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CRITICAL THINKING SKILLS FOR PRIMARY EDUCATION: THE CASE IN LEBANON

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ABSTRACT

One of the fundamental tasks of the curriculum is to enable the learners have essential skills as well as acquire knowledge. Critical thinking, as one of the major thinking skills, is regarded as one of the 21st century skills that are to be covered in the education curriculum. However, the main challenge is how to teach thinking or critical thinking and how to stimulate students to reflect on their own thinking ways. In terms of education system and curriculum, the important point is that critical thinking cannot be transferred from a textbook, rather ignited from the mind. Critical thinking is not only about teaching students how to think but also training their minds to be elastic and active enough to think about, investigate and examine new and old information or facts they learn. This research has a qualitative research design. This study aims to investigate the opinions of primary school teachers with the help of the data obtained by face to face interviews and focus groups. The study group consists of primary school teachers who are willing to participate in this study. The primary school teachers are still teaching at their private and public primary schools in Lebanon. The findings are based on the themes and given under the subtitles.

Keywords: Primary education, thinking, critical thinking, thinking skills

INTRODUCTION

If individuals are asked to define thinking, most would agree that thinking is a mental activity that includes a set of other activities like planning, philosophical theorization, decision making, and problem solving (Greene 2014). For some scholars, thinking is the basis of all cognitive processes and its nature has an organized structure and it is goal-oriented. Also, thinking encompasses analysis and control of information that is received from the surrounding, therefore, thinking is a higher mental process where individuals deal with and analyse information. These activities occur by using abstract thinking, reasoning, imagining, problem solving, evaluation, and decision making, where thinking depends on the knowledge we possess. This knowledge is either represented in mental images or words (Murawski 2014). Further, according to Frensch and Funke (2005), culture is a determinant of how human beings think, how human thinking adds more than any other human ability to the development of culture and the growth of human life. Greene (2005) stresses that, intelligence and knowledge are complementary to each other whereas intelligence is knowing how to think constructively and brainpower means the ability to think in a logical way and to adapt thinking to a problem in hand.

According to Kelly (2015), there are nine thinking types, namely: critical thinking, analytical thinking, creative thinking, concrete thinking, abstract thinking, divergent thinking, convergent thinking, sequential (linear) thinking, and holistic (non-linear) thinking.

Creative thinking, known as thinking outside the box, is when individuals break from their old pre-determined thoughts and adopt new and innovative ideas. Creative thinking is often seen as combining or reinventing elements in a new and imaginative way. *Analytical thinking* on the other hand is breaking the components of a whole into its basic elements. It follows a logical structure and examines the relationship between parts of the whole. The third type of thinking is critical thinking. Critical thinking is an umbrella term of a number of skills. It constitutes the ability to evaluate or judge the credibility, validity and value of something. In addition, it involves the ability to reflect on and construct ideas, concepts, and theories. Additionally, critical thinking is not only restricted to those skills, but also it transcends it to exploring other outside elements that might influence coming up with conclusions. *Concrete thinking* is thinking specifically about ideas or objects where it constitutes the ability to understand or and apply knowledge. Concrete thinking is always literal and to the point. On the other hand, abstract thinking is using concepts to understand generalizations and connecting it to other items. *Divergent thinking,* or inside out thinking, is generating creative ideas through exploring different and possible solutions aiming to find an efficient solution. It involves combining data and facts together from different resources then applying knowledge and logic to make decisions or solve problems. *Convergent thinking* is assembling a number of different elements, views or ideas together are an organized and logical manner. Moreover, *sequential (linear) thinking* is the ability to process

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information in a step-by-step manner where a response to one of the steps must be obtained before moving to another step, while *holistic (nonlinear)* thinking is the ability to perceive the whole picture or identify the interrelations between the elements or components of an idea or concept. It is the expanding of thoughts in multiple directions, not just one direction, in addition to comprehending a system by examining its patterns.

