

CRITICAL THINKING IN STUDENTS WITH LEARNING DIFFICULTIES

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Abstract

Today, more than ever, attention is paid to the structuring of methods and strategies of didactic teaching, taking into consideration even the needs of the students with learning disabilities.

Up to now the critical thinking has been seen as an advanced process of thinking, directed only to talented students. Based on other scientific researches, this study's aim is to analyze how possible is the development of critical thinking in children with learning disabilities and also if all this influences the development of cognitive processing. New areas have emerged in the realm of teaching methods directed to children with learning difficulties in normal schools, catching the attention of class and other teachers. From this study's analysis, we may state that the ability to develop critical thinking results in helping the development of cognitive processes in children with learning disabilities.

Keywords: critical thinking, learning difficulties, cognitive processes, teaching methods

Introduction

Thinking is a similar process with reading, writing, speaking and listening. It is an active, interactive, complicated process, which includes thinking about something real. It is not something that can be taught independently of critical thinking. Namely, it is not properly taught when it is separated from the general context of the school curricula or everyday life.

The development of critical thinking is one of the main aims that educators wish to achieve. Once this aim has been achieved, we might expect to have students who are capable of effectively tackling problematic issues and problems of everyday life.

One of the challenges of the 21st century in the education field and in the pedagogic science is evidencing a curriculum which includes teaching programs for the process of critical thinking, that is adapted to all individuals and not only to an elite group. (Larsen, 2002).

Learning critically in schools is best acquired by attempting to assimilate it into content, as part of the general results and expectations of the curricula. In fact, latest research about critical thinking and learning, suggests that a pattern focused on teaching separate skills and facts, diminishes the development of critical thinking. Brown (1989) argues that learning skills, separated from the aims and tasks of the real world, give students the opportunity to perform well in an objective test, but they would not be able to use these skills in new situations.

Recently, there have been made many researches in the educational field, aiming to develop skills in gifted students and also in the average ones, about the cognitive strategies, problem solving, and thinking. There are only a few studies on teaching strategies for the development of thinking skills in students with a learning disability. That's because there is a widespread content in the field of special education available to students who need to improve basic skills, where they present difficulties.

Therefore, the teaching of critical thinking skills is not seen as a priority in the field of special education (Leshowitz, Jenkins, Heaton & Bough, 1993; LaFrance, 1995); meanwhile there are studies which have demonstrated that students who have difficulty in learning can acquire skills in critical thinking with the support and guidance of the teacher.

The definition of learning and thinking is an issue that draws the attention of most philosophers, psychologists, sociologists of all time. Most of these define learning as a process that causes permanent changes in knowledge, the way of thinking and / or in the individual behavior.

Learning is effective and lasting when the knowledge gained is applied in contexts other than the original context. The best way to make this happen is when students actively participate in learning, assimilate it, synthesize and produce information on their own.

Learning is extended when several thinking strategies are used. It is the use of these strategies, the experience of comprehensive learning that the students assimilate during the learning process. (Brown & Palincsar, 1989). Learning and critical thinking is broadened when the students have the opportunity to use the new learning skills in real tasks (Resnik, 1987).

Critical thinking and learning occur when the teachers understand and value the exchange of the ideas and experiences. Critical thinking occurs when the mentality —only one answer is right ceases to exist (Banks, 1988). Learning is extended when it is built upon previous knowledge and experience of the students, thus, they have the possibility to connect what they know with the new information to be learned (Roth, 1990).

Critical thinking

Critical thinking is that mode of thinking about any subject, content, or problem, in which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them (Paul & Elder, 2009).

Critical thinking and the thinking processes that characterize it have many different definitions by different authors. National Council for Excellence in Critical Thinking (1987) defines critical thinking as following:

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 communication, as a guide to belief and action. In its exemplary form, it is based on universal intellectual values that transcend subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness. (Scriven & Paul, 1987).

Critical thinking, according to Scriven and Paul (1987), can be thought of as composed of two parts:

- 1) Information and beliefs that generate thinking processes, and
- 2) Habit, based on intellectual commitment, to use these skills to build behavior.

Critical thinking varies according to the motivation underlying it. When grounded in selfish motives, it is often manifested in the skillful manipulation of ideas in service of one's own, or one's groups' vested interest.

