelong Learning Centers, in order to create a communication framework and lead the students to a reflective learning process.

Adult learners in programs of Lifelong Learning Centers experience a different learning environment, making them more independent, able to take initiative and responsible for their learning process (Keegan, 2001).

In this context, the educator, according to the theory of transformative learning of Mezirow, promotes the dialogue and the participation of learners, in an environment that promotes the trainer-trainee relationship. Involving learners in order to be trained through exchanging experiences helps them to understand and evaluate the reality (Lintzeris, 2007).

The research questions are:

- What is the importance of the use of active educational techniques?

- What is the role of the trainer in the implementation of active educational techniques?
- How does the use of active educational techniques affect the learning process?

### Methodology

For this research the qualitative approach was selected. The qualitative approach allows deeper investigation of the subject through the descriptive overview of research data at a particular time (Cohen et al., 2008), particularly by "random sampling", and provides information in a short time (Creswell, 2011). Additionally, the qualitative method can be applied to a small sample of individuals (19 participants in this research). Furthermore, the qualitative research approach is interesting for verbal and nonverbal behaviors, but also for an in-depth study of the events and circumstances that help us to integrate the actions of the participants in real situations (Bird et al., 1999). Moreover, we can explore behaviors which are related to the meaning and importance of education in social groups and how the groups realize their involvement in the educational process.

The interview was selected as the research tool for the collection of the data. The type of interview is semi structured, which includes open-ended questions to highlight the views of respondents about the educational techniques during the educational and learning process, without being constrained by the views of the researcher or by previous findings (Creswell, 2011). In semi structured interviews the researchers can ask more questions to the participants in order to derive further details and, therefore, greater accuracy of the information is ensured. Furthermore, the participants formulate their responses freely, so more factors that might have not been detected previously are identified and analyzed (Vamvoukas, 2002).

The semi-structured interview is considered appropriate for the specific research, because it gives the opportunity to gather information on a personal level. Personal contact gives the opportunity to the participants to "open up" to express themselves freely and comment as the answers are not predetermined. Solomon (1999) argues that if during an interview trust and honesty prevail, then the research can proceed more thoroughly and bring to light attitudes, opinions and interpretations of the interviewees.

The interviews were conducted in the period from late February to late April 2016. All interviews were recorded to ensure accuracy (Cohen et al., 2008; Creswell, 2011). Then they were transcribed from the recordings and analyzed thematically based on specific themes (Hammersley, 2010).

The participants are adult educators and education consultants in Lifelong Learning Centers and trainees of their programs. The research sample was selected using the method of convenient / intentional / random sampling (Kyriazi, 2005). The research sample consisted of nine (9) students, eight (8) adult education instructors and two (2) consultants of Lifelong Learning Centers.

In order to ensure the reliability and validity of the research applied the triangulation was used. The triangulation method extracts data using various methods (Cohen et al., 2008). According to this method, we collected data from three different categories of participants in the programs of Learning Centers. (trainees, trainers and training consultants). The data from these three different categories interviews were categorized, commented and correlated.

The interview questions are formulated in the following areas:

- A. Participants' characteristics
  - Studies
  - Experience and teaching experience (for trainers)

- Reasons for participation in the Lifelong Learning programs (for learners)
- B. Significance of active educational techniques
  - Achievement of course objectives
  - Fulfillment of learners' needs
  - Usage of learners' experiences
  - Development of critical thinking of learners
  - Effect on the learning process
  - Role of the trainer

## **Findings**

### **Trainees**

- Achievement of Course Objectives

According to most of the trainees, the active techniques used by the educator meet the objectives and expectations because they help them understand the lesson and apply their knowledge later. Moreover, the main objective of learners who participate in adult education programs is to learn. Additionally, the use of the active techniques helps to learn what is right and true, review their past wrong views, contact with other students and exchange views. The exchange of their views helps to share their concerns and generally triggers their thinking. The trainees feel like they are members of the group and they learn better. The use of active educational methods helps students to feel more relaxed and open and to unfold their opinion.

- Fulfillment of Learners' Needs

According to the learners, the educational methods which are selected during the course, meet their needs, mainly because they help them to learn better. They say that with active educational techniques they learn without stress and pressure, while they have the chance to express their views, participate in the development of the group, create a great interest in learning and increase the self-confidence and courage.

- Usage of Learners' Experiences

The active educational methods use examples from the learners' daily lives, they engage the students in the lesson process and thus they help them to actively participate in the lesson. Specifically, teamwork helps learners to interact with their peers and share their views and their experiences so they can learn from others.