After briefly examining what thinking is and its respective types, this article's aim is to focus on one of the thinking types, which is critical thinking, discuss what it is, its relation to education and the skills it encompasses. If readers want to go through definitions of critical thinking, they will come across more than one definition; generally, all revolve around the same concept. According to Richard Paul, the director of Research and Professional Development at the Centre of Critical Thinking, critical thinking is "mode of thinking, about any subject, content or problem, in which the thinker improves the quality of his or her thinking by skilfully analysing, assessing, and reconstructing it. Critical thinking is self-directed, self-disciplined, self-monitored, and self-corrective thinking" (Paul, 1992:3).

Further, according to Thinking Critically (2008), critical thinking is analysing ideas and assessing it against a person's pre-requisite information then formulating a judgment about it. Critical thinking aims to preserve a fair and impartial position about the idea. A person is considered a critical thinker when he/she constantly renovate their thinking in deliberate manner. A critical thinker examines a dilemma or a problem from different perspectives, explores approaches and generates many ideas prior to selecting a strategy or a course of action (Murawski 2014). Now, after narrowing down the research scope from what thinking is, to its type, then briefly defining and examining one of these types, which is critical thinking, some questions might arise to a reader's mind; can critical thinking branch to many types just like "thinking" does? How can we detect the relation between critical thinking and education?

According to a lecture from the Orientation Lecture Series, learning to Learn, the author answers these questions by clarifying the fact that students need to acquire interpretation, analysis, reasoning, and evaluation skills in order to display critical thinking. The author adds, students who acquire critical thinking skills are much able to attain better grades, become more independent on their instructors and textbooks to the extent where they are able to generate knowledge. Based on a lecture from the 3rd International Conference on Critical Thinking and Educational Reform (1985), critical thinking is meant to be at the centre and heart of the educational process and reform. The researchers assert that a person who thinks critically possesses a life-long-learning tool, which is their sharp mind, where they collect information, analyse it, synthesize more information and evaluate it. After discussing what critical thinking is, its importance to the educational field, it is time to take a magnified look at the types it encompasses.

According to the APA Delphi Report on critical thinking, the skills that encompass critical thinking are: interpretation, analysis, evaluation, inference, explanation and self-regulation (Facione, 1990). According to Facione (1990), inference is considering admissible information and concluding the outcomes that flow from ideas, concepts, questions…etc. it is identifying the essential features or elements of an idea or concept that are needed to make a reasonable deduction. Explanation is to articulate the outcomes of one's reasoning, methodologically explain this reasoning, and to express that reasoning in the form of effective arguments. The third critical thinking skill is evaluation. Evaluation is not only the assessment of the credibility of ideas, opinions… but also the evaluation of the strengths and relationships between ideas, concepts and beliefs. Further, self-regulation is the individual's ability to reflect on their cognitive activities, how it is conducted, what elements are related to it, and the results obtained, by applying skills of analysis and evaluation. In addition, interpretation is to understand and expresses the importance of a number of experiences, situations, ideas, concepts or opinions. Analysis is the skill of identifying the destined and actual inferential relationships between concepts, ideas, questions and beliefs.

The Importance of the Research

Teachers' effort in class is determined by their perspectives, views and beliefs on several educational concepts. It is the teachers' tasks to enrich and enlighten students' minds. An empty vessel cannot give life to a flower. Teachers have to have a deep sense of belief that they can up bring critical thinkers, whose task are not only to pass a class and earn a good grade, but to face life's problems, build a better future and empower generations and nations. When literature was examined, it is observed that critical thinking, its definition, skills…etc were previously studied, but no research that specifically focuses on teachers' perspectives and views on critical thinking in Lebanon was found. In this regard, this research study is believed to make up for this deficiency.

The aim of the study

This research aims to determine the views of primary school teachers regarding critical thinking in education. Therefore, the following questions are sought to be answered:

1- What are the teachers' views on critical thinking?

ISSN: 2687-1866

2- What are the teachers' views on the students' abilities to think critically?
3- What are the teachers' views on the importance of critical thinking in their lessons?

METHODOLOGY

This qualitative research uses traditional qualitative design of collecting data, mainly interviews and focus groups with teachers. This study focuses on the teachers' perspective about critical thinking and to which extent critical thinking skills are applied in classroom settings. The aim of the group discussion is to acquire knowledge about a particular topic by interviewing a group of people directly affected by the issue. In this research, group members discussed critical thinking as a type of thinking to determine the teachers' views on this concept, its role, how they use it, obstacles they face, and ideas they suggest improving the use of critical thinking skills in schools in Lebanon.

