THE SUPPORT AND PROMOTION OF SELF-REGULATED LEARNING IN DISTANCE EDUCATION

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Abstract

Distance education is characterized by the learner's learning autonomy and active involvement. Both lead to self-regulated learning in the context of distance education, the support and promotion of which are explored in this study. In particular, the aim of this paper is to examine the relationship between self-regulated learning and distance education, as well as, to reveal the factors, identified through the definition of self-regulated learning, that distance education must take into account. For this purpose, literature review on self-related learning and distance education is carried out. The results of the literature review showed both that self-regulated learning is critically important for distance education and that its support in this context is realized by specific interactive educational materials, the instructor and the structure of the educational environment. The above variables must be considered in distance education programs in order to create productive environments for optimal learning.

Abstract in Greek

Η εξ αποστάσεως εκπαίδευση χαρακτηρίζεται από υψηλή μορφωτική αυτονομία και ενεργητική συμμετοχή του μαθητευόμενου, τα οποία συντείνουν στην έννοια της αυτό-ρυθμιζόμενης μάθησης στο περιβάλλον της εκπαίδευσης από απόσταση. Στη βάση αυτή, σκοπός της εργασίας είναι να μελετήσει την υποστήριξη και την προαγωγή της αυτο-ρυθμιζόμενης μάθησης στο πλαίσιο της εξ αποστάσεως εκπαίδευσης, καθώς και τα στοιχεία εκείνα που πρέπει να λαμβάνονται υπόψη στο σχεδιασμό και την υλοποίηση εξ αποστάσεως προγραμμάτων ώστε αυτά να πληρούν και την παράμετρο της αυτό-ρυθμιζόμενης μάθησης. Η διερεύνηση στηρίζεται στη βιβλιογραφική ανασκόπηση της εξ αποστάσεως εκπαίδευσης και της αυτο-ρυθμιζόμενης μάθησης. Διαπιστώνεται η σημαντικότητα της αυτο-ρυθμιζόμενης μάθησης, καθώς και η δυνατότητα υποστήριξης και προαγωγής της στην εξ αποστάσεως εκπαίδευση, μέσα από το σχεδιασμό ειδικών διαδραστικών εργαλείων μάθησης, τον διδάσκοντα, καθώς και τη δομή του εκπαιδευτικού περιβάλλοντος, στοιχεία τα οποία θα πρέπει να λαμβάνονται υπόψη σε προγράμματα εξ αποστάσεως εκπαίδευσης.

Keywords: distance education, self-regulated learning, support

Introduction

In distance education the innovative elements of practice that are introduced through the physical separation between the instructor and the learner, as well as the use of modern technology, create an educational environment characterized by learning autonomy and active engagement (Moore, 1972; 1973; Wedemeyer, 1977; Giagli, Giaglis, & Koutsouba, 2010). In this educational environment, the learner being actively involved in the learning process is rendered as the prime responsible as far as the acquisition of knowledge through the practice of experimental learning is concerned (Lionarakis, 2001). That means that the learner in order to facilitate his own learning, to manage the learning procedure and to

achieve academic success is obliged to monitor, control and modify his own action through the self-evaluation of his cognitive skills and behaviour.

Learning autonomy is considered to be a major factor for academic success in distance education (Holmberg, 1995). Nevertheless, despite its significance, learning autonomy as a notion does not clearly define the way in which the learner organizes and adapts his behaviour using suitable manoeuvres during the whole learning process (Lynch & Dembo, 2004) and does not efficiently explain the complicity of interactive communication in distance education (Garrison & Baynton, 1987). It does not explain the *how* and *why* of the learning process. In other words, it does not explain the *way* the learner learns more effectively in distance education. In addition, nowadays the recent advances in Internet and Web-based Technologies, which make easier the diffusion of distance education, create new conditions and underline the development of new theoretical frameworks under the current progress (Giosos, Mavroedis, & Koutsouba, 2008), so as the learning approach and the learners' academic success to be effectively achieved.