- Development of Critical Thinking of Learners

The trainees participate more often in class, they present their views freely, they say their opinion, while acquiring more interest in the course. Most of the trainees stated that the use of active educational methods motivated them and they grew more interest. At the same time, they became more talkative and communicative. All the active educational methods led to active participation of learners. In correlation with the use of active educational methods, the critical thinking is also developed, because learners look deeper and analyze the issues. Additionally, they learn to be active and not passive during the educational process.



- **Effect on the Learning Process**

The students believe that the use of active educational methods helps in the learning process and triggers the interest through participation and collaboration. Additionally, they differentiate adult education from conventional school, where the course is based on teacher presentation. Furthermore, the active educational methods help to enrich the knowledge of the trainees and facilitate the contact between the students. The use of active educational methods is very important as it has a positive effect on the learning process as it enhances active participation, utilizes the experiences of learners, develops critical thinking and promotes communication and collaboration.

- **Role of the Trainer**

The role of the educator is very important during the course, especially in the implementation of active educational methods. The educator helps and solves problems, encourages and supports the learners, guides and coordinates the process of learning.

### **Educators/Trainers**

- **Achievement of course objectives**

Trainers believe that active educational methods serve the course objectives, mainly because they involve learners in the learning process, they encourage the exchange of views and explain the questions. Additionally, they activate the learners and encourage them to participate as much as possible. According to some educators, some specific methods are more helpful than others: enhanced presentation, brainstorming and discussion.

- **Fulfillment of learners' needs**

Trainers believe that the active educational methods meet the needs of learners. The basic needs which are covered are:

- a) Acquisition of knowledge and skills
- b) Participation of learners, which helps in learning
- c) Need for socialization and for inclusion in a group
- d) Decision making for their future.

- **Usage of Learners' Experiences**

Most of the trainers claim that the methods enable students to recall the existing knowledge and experiences in order to participate in the learning process. The same experiences of learners enable the trainers to adjust their lessons accordingly. The correlation with the trainees' experience is achieved using various methods, but mainly through the following: work groups, discussion and dialogue.

- **Development of Critical Thinking of Learners**

According to all trainers, the active educational methods enable critical thinking of learners, since most of them think critically, as they are called to use the new knowledge and solve real problems of everyday life. The students play an active role in their education and they are not passive receivers of information. Furthermore, learners discover how to learn. Some specific learning methods that assist in the activation of critical thinking according to their trainers are: case study and project.

- **Effect on the Learning Process**

Active educational methods affect positively the learning process, engage the students in learning and motivate them to achieve their educational goals. Additionally, the student feels as an active part of the learning process. Moreover, active techniques positively affect the learning process, because the trainees assimilate better and faster the new knowledge. The student is faced with real problems and is asked to prepare solutions. The familiar and friendly atmosphere created by the use of active educational methods is very important, in order to achieve a good educational result.

- **Role of the Trainer**

Generally the role of the trainer is complicated. The role of teachers in the learning process and in the implementation of educational techniques is varied: facilitator of learning, motivator, moderator, organizer and designer of the course.

### **Training Consultants**

- **Achievement of Course Objectives**

The active educational methods serve the objective of the course, which is the best possible learning of a particular academic subject. Methods that refer to specific events and meet the experiences of learners are preferable. Additionally, they help the students to explore new skills, abilities and behaviors.

- **Fulfillment of Learners' Needs**

The active educational methods are selected and applied to meet the specific needs of learners. During their implementation, there is development of interaction between learners and teachers, and between learners. Students search for information, process solutions, learn to practice and develop their critical thinking, perception and solidarity. The consultants say that it is a challenge to create course content based on learners' needs but there is no adult education if it is inconsistent with the learners needs.

- **Usage of Learners' Experiences**

The use of the experiences in the educational process plays an important role in the effectiveness of the course. According to the respondents, it is very important to take into account the prior knowledge and experiences of the trainees, because it achieves better results.

- **Development of Critical Thinking of Learners**

During the courses, the critical thinking of learners is essential, according to the consultants of Lifelong Learning Centers. The trainees are encouraged to use their thoughts and feelings and, therefore, they enter a critical reflection process. The critical reflection is very important because the students learn better.

- **Effect on the Learning Process**

The lifelong learning consultants responded that the use of active educational methods can positively affect the learning process. The teamwork and the collaborative environment can lead to good learning outcomes, but it can also change the way the learners think and behave. Additionally, the learners reflect on their experiences and review their perceptions and beliefs.