The skills of thinking can be categorized, according to Bloom (1956), in knowledge, comprehension, application, analysis, synthesis, and evaluation. Knowledge, comprehension, and application, are considered as low level thinking, while analysis, synthesis, and evaluation, are considered as high level thinking (Sanders, 1966; Kagan, 1986, Griffin, 1995).

Presseisen (1985, 1986) describes the thinking processes in a hierarchical order, like Bloom (1956). Presseisen finds four types of cognitive processes: essential, first level, metacognitive, and epistemological. The first two categories are considered necessary to achieve critical thinking. In the essential cognitive processes, Presseisen includes basic thinking skills, based on which is developed thinking such as recall, recognition, comparison, classification, and inference. In the basic skills, the author also includes analogical thinking, inductive and deductive reasoning, interpretation and evaluation.

The latter are considered by other researchers, like Bloom, as high level thinking. According to Linda Elder, critical thinking is self-guided, self-disciplined thinking, which attempts to reason at the highest level of quality in a fair-minded way. People, who think critically, consistently attempt to live rationally, reasonably, empathically. (Elder, September, 2007). Therefore, critical thinking, as an evaluating process, is part of the individual's skills, that allow him to evaluate and create beliefs, that will guide him in life. From another point of view, critical thinking can be viewed as a moving gear, part of complex machinery, which generates positive changes, so that the individual can fit in the surroundings and the society, where he is part of. The critical thinking skill is part of a thinking skill, and whoever possesses the latter, can develop the critical thinking skill as well.

Critical thinking skills and students with learning disabilities

During an interview with Linda Elder, she gave this answer to the question: Does critical thinking apply best to gifted students or can other students benefit from it as well?

Virtually all students can and should learn basic critical thinking skills. And the critical thinking fundamentals we would teach the gifted student are the same as those we would teach the typical or the learning-disabled student, though the pace at which students learn will differ. This is true because the foundations of critical thinking are the same, regardless of the teaching conditions, of the level or content area, or of how advanced the students are. Moreover, the basics of critical thinking can easily be made intuitive to most students. Students can learn to apply them regularly to problems and situations in their lives. Depending on their level of motivation and disability, students considered average, or even learning disabled, can equal gifted students in their ability to apply and use critical thinking.

Taking under consideration the statement made by Elder, in which every student of every level can use critical thinking, the question posed in this research is: —What possibility is there for teachers to develop critical thinking in students with learning difficulties?

We must remember that we are not talking about a small number of students. The statistics offered by the site of Global Campaign for Education have estimated that 1 billion of people live with a disability and it is also estimated that 93 million of these are children. In the USA, in the report written by the National Center of Learning Disabilities, there are 2.4 million students with learning disability (LD), integrated in public schools, and who receive special education.

Students with learning disabilities are presented as students who have difficulties in the cognitive processes and learning strategies, which hinder them from moving forward in their academic career. The students that show difficulties in learning have low self-esteem, demoralization, deficiency in social skills, etc. Other disorders that individuals with difficulties in learning have are conduct disorders, oppositional defiant disorder, attention deficit, hyperactivity disease, and mental retardation. Students with learning disabilities are also deficient in metacognitive, or learning to learn skills, which involve checking, monitoring and planning (Torgesen, 01 January 1977). Although students with difficulty in learning have specific needs, referring to the deficiencies presented by their disorder (in writing, reading, text

comprehension, mathematical counting etc), it has been shown that they can acquire thinking skills if they are taught with the right support. Ruggiero (1988) records that even though critical and creative thinking have been associated with high level of intelligence and talent, they can also be part of the ordinary thinking processes of individuals with average intelligence. Ruggiero also states that the critical and creative skills can be taught to everyone with no exception (Ruggiero, 1988).

Programs for teaching critical thinking

Griffin (1995) lists in her thesis several projects and programs focusing on the teaching of thinking skills to students with learning difficulty among which:

A research by Valett (1986), aiming to increase thinking skill in a group of students with learning difficulties and deficiencies in cognitive processes, describes five programs oriented to the treatment of the thinking strategies, which include goal clarification, previewing, organization, questioning, imagining, predicting, checking results, humor, and self-monitoring techniques.

The Milwaukee Project, where special educators were focused in the development of the vocabulary, comprehension, prediction, critical thinking and concept evaluation, organization, and reasoning, for 40 children, whose mothers presented signs of mental retardation.