According to researchers, the theoretical construction of self-regulated learning demands the learner's active involvement in the learning process and more specifically its social cognitive perspective. This provides the appropriate theoretical framework for monitoring and understanding the mechanism of the learning process in terms of learner's learning autonomy (Lynch, & Dembo, 2004; Whipp & Charelli, 2004; Avezedo, 2005; Artino, 2007), so as to clarify the way the learners learn more effectively in distance education environment. Based on the above the aim of this paper is to examine the concept of self-regulated learning in the distance education framework. More specifically, the present paper aims at investigating the relationship between self-regulated learning and distance education, as well as, to reveal the factors, identified through the definition of self-regulated learning, that distance education must take into account. The study is based on the literature review of distance education and self-regulation.

Self-regulated learning: conceptual definition

During the last decades the research in the field of educational psychology has focused on the investigation of a new issue, that of the self-regulated learning (SRL). Self-regulated learning is considered to be an important facet of self-regulation of personal behaviour and it refers to the individual possibility to modify and adjust his behaviour in order to achieve his goals (Bandura, 1986). This type of learning is evolved during the learner's academic course and it refers to the learner's responsibility that is taken as far as issues of academic learning are concerned (Kostaridi-Efklidi, 2008). Self-regulated learning is an extremely complex and demanding phenomenon, which is thought to be extremely useful and critical for the learning process. This type of learning refers to the learner's conscious intervention by controlling and regulating thoughts, emotions, strategies, behaviours and beliefs in the learning process through a planned and cyclically adapted procedure in order to attain the learning goals (Zimmerman & Schunk, 1989; Zimmerman, 2000).

In recent years a number of different theoretical constructions and models have been developed as far as the interpretation and the monitoring of this phenomenon is concerned. Regardless of the variety they appear to have in terms of the processes that trigger and support self-regulated learning and the strategic actions used by the learners for its utilization, many of the characteristics of self-regulated learners are common across the majority of theoretical approaches. Findings of educational psychology indicate the prerequisites for the function and development of self-regulated learning which are: (a) the cognitive monitoring of information and the implementation of cognitive strategies (Zimmerman & Martinez-Pons, 1986; Weinstein & Mayer, 1986; Pintrich & de Groot, 1990), (b) the metacognitive processes of monitoring and control of cognitive processes (Flavell, 1976; 1979; Zimmerman & Martinez-Pons, 1986; Zimmerman, 1989) and (c) the control of motivation and feelings, as well as the volitional control (Zimmerman & Martinez-Pons, 1986;

Zimmerman, 1989; Pintrich, & de Groot, 1990; Pintrich, 1999; Schunk & Zimmerman, 1994; Kostaridi-Efklidi, 2008).

Learners can be described as self-regulated in relation to the degree that they are metacognotively, motivationally and behaviourally active participants in their own learning process (Zimmerman, 1989; 1990). In a given learning task learners who implement strategies concerning self-regulated learning, are aware of the information and skills that they have to use in order to achieve the task and take the necessary steps so as to acquire them (Zimmerman, 1989; 1990). These learners are active participants in the learning process by setting goals, using effectively their previous experiences, creating a productive study environment, managing successfully the available resources, evaluating and revising their efforts with respect to their learning goals (Zimmerman, 1990; 1994; 1998). Moreover, they are charged with positive emotions, they are highly motivated and they have positive beliefs about their skills, the value of learning and the parameters that influence their learning (Zimmerman, 1994; 1998).

Self-regulated learning is not a static phenomenon (Boekaerts, 1999). On the contrary it is considered to be a complex, dynamic and complete process which is integrated in a framework defined by a set of environmental factors. Kostaridi-Efklidi (2008) points out that each framework explains the situational concept of self-regulation and interprets the possible reasons of each function's success or failure. As a consequence, the researcher suggests that self-regulated learners are obliged to constantly evaluate their study and learning and to modify them as effectively as possible depending on the context and the circumstances of learning. According to social cognitive theory, self-regulation is context specific. Due to this theoretical approach based on Bandura's social cognitive theory, this procedure demands the reciprocal interaction among personal, behavioural and environmental factors (Zimmerman, 1998; 2000). According to Bandura (1977), in this triadic relationship the key factor of which is self-efficacy, the environment urges the learners to a combination of such strategies that will facilitate them to maximize their learning, through the sub-processes of self-regulation which are: self-observation, self-judgment, and self-reaction (Bandura,1986). The most adaptive self-regulated learners show such abilities that allow them to modify and change their actions and beliefs as a function of the task or context (Garcia & Pintrich, 1994).