- **Role of the Trainer**

The role of the trainer, according to the consultants is multiple, complex and multileveled: The educator must be a coordinator and facilitator of the learning process, trying to achieve a cooperative process in a calm and supportive environment. The purpose of the adult educator should be keeping up with the trainees in the learning process that they themselves have chosen and inspire them to learn.

## **Conclusions**

According to the research questions and findings, there are the following conclusions:

### **A) Importance of Active Educational Methods**

- **Achievement of course objectives:** Active educational methods meet the objectives and expectations of the trainees from the program, as they help them to learn better.
- **Fulfillment of the learners' needs:** Active educational methods meet the needs of learners. Specifically, the basic needs which are covered are: a) the acquisition of knowledge and skills, b) the participation of learners, c) the need for socialization and for inclusion in a group and d) decision making for the future.
- **Usage of learners' experiences:** Active educational methods cover a large proportion of the trainees experience as they use examples from their daily lives, invite them to integrate their personal experiences into the lesson and assign them to new knowledge.
- **Development of critical thinking of learners:** With the use of active teaching techniques the students participate more in the course, they submit their views and opinion and they are more communicative, while acquiring more interest in the course. The active participation of learners is very important as it constitutes one of the adult learning principles (Kokkos, 1998). Critical thinking of learners is enhanced, since they learn to look deeper and analyze the issues.

### **B) Effect on the Learning Process**

The use of active educational methods helps in the learning process, enhances the interest through participation and cooperation, helps escaping from everyday life and stimulates their thinking.

### **C) Role of the Trainer**

The role of the trainer is considered complex during the course, especially when using active educational methods. Specifically, according to the opinion of trainees and trainers, the role of the trainer can be summarized as follows: a) assists and solves questions, b) encourages and supports learners c) guides and coordinates the process of learning. According to Kokkos (2005), the role of trainers in adult education requires knowledge, attitudes and skills, but also to take into account the characteristics of adults, among which is to challenge the content of a program and to suggest other topics and methods.

The findings can be used by coordinators of adult education for the design and organization of training programs. Also they could be used by adult educators who can realize the benefits of the active educational methods in order to incorporate them in the learning process. Finally, they could be used by the Ministry of Education to improve the various training programs which are offered to the educational community.

## References

## Greek

- Vamvoukas, M. (2002). *Εισαγωγή στην ψυχοπαιδαγωγική έρευνα και μεθοδολογία*. Αθήνα: Γρηγόρη.
- Giannakorouli, E. (2003). *Σχεδιασμός Διδακτικής Ενότητας. Κείμενο από το εκπαιδευτικό υλικό «Ανάπτυξη μεθοδολογίας και διδακτικού υλικού για την Εκπαίδευση των Εκπαιδευτών» του Εθνικού Προγράμματος Εκπαίδευσης Εκπαιδευτών*.
- Goulas, X. (2006). Ο Ρόλος και ο Βαθμός Συμμετοχής των Ενήλικων Καταρτιζομένων στη Διαδικασία της Κατάρτισής τους, *Εκπαίδευση Ενηλίκων*, τ. 7, σ. 3-11.
- Ioannou, I., & Athanasoula-Reppa, A. (2008). Οι ενεργητικές εκπαιδευτικές τεχνικές στη διδακτική πράξη της εκπαίδευσης ενηλίκων. *10<sup>ο</sup> Παγκύπριο Συνέδριο Παιδαγωγικής Εταιρείας Κύπρου*. 6-7 Ιουνίου 2008, Πανεπιστήμιο Κύπρου, Λευκωσία.
- Kokkos, A. (1998). Τεχνικές εκπαίδευσης στις ομαδικές συμβουλευτικές συναντήσεις. Στο Α. Κόκκος, Α. Λιοναράκης, Α. (1998), *Ανοικτή και Εξ Αποστάσεως Εκπαίδευση*, τομ. Β'. Πάτρα: ΕΑΠ.
- Kokkos, A. (2004). Οι εκπαιδευτές ενηλίκων και η εκπαίδευσή τους, *Επιστημονική Ένωση Εκπαίδευση Ενηλίκων*, τεύχος 1, Ιανουάριος-Απρίλιος 2004.
- Kokkos, A. (2005). *Εκπαίδευση Ενηλίκων. Ανιχνεύοντας το πεδίο*. Αθήνα: Μεταίχιμο.
- Kokkos, A. (2008). Εκπαιδευτικές Τεχνικές. Στο Δ. Βαϊκούση, Ι. Βαλάκας, Ε. Γιαννακοπούλου, Ι. Γκιάστας, Α. Κόκκος, Α. Τσιμπουκλή, *Εισαγωγή στην Εκπαίδευση Ενηλίκων*, τομ. Δ'. Πάτρα: ΕΑΠ.
- Kyriazi, N. (2005). *Η Κοινωνιολογική Έρευνα. Κριτική Επισκόπηση των Μεθόδων και των Τεχνικών*. Αθήνα: Ελληνικά Γράμματα.
- Kotti, D. (2008). Βιωματική μάθηση: από τη θεωρία στην πράξη. *Σχολείο Δεύτερης Ευκαιρίας Αχαρνών, Εκπαίδευση Ενηλίκων*, 13, 35-41.
- Lintzeris, P. (2007). Η σημασία του κριτικού στοχασμού και του ορθολογικού διαλόγου στη θεωρία του Jack Mezirow για τη μετασχηματίζουσα μάθηση. Αθήνα: Επιστημονική Ένωση Εκπαίδευσης Ενηλίκων.
- Mpetziou, N., & Mrampanelou, D. (1999). *Διαστάσεις και Προοπτικές της Συμμετοχικής Μεθοδολογίας στην Εκπαίδευση Ενηλίκων*. Αθήνα: ΙΝ.Ε.- Γ.Σ.Ε.Ε.
- Panagakos, I. (2001). Ομαδοσυνεργατική διδασκαλία και κοινωνικοσυναισθηματική ανάπτυξη των μαθητών κατά την επίλυση μαθηματικών προβλημάτων, *Επιθεώρηση Εκπαιδευτικών Θεμάτων*, 6, 80-90.
- Solomon, I. (1999). *Εσωτερική Αξιολόγηση και Προγραμματισμός του Εκπαιδευτικού Έργου στη Σχολική Μονάδα*, Ε.Π.Ε.Α.Ε.Κ., Ενέργεια 1.1 α, Αθήνα: Παιδαγωγικό Ινστιτούτο.

