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ABSTRACT

Distance Education is a system that creates a special environment with structure and methodology; however, it is defined by the same pedagogical principles as conventional education. The cultivation of critical thinking seems to be an important principle for every form of Education as it also is for Critical Education. This paper discusses the role, connection and importance of Critical Thinking in Distance Education and also the ways and methods by which this happens. More specifically, techniques and strategies are researched and explored that help students in a Distance Learning program develop Critical Thinking so as to be able to support Critical Education. As case studies are examined a) the module of Distance Education at Open University in the United Kingdom (OU/UK) at the postgraduate level which provides detailed instructions to students as to how to study the material by developing Critical Thinking. This leads to a learning outcome when the learner has completed his or her education b) The module of Distance Education at the Hellenic Open University (HOU). A first finding is that the educational material provided at the HOU is not that clearly focus on the cultivation of Critical Thinking in comparison with the Open University of the UK where a high grade of Critical Thinking is presented. This research hopes to provide new data related specifically to the cultivation of Critical Thinking and to contribute to the future improvement of the educational material for all types of Education.

KEY WORDS: Critical Thinking, Critical Education, Distance Learning, educational material.

INTRODUCTION

Nowadays we live with constant developments in social, economic, cultural, technological, ethnological and the educational world. The issue of efficient education as directly related to the listed developments is preceded. Education is necessary to promote the smooth development. Education that is not limited to knowledge production but the production of political and social subjects according to Giroux (1997) or persons with critical consciousness (Freire, 1973).

Education is designed to be lifelong. The reason is the demand for continuous vocational training which is demanded to satisfy the needs of the people in relationship to their work and personal ambitions. So Distance Learning functions as a main form of education or supplementary to traditional forms of education. Distance Learning adopts the same pedagogical principles as the conventional education. One of these is the cultivation of Critical Thinking. This should be a principle in the Curricula. Critical Pedagogy relies on Critical thinking as its base.

This paper has focused on researching Critical Thinking in Distance Education. Because Distance Education is a form of Education which has pedagogical principles, it is possible to investigate through the rules of Critical Education the cultivation of Critical Thinking in Distance Education. So the research objectives are:

1. Does the Distance Education cultivate Critical Thinking?
2. In what methods is Critical Thinking promoted in the Educational Material of Distance Learning. Case study the educational material of the module of EKP65 of HOU and H804 of OU/UK

Critical Education

Critical Education is a new concept which began in the early 1980's. One of the most modern theorists, Giroux (1997), mentions that the relationship between pedagogy and policy should be central to any social movement that aims to transform society. He also supports that the aim of Education is not only the production of knowledge but production of political persons (subjects). Schools should be places where critical education will develop citizens able to rule their lives and become involved in the way production of knowledge progresses. Schools should be places which are democratically organized. This means that students will have the opportunity to develop critical skills that are necessary to change the data of social and political forms and will not adapt to them. They should acquire the necessary skills to enable them to gain their own voice and to take the risk. This shows the importance of creating a political vision, through which it can develop an educational program that is part of a wider debate on the renewal of democratic public life. **Critical theory** covers a wide range of academic disciplines and can be applied to any field of knowledge (Wikipedia, 2012). Critical education includes relationships between teaching and learning. Its proponents claim that it is a continuous process of what they call

- Unlearning,
- Learning,
- Relearning
- Reflection.
- Evaluation

and the impact that these actions have on the students, in particular students whom they believe have been historically and continue to be, disenfranchised by what they call “traditional schooling.”

Critical Thinking

There are many definitions of critical thinking. This paper is focused on two of the theorists just to create the theoretical framework Ennis(1963) argued that Critical Thinking is reasonable and reflective thinking focused on deciding what to believe or do.

Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by observation, experience, reflection, reasoning or communications as a guide to belief and action. In its exemplary form, it is based on universal intellectual values that transcend subject matter divisions such as: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth ,breadth, and fairness (Scriven and Paul, 1987) All these points are remarkable because they create the direction of the design of distance learning educational material that is based on principles of Critical Education. This also define the principles of Distance Education material.

A well cultivated critical thinker:

- Raises vital questions and problems, formulating them clearly and precisely
- Gathers and assesses relevant information, using abstract ideas to interpret it effectively and comes to well –reasoned conclusions and solutions, testing them against relevant criteria and standards
- Thinks open mindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications and practical consequences and
- Communicates effectively with others in figuring out solutions to complex problems.

Critical thinking is being developed through the development of thinking skills, logical reasoning and metacognitive skills. All these features active dynamically and as they develop create higher cognitive structures to understand the reality. These features cannot function without being set in a context of teaching and learning process. Matsaggouras (2007) proposes taxonomy for Critical Thinking of 22 components.