The Glendora Unified School District (1977) recruited students with learning difficulties and students with mental retardation in a program based on Guilford's Structure of Intellect Model (Guilford, 1967). The program included semantic problems with symbols and pictures as well as the development of the memory, evaluation, and convergent and divergent thinking.

The program included objectives in 5 fields:

- a) Study of feelings,
- b) Interpersonal relationships,
- c) Necessary steps toward meeting goals,
- d) Predicting consequences of actions and
- e) Applying a problem-solving model.

At the end of the program it was noted that many of the students with learning difficulties had developed cognitive skill.

Feuerstein (1980) developed a program called Instrumental Enrichment, that was designed to develop the cognitive abilities of slow learners, disadvantaged learners, and students with mental retardation, at the intermediate level. Researchers have successfully used this program to improve the problem solving skills of students with learning disabilities.

Groshong (1988) developed another program, created to facilitate the participation in groups and to give useful instructions for the development of the critical thinking and independent

learning in students with learning difficulties. Groshong organized a series of discussions about the Great Books and used a group of students with no difficulty in learning. Groshong concluded that the students with learning difficulties and students with special needs can acquire skills in listening, group relationship, and also skills in critical thinking, if they have direct instructions.

A research directed by Commeyras, Pearson, Ennis, Garcia, and Anderson (1992), aimed to promote critical thinking in students with learning difficulties through Dialogical-Thinking, and Reading Lessons (D-TRLs). 14 students with learning difficulties participated in the research among whom only 7 took part in D-TRLs. The skills of the students were evaluated before and after the training. The focus of the researchers was to develop skills in reasoning

and in the seeking and giving of explanations and clarifications. The study lasted for two months. At the end of this research it was observed, through the tests' results, that the group trained by the checking group did not present improvement in critical thinking, such as in the use of explanations or clarification and in the use of reasoning. However, when the researchers gave the students their results in the post-test period, without notes about the right or wrong answers, and they were asked to reason over their answers, the students were able to justify their wrong answers. The students did so by saying that their interpretation of the questions was different from the interpretation of those who created them. The researchers concluded that during the creation of the test they had underestimated the skills of the critical thinking of the students. Thus D-TRLs had helped in the development of the skill of critical thinking in the students that participated in the program.

Another program directed by Leshowitz, Jenkins, Heaton and Bough (1993), aiming to develop the skill in critical thinking in students with learning difficulties, presents positive results in the increase of the critical thinking skill in comparison with the verification group who were not trained. Middle school and high school students were selected to be part of the training program which foresaw to teach them the principles of the scientific reasoning.

The building of the student-teacher dialogue was used to activate students in an active process of critical investigation of the information brought by articles and magazines, applying the principles of the scientific method.

At the end of the program, the students presented improvement in the skills such as:

- a) identifying the principal claim made in an article or advertisement,
- b) graphing the relevant data,
- c) evaluating the claims made in the article and explaining their support or rejection of the claims based on data.

CoRT - Cognitive Research Trust, another program created by DeBono (1969), presents methods and means to help students with different skills, to use their skills effectively in the academic field as well as in everyday life situations.

The program foresees to aid even students with special needs and students in danger. In a study performed by Melhem & Isa (2013) the authors applied the program CoRT in 93 sixth grade students with learning difficulties in mathematics.

By comparing the results of the pre-test and post-test, the authors reached the conclusion that through the CoRT program skills of critical thinking are developed in students with learning difficulties. The authors also emphasized that the class environment where these students have been integrated has played an important role in the development of these skills.

In this article there were presented a small number of programs and studies created by different researchers, aiming at the development of the skill of critical thinking in students who have learning difficulties. In conclusion we can say that the development of the skill of critical thinking in these students is not an unachievable goal. If we cite Presseisen (1986),

—*The most basic premise in the current thinking skills movement is the notion that students CAN learn to think better if schools concentrate on teaching them HOW to do so* (p. 17).

The development of critical thinking in schools; Recommendations

To develop critical thinking in class, students need some time to express their ideas and to reflect on their answers. Time is an essential factor which affects the way ideas are expressed by students using words of their own, being clear, and reflective.

When there is no active inclusion in the thinking and learning process, there is a notable absence of critical thinking.

The development of the critical thinking requires an active approach by students as well as a specialized preparation by the teachers.