## English

- Allodi, M. W. (2007). Assessing the quality of learning environments in Swedish schools: Development and analysis of a theory-based instrument, *Learning Environments Research*, 10(3), 157-175.
- Biggs, J., & Tang, C. (2007). *Teaching for quality learning at university*. Maidenhead: Open University Press.
- Bird, M., Hammersley, M., Gomm, R., Woods, P. (1999). *Εκπαιδευτική Έρευνα στην Πράξη*. Πάτρα: ΕΑΠ.
- Brody, C., M., Davidson, N. (1998). *Professional Development for Cooperative Learning. Issues and Approaches*. Albany: State University of New York Press.

- Cimer, A. (2007). Effective teaching in science: A review of literature, *Journal of Turkish Science Education*, 4(1), 20-44.
- Cohen, L., Manion, L., & Morisson, K. (2008). *Μεθοδολογία εκπαιδευτική έρευνας*. Αθήνα: Μεταίχμιο.
- Courau, S. (2000). *Τα βασικά εργαλεία του εκπαιδευτή ενηλίκων*. Αθήνα: Μεταίχμιο.
- Creswell, J. W. (2011). *Η έρευνα στην εκπαίδευση. Σχεδιασμός, διεξαγωγή και αξιολόγηση της ποσοτικής και ποιοτικής έρευνας*. Αθήνα: Ίων/Εκδόσεις "ΕΛΛΗΝ" Γ. Παρίκος & ΣΙΑ Ε.Ε.
- Ghaith, G. M. (2002). The relationship between cooperative learning, perception of social support, and academic achievement, *System*, 30, 263-273.
- Jarvis, P. (2004). *Συνεχιζόμενη Εκπαίδευση και Κατάρτιση*. Αθήνα: Μεταίχμιο.
- Johnson, D., W., Johnson, R., T., Taylor, B. (1993). Impact of Cooperative and Individualistic Learning on High-Ability Students' Achievement, Self-Esteem, and Social Support, *The Journal of Psychology*, 133, 839 – 844.
- Hammersley, M. (2010). Introduction, in *Methodology Who Needs It?* London: Sage.
- Keegan, R. (2001). *Οι βασικές αρχές της ανοικτής και εξ Αποστάσεως Εκπαίδευσης*. Αθήνα: Μεταίχμιο.
- Knowles M. (1998). *The Adult Learner*. Texas: Gulf Publishing Company.
- Miller, J. E., & Groccia, J. E. (1997). Are four heads better than one? A comparison of cooperative and traditional teaching formats in an introductory biology course, *Innovative Higher Education*, 21, 253-273.
- Prince, M. (2004). Does active learning work? A review of the research, *Journal of Engineering Education*, 93, 223-231.
- Rogers, A. (1999). *Η Εκπαίδευση Ενηλίκων*. Αθήνα: Μεταίχμιο.