These are:

- Logical reasoning
- Cognitive skills according to levels if learning:

- Collect of data: Observation, recalling, identification
- Organization of data: Categorization, Classification, Comparison
- Analysis of data: distinguish data, relations, events, values, judgments
- Excess of data: Interpretation, prediction, hypothesis, debate, conjecture, organization of the knowledge, estimation-evaluation, empathy.
- Metacognitive skills

There is a connection between the above taxonomy and Bloom's [01]taxonomy. These verbs are used in the content of educational material in Distance Learning.

WHAT ABOUT DISTANCE EDUCATION?

Distance Education is an educational system. It is not a new concept. Its history begins in the late 1800s at the University of Chicago. The first major correspondence program in the United States was established in which the teacher and the learner were in different locations in physical and timing distance. Later instruction outside of the traditional classroom finds new delivery systems such as radio, television are used to deliver instruction at a distance. More recently audio and computer teleconferencing have influenced the delivery of instruction in public schools and higher education. The establishment of the Open University in the United Kingdom in 1970 was the best example of the Correspondence study to begin to use developing technologies to provide more effective Distance Education.

The rapid growth of the new technologies serves Distance Education with its ideals to provide equality of access to education. All over the world there are schools, universities and programmes which follow the method of Distance Education to educate for a life time. The main characteristic which distinguishes from the other forms of Education is that the student is in a place or time different from that of the instructor. Although the student has a physical distance from the instructor, he continues to be instructed by some form of communication from the institute which provide the Distance Education.

Keegan(1996) defined the Distance Education in six elements:

- Separation of teacher and learner
- Influence of an educational organization
- Use of media to link teacher and learner
- Two way exchange of communication
- Learners are individuals rather than grouped
- Educators as an industrialized form

According to Lionarakis (2006) Distance Education can be named as a Polymorphic Education. It is education because all the features of education are involved, but the concept of polymorphic defines the multiple options and adaptations to become an educational procedure with the same content of the formal and informal education in

every level. The most important criteria which define the concept of distance education are:

- The learner
- The instructor
- The learning
- The teaching
- The communication
- The learning/educational material
- The place
- The time
- The institute
- The evaluation

All these criteria applying to distance education are characterized by polymorphic, flexibility, measurability, facilitation and the learner as the center of learning. The interpretation depends on the educational model the institute applies.

Holmberg (1989) one of the main theorists of Distance Education, calls for foundations of theory constructed around the concepts of independence, learning and teaching. “Meaningful learning, which anchors new learning matter in the cognitive structure, not rote learning, is the centre of interest. Teaching is taken to mean facilitation of learning. Individualization of teaching and learning, encouragement of Critical Thinking and far reaching student autonomy are integrated into this view of learning and teaching.

METHODOLOGY

For the qualitative content analysis, the content of the educational material of the module of the Open and Distance Education (EKP65) at the Hellenic Open University and the Module H804 «The implementation of Open and Distance Learning» of Open University in United Kingdom is used. The Hellenic Open University offers only a module (EKP65) of Distance Learning in a program which is Studies in Education. The OU/UK offers a whole program «Open and Distance Learning» in Taught Master, in Diploma and in Certificate. For the analysis a part of the educational material was used. The chapter 6 in the first volume of the material of Hellenic Open University titled “Evaluation of Open and Distance systems. From the OU/UK the block 4 Managing for Quality in ODL was used. These two parts are similar in content. The main theme is the evaluation process. The analysis tries to present the way the two universities cultivate the definition of the evaluation through the simultaneous cultivation of Critical Thinking.

The Grounded Theory was the main methodology which was followed. This method explores in depth the material by developing a system of techniques for systematic analysis of texts (Mayring, 2000). This is an empirical approach, methodological

controlled analysis of texts within the context of communication in accordance with rules and steps without absolute quantification. The qualitative of content analysis starting from the same material which has collected all available information creates a system in whichever category comes from the text and then interpreted according to the research questions (Smith, 2006). Its use functional in the sense that it puts the last word. Leads to comparable and usable data providing a range of issues that facilitates in depth analyzes of specific ideological messages that appear and leaves unexplored what it seems. These figures do not seem to investigate the critical content analysis, which does in depth study of the material, but is not limited to what is said or is obvious. It seeks to discover the latent content or what is implied but not explicit and attempts to connect the word with the social context. It allows for flexibility because the researcher lacks methodological tools (Smith, 2009).