In particular, Zimmerman and Martinez-Pons (1986), using a structured interview in a series of common learning contexts, assessed high school students regarding the use and the frequency of use of learning strategies and their correlation with academic success. From this study, the 14 learning strategies which were discerned, characterized self-regulating activities within the body of that literature, formed the basis for further research (Risemberg & Zimmerman, 1992; Zimmerman & Martinez-Pons, 1990). These strategies are the strategies of: self-evaluation, organizing and transforming, goal-setting and planning, seeking information, keeping records and monitoring, environmental structuring, self-consequences, rehearsal and memorizing, seeking social assistance and reviewing records.

According to Zimmerman (1990), all the learners regardless of their level, use strategies concerning self-regulation during the learning process. What distinguishes self-regulated learners is the fact that not only has the value of this reciprocal relationship between the cognitive strategies of learning and the learning outcome been realized, but also these strategies are used in order to attain their learning goals. Research findings of conventional education confirm that the most effective learners make use of more self-regulated learning strategies and that self-regulated learning is significantly correlated to high academic performance (Zimmerman & Martinez-Pons, 1986; 1990; Pintrich & de Groot, 1990; Bouffard, Boisvert, Vezeau, & Larouche, 1995). In order for the self-regulation to be successfully applied by learners, the phases, processes, sub-processes, and factors responsible for self-regulation must be thoroughly understood. Researchers support the idea that self-regulation skills can be taught (Pintrich & de Groot, 1990; Zimmerman, 1990). However, the emergence of self-regulated learning, as well as its establishment and effectiveness, are facilitated and

broadened when it is supported, scaffold and directed by the instructors using various teaching methods that enhance the learners' active involvement, and promote social interaction and support among the subjects (Zimmerman, 1990; Kostaridi-Efklidi, 2008).

Self-regulated learning in distance education

Learning in distance education depends extensively on the learner's ability to direct and manage the learning process both by setting appropriate goals and developing and adopting suitable strategies for their accomplishment. Since the learner's autonomy characterizes distance education environment, it is considered to be obvious that self-regulated learning must be appointed to an important and crucial factor for its success. According to Dabbagh and Kitsantas (2004; 2005), the necessity of using self-regulated learning and social interaction skills in a much greater extent, is imposed by the instructor's absence, the different support and interaction system in distance education, as well as the feeling of isolation, which is possibly experienced by the learners (Gunawardena & McIsaac, 2004). The above position is also supported by Niemi, Launonen, and Raehalme (2002), who believe that with the use of these skills, problems such as dropout and insufficient learning in distance education may be prevented. Therefore, researchers claim that if the development and adoption of self-regulated learning strategies are believed to be useful in conventional education, they are considered to be extremely necessary and critical for effective and meaningful earning and for the learner's achievement (Miltiadou & Savenye, 2003; Artino, 2007).

Many scholars think that conventional education prepares inadequately the learners as far as the self-regulation and the monitoring of the learning process are concerned, parameters that are more than important in these new educational environments in distance learning. Moreover, they suggest that learners possessing restricted self-regulated skills, are possibly unable to acquire learning effectively in these environments (Hartley & Bendixen, 2001), while the need for scaffolding and enhancing these learners is also indicated (Skogster, 2008). However, even if a fraction of the learners who attend distance education programmes has self-regulation skills, available research findings indicate the difficulty in applying these skills in the specific learning framework. More specifically there is difficulty of management and adaption of self-regulation processes and strategies, which are related particularly with time management, self-management, organization, memory, test preparation and completion. (Chmiliar, 2011)

Therefore, taking into consideration that in this environment the structure of learning is characterized by learning autonomy and learner's active involvement, the reasons for supporting and promoting self-regulated learning are automatically rendered self-explanatory. Supporting learner's self-regulating behaviour in distance education, the skill of managing, monitoring and directing the learning process, as well as the felling of self-efficiency is reinforced, so as the learners to stay committed to their educational task (Zimmerman, 1990). At the same time, the learner's adjustment to the new educational environments, their rationalistic academic achievement of their goals and the learning of new behavioural forms are supported.