The thought is best formulated in an environment where ideas are respected and where the students are motivated to be actively included in the critical thinking.

The teaching methods in class that include the student in reflective thinking as well as in the exchange of ideas and opinions help them to participate in an active learning. Based on the studies and programs presented in this article, we conclude that there is a great need for specific programs built specifically for students with learning difficulties, to foresee the development of the skills in critical thinking. We can also conclude that the development of the critical thinking helps the students to identify and comprehend the cognitive strategies that aid the acquisition of other skills that students have difficulties or deficiencies in.

Based on these conclusions, we can recommend the creation of a special program in the teaching curricula and in the teaching methods, where it is foreseen the development of the skill of critical thinking even in students with learning difficulties.

References

- [1]. Banks, J. (1988). *Multiethnic education: Theory and practice*. Boston: Allyn and Bacon.
- [2]. Barbour, K. (2014). Transforming Special Education by Building Critical Thinking Skills. *The Partnership for 21st Century Skills*, 1 (4), 15.
- [3]. Bloom, B. S. (1956). *Taxonomy of Educational objectives: The classification of educational goals*. New York: Longmans, Green.
- [4]. Brown, A. L., & Palincsar, A. S. (1989). Guided, cooperative learning and individual knowledge acquisition. In L. B. Resnick, *Knowing, learning, and instruction: Essays in honor of Robert Glaser* (pp. 393-451). Hillsdale, NJ.: Erlbaum.
- [5]. Elder, L., (September, 2007). Defining Critical Thinking. Retrieved from:
- [6]. <http://www.criticalthinking.org/pages/our-concept-and-definition-of-critical-thinking/411>,
- [7]. 25/10/2014
- [8]. Feuerstein, R. (1980). *Instrumental enrichment: an intervention program for cognitive modifiability*. Baltimore: University Park Press.
- [9]. Griffin, Ann Jackson Felton, (1995). An analysis of critical thinking skills for students with learning disabilities in the fourth through sixth grades. (*Master's Theses*) San Jose' State University San Jose' Retrieved from: http://scholarworks.sjsu.edu/etd_theses/994
- [10]. Groshong, C. C. (1988). *Teaching Group Participation Skills to the Learning Disabled: A Key to Effective Mainstreaming*. Paper presented at the International Conference of the Association for Children and Adults with Learning Disabilities (Las Vegas, NV, February 24-27, 1988).
- [11]. Kagan, S. (1986). *Cooperative learning resources for teachers*. Riverside Ca.: University of California, Printing and Reprographics.
- [12]. LaFrance, E. B. (1995). Creative thinking differences in three group of exceptional children as expressed through completion of figural forms. *Roeper Review*, 17 (4), 248-252.
- [13]. Larsen, J. (2002). *The promotion of social acceptance of students with learning disabilities through friendship skill training and disability awareness*. Thesis (M.S.) California State University: Fullerton.
- [14]. Leshowitz, B., Jenkins, K., Heaton, S., & Bough, T. L. (1993). Fostering critical thinking skills in students with learning disabilities: An instructional program. *Journal of Learning Disabilities*, 26 (7), 483-490.
- [15]. Melhem, T. Y., & Isa, Z. M. (2013). Enhancing Critical Thinking Skills among Students with Learning Difficulties. *International Journal of Academic Research in Progressive Education and Development*, 2 (4), 151-169.
- [16]. Paul, R., & Elder, L. (2009). *The Miniature Guide to Critical Thinking Concepts and Tools*.
- [17]. Dillon Beach, Calif: Foundation for Critical Thinking Press.

- [23]. Presseisen, B. Z. (1985). *Thinking skills throughout the curriculum*. Philadelphia: Research
- [24]. for Better Schools.
- [25]. Presseisen, B. Z. (1986). *Critical thinking and thinking skills: state of the art definitions and*
- [26]. *practice in public schools*. Philadelphia, Pa: Research for Better Schools, Inc.
- [27]. Resnick, L. (1987). *Education and learning to think*. Washington, DC: National Academy Press.
- [28]. Roth, W.-M. (1990). Map Your Way to a Better Lab. *Science Teacher*, 57 (4), 30-34.
- [29]. Ruggiero, V. R. (1988). *Teaching thinking across the curriculum*. New York: Harper & Row.
- [30]. Sanders, N. M. (1966). *Classroom questions: What kinds?* New York: Harper & Row.