In this analysis the theory and the practice are connected through the presentation of the educational material. For the analysis Bloom's taxonomy was used. It is about the six levels of Higher order thinking:

- First level: **remembering (Knowledge)** (recalling information). The verbs used are: recognizing, listing, describing, retrieving, naming, finding).
- Second level: **Understanding (Comprehension)**(explaining ideas or concepts). The suitable verbs are: interpreting, summarizing, paraphrasing, classifying, explaining).
- Third level: **applying** (using information in another familiar situation). The verbs are: implementing, carrying out, using, executing.
- The fourth level is **analyzing** (breaking information into parts to explore understandings and relationships). The verbs used are: comparing, organizing, deconstructing, interrogating, finding).
- Fifth level **evaluating** (justifying a decision or course of action) verbs supported this function are: checking, judging) hypothesizing, critiquing, experimenting)
- The final level is **creating (synthesis)** (generating new ideas, products or ways) verbs suitable are: designing constructing, planning (Bloom, 1956) (Krathwohl & Anderson,2001).

The analysis showed that the uses of the verbs are very important. The verbs lead the learner to develop his mental action, to think, to reflect, and to understand easily so as to be able to proceed to more complicated actions. The educational material expresses the social context of Learning in Distance Education, in the Hellenic Open University does not use verbs which proceed to complicated mental activities and does not give the incentive to study holistically and for the functional elaboration of the knowledge (Matsaggouras, 2007). From the educational material we studied how often-if it is possible to count in a grade- the suitable verbs appear in the learning outcomes, the main text, the activities and the assessments and in what level according Bloom's taxonomy the verbs belong.

Furthermore, we used the taxonomy of Matsaggouras (2007) who refers to four levels: the collect of data, the organization of data, the analysis of data and the excess of data. Its level drives in some abilities with its main goal the cultivation of Critical Thinking. The learner has the information and he/she can transform the knowledge. In the first level the learner activates the observation, recalling and recognition of the information. In the second level comparison and classification are activated. In the third level the analysis of the data, patterns and events, guide to the analytical learning and in the fourth level we have the learning action, the solution of problems. The educational material based on these data we analyzed trying to discover the cognitive abilities where are developed and to criticize the way the material provide the critical thinking.

RESULTS

This paper shows that the critical thinking is possible to cultivate in Distance Learning. This process is complicated. In theories about the Distance Learning may not be mentioned about Critical Thinking as a definition and as a purpose of this kind of Education but indirectly the ways are used show the essay and the results concerning the cultivation of Critical Thinking. Today, especially considering the use of ICT, Distance Learning incorporates all the conditions needed to promote the Critical Thinking. Critical Thinking is an important part of Distance Learning. Studying in depth, the Distance Learning is realized that in its purpose there is a strong connection between Distance Learning and Critical Thinking. In both Universities the cultivation is supported by the educational material. In the Open University of UK the content supports with emphasis on the Critical Thinking and in this way it is cultivated holistically. In the Hellenic Open University the connection is limited compared of the Open University of UK where it is totally obvious. The Open University of UK provides a holistic method as it is mentioned supporting the cultivation of Critical Thinking not only in the content of the Education but providing an environment, a context as we can see and also the process of the educational procedures full of activities recommending the development of Critical Thinking. A few are: study in bite-sized chunks, pause for thoughts, learn actively, question what is being said, evaluating sources of information, think independently, make it count, be objective.

CONCLUSION

Studying the theories of Critical Thinking and Critical Pedagogy according to Giroux (1994) Critical Thinking refers primarily to teaching students how to analyze and develop reading and writing assignments from the perspective of formal, logical patterns of consistency....While all of the learning skills are important, their limitations as a whole lie in what is excluded, and it is with respect to what is missing that the ideology of such an approach is revealed.

From the perspective of Critical Thinking, Critical Pedagogy crosses a threshold between teaching criticality and indoctrinating. Teaching students to think critically must include allowing them to come to their own conclusions; yet Critical Pedagogy seems to come dangerously close to prejudging what those conclusions must be. Critical Pedagogy see this threshold problem conversely: indoctrination is the case already; students must be brought to criticality, and this can only be done by alerting them to the social conditions that have brought this about. In short, we can restate the problem as follows: Critical Thinking's claim is, at heart, to teach how to think critically, not how to think politically; for Critical Pedagogy, this is a false distinction (Burbules & Berk,1999).

First, the Critical Thinking is the process which requires some abilities and skills. The Critical Pedagogy is a sector of Pedagogy which requires the ability to think outside the framework of conventional understanding. We think is a step forward the Critical Thinking. If Distance Learning has the «ability» through the educational material to cultivate the Critical Thinking then we have to expect the development of Critical Pedagogy as a perspective of following the need of the learner to admit that he has to act. The educational material as the mainspring of distance Learning can provide the critical thinking and to be the example for the educational material not only in subjects such as Distance Learning but in other subjects which follow the method of Distance Learning.

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