Distance education is considered to be an ideal educational environment so as the activation, the development and the support of self-regulated learning skills to be observed (Dabbagh & Kitsantas, 2005; Anderton, 2006). This point of view is also supported by Whipp and Chiarelli (2004), who found that students in a Web-based course adapted the use of traditional self-regulated learning strategies in ways that were unique to the Web-based learning environment suggesting that "SRL strategy use is context dependent and that the unique features of a learning environment may influence whether or not a learner enacts SRL strategies" (p.13) in their descriptive case study. Additionally, these outcomes support the Dabbagh and Kitsantas's (2005) findings who concluded that the application of different categories of web-based pedagogical tools (WBPT) (e.g., collaborative and communication tools, content creation and delivery tools) both activated the process of self-regulated

learning and supported or facilitated the enactment of different self-regulated learning strategies (e.g., goal setting, self-monitoring) in distributed courses.

Additionally, the application of educational models for supporting self-regulated learning in distance education indicates the importance of feedback for the monitoring and adaptation of learner's cognitive processes through a continuous cyclic and repetitive process. For example, Orhan (2007) in his research in blended learning environment, found that the use of strategic self-regulated learning through the systematic application of self-observatory, self-evaluating and adjustment skills of the learner's activities improved significantly their performance and their perceptions regarding self-efficacy as far as the use of metacognitive strategies and resource management strategies are concerned. In an online learning course Anderton (2006) noted that the goal setting of the learner's program, as well as the monitoring and evaluation conducted by themselves, appeared to increase their ability in using self-regulated learning strategies, improving at the same time their performance. The findings of Anderton's study also suggests that online classrooms offer an opportunity for instructors to promote self-regulated learning strategies skills, while in Boom, Paas, Merrienboer, and Gog's study (2004) a significant influence in the development of learning was indicated, as a result of reflection prompts and tutor feedback on issues related to self-regulation. Furthermore, in e-learning environment a significant improvement in performance using self-regulated learning strategies in metacognitive level was indicated as a result of supporting self-regulation through the design of a specific interactive learning tool (Kramarski & Gutman, 2006). Niemi, Nevgi, and Virtanen (2003) through the use of an interactive learning tool with respect to the study of self-regulated learning in virtual environments, found the greatest benefits of the tool utilization in learners with learning difficulties, luck of regular use of learning strategies and in initial learning levels.

In general, the studies in self-regulated learning in distance education support the effect of the educational materials, the counsellor teacher and the studies organization in the development and use of self-regulated learning strategies from the learners (Nikolaki & Koutsouba, 2013). Moreover, in the specific educational environments the above factors are those which facilitate learners transition from external to internal guidance, self-guidance, so as to be autonomous, self-directed and self-regulated; which is the aim in distance education (Peters, 2010).In findings of both quantitative and qualitative researches, the learners' beliefs about the need for improving the educational materials and the studies organization of distance education programmes are expressed so to increase the interaction and the communication among the learners; as a consequence, the learners self-regulated learning behaviours and more specifically those of help seeking, studies organization and motivation for the completion of tasks are developed (Dunigan & Curry, 2006; Stammou, 2016).

The aforementioned results that indicate the possibility of development and promotion of self-regulated learning are significant. However, of similar significance are the results that positively relate self-regulated learning and learners' performance in distance education, providing in this way support in the necessity of boosting this process in the specific learning environment.

In essence, research in distance education correlates positively the learner's performance with the use of cognitive, metacognitive strategies and volitional self-regulated learning strategies through the use of rehearsal, elaboration and organizational strategies (Shin, Ingebritsen, Pleasants, Flickinger, & Brown, 1998; Yukselturk & Bulut, 2007), the time and the environmental management strategies, the effort regulation (Dunigan & Curry, 2006; Puzziferro, 2008), as well as those of critical thinking and seeking information.. It should be mentioned however, that the use of cognitive and metacognitive strategies even if it is crucial for self-regulated learning, it is not sufficient without the motivational beliefs (Pintrich, 1999), such as learners' self-efficacy beliefs, goal orientation beliefs and task value beliefs. Self-regulated learning strategies are strongly related with motivation (Pintrich & de Groot, 1990; Pintrich, 1999). It is indicated that effective self-regulation requires learners' motivation to

learn (Zimmerman, 1990). Research findings for self-regulated learning in distance education ratify and broaden prior studies in traditional classrooms, which showed positive relations between motivation and self-regulated learning (Pintrich, 1999). Specifically, in these findings, the motivational beliefs mentioned above were strongly and positively correlated with the learners' performance in distance education (King, Harner, & Brow, 2000; Wang & Newlin, 2002; Lynch & Dembo, 2004; Yukselturk & Bulut, 2007), as well as, with the learners' use of cognitive and metacognitive learning strategies (Joo, Bong, & Choi, 2000; Ng, 2002; Artino & Stephens, 2006). Additionally, self-regulated learning has significantly been related with affective factors of distance learners and specifically with that of pleasure (Kuo, 2010), which, according to researchers, constitutes an indicator of quality, effectiveness and success of the provided distance education programs (Allen & Seaman, 2003).

Moreover, as far as the frequency and the use rate of self-regulated learning strategies in distance education is concerned, a very interesting theoretical perspective is that it is affected by the student's culture variation. The Al-Harthi (2008) research is an example of the above approach. More specifically, the research results among American and Arab students in distance education indicate that self-regulated learning is a part of the learning process of both teams. However, it has been pinpointed the significantly higher use of learning strategies of designing, monitoring, effort, time and environmental management and self-efficacy of American students, while the Arabs have significantly higher use of seeking help. These differences, according to the researcher, are attributed to the different cultures, taking into account the American culture that is characterized by the individuality and future orientation, whereas the Arabs are less oriented towards the future and are characterized by a cooperation culture

Finally, as far as the study of self-regulated learning in distance education is concerned, although different theoretical models of self-regulation have been used (Boekaerts, Pintrich, & Zeidner, 2000), the social cognitive models (Zimmerman, 1998; 2000; Pintrich, 1999) are implemented by many researchers for the analysis and understanding of learning success in distance education (Miltiadou & Savenye, 2003; Lynch & Dembo, 2004; Dabbagh & Kitsantas, 2004; 2005; Whipp & Chiarelli, 2004; Avezedo, 2005; Artino, 2007), since they stress the importance of motivational factors such as self-efficacy and recognize the significance of the structural characteristics of the environment, with the following social interactions, as far as the selection and the use of appropriate strategies are concerned in order to attain their tasks. Research findings in distance education support the above position, indicating the personal, social and environmental factors as predictors of academic performance (Gunawardena & McIsaac, 2004).

Conclusions

The present study examined the concept of self-regulated learning in distance education. Based on the literature, it was found that self-regulated learning is a successful combination of will and skills and a complete procedure of managing the learning process, which allows learners in distance education to become more proficient as far as their thinking practices and particularly the planning, organization, monitoring, evaluation and modification of their actions are concerned. Self-regulated learning has been correlated with the academic performance in distance education, while its support and promotion, which is considered to be crucial in this high degree learning autonomy environment, is realized by the planning of specific interactive material, the instructor and the structure of the educational environment. The above conclusion indicates the necessity of properly supportive teaching methods aiming at the enactment and development of self-regulated learning to be designed and provided in distance education programs, so as learning to be facilitated and achieved in a more effective and wieldy way. However, the necessity of the provision of supportive teaching methods should bear as a design criterion not only the acquisition of knowledge but also its effect in learners' emotional intelligence and sociocultural adaption in mind.

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