Data about the participants

Table 1. The table below provides information about the participants who participated in the research.

School	Participants	Degree	Subjects Taught	Experience
Al Rashediye School (Public School)	G.I	Dar Al Moalemeen*	Math and Geography Grades: 1, 2 and 3	30 years
	B.S	Dar Al Moalemeen	Geography and Civil Education Grades: 5 and 6	34 years
	J.D	Dar Al Moalemeen	Arabic and Geography Grades: 3 and 4	34 years
	D.A	Faculty of Education	Math and Science Grades: 4, 5 and 6	5 years
O.N.S (Public School)	A.K	Faculty of Education	Science Grade: 4,5, and 6	4 years
	M.S	Faculty of Education	Math and Science Grade: 1	2 years
	S.H	BA in Mathematics	Math Grade: 4	4 years
	A.N	BA in English Literature	English Grade: 5,6	10 years
Al Iman School (Private School)	F.B	English Literature + Teaching Diploma	Math and English Grade: 3	4 years
	M.T	Dar Al Moalemeen	Math Grade: 1 – 2 + coordination	28 years
	S.K	BA in Mathematics	Math Grade: 2 – 3	6 years
	H.B	BA in Arabic Literature + Teaching Diploma + MA in Education	Arabic and Science Grade: 3	17 years
	N.I	BA in Arabic	Arabic and Science Grade: 3	11 years
	A.S	English Literature + Teaching Diploma	English + coordination Grade: 4	18 years
	D.B	BA in English Literature	English and Math Grade: 2	17 years
Al Ofoq Al Jadeed High School (Private School)	A.Si	Faculty of Education	Math and Science Grade 4 + Coordination (Gr. 1 – 2 – 3)	17 years
	F.S	BA in Arabic Literature	Arabic Grade: 1, 2 and 3	16 years

ISSN: 2687-1866

	S.K	BA in English Literature	English Grade: 1, 2 and 4	8 years
	G.A	BA in Arabic Literature	Arabic Grade 1 and 2	20 years
	M.S	Faculty of Education	Math and Science Grade: 1, 2 and 3	8 years
	M.K	BA in English Literature	English Grade: 1	13 years
	H.K	Geography + Arabic Literature	Geography Grade: 2 and 3	20 years
	A.B	Faculty of Education	English and Science Grade: 3	10 years

It is worth noting that Dar Al Moalimeen was a governmental institution that was established in 1953 and affiliated to the Ministry of Education until the Educational Center for Research and Development in 1972 (public institution) was established. Dar Al Moalimeen was responsible for the preparation of teachers for the basic education stage. The conditions of acceptance of teacher-students ranged from the acquisition of the "high elementary certificate" to successfully completing the first year of university.

Data collection

A qualitative research approach is the most applicable method for this study. A set of focus groups were held in 4 different schools in the Lebanese city of Saida. Two public and two private schools were targeted by the researcher who was granted an approval from all the schools' administrations to perform the focus groups. The main purpose behind using the focus groups was to acquire information about the teachers' views, beliefs, experiences, opinions and thoughts related to critical thinking.

The focus groups were held either in the teachers' room, principal's or coordinator's rooms. All the participants wilfully volunteered to participate in the discussion and the researcher asked them several questions, acquired approval to record the discussion, and wrote notes.

Data analysis

The interviews were taped recorded for accuracy with a signed approval obtained from the interviewees. The interviews were transcribed, translated to English, coded and summarized for analysis and investigation. Transcripts were carefully read and data was phrased and grouped into themes. The themes were created based on a series of prepared and improvised questions which depended on how the discussion was directed during the focus groups. The prepared questions were approved by the researcher's supervisor and edited to comply with the research's aims and literature. 23 teachers participated in 4 focus groups where only 19 of which were actively involved in the group discussions. The average number of teachers' experience was 14.5 years. The initial letter of the name of each participant was used to mark their ideas. The researcher acted as a moderator and guided the discussion.

FINDINGS AND DISCUSSION

According to the transcripts and the summarized information from the focus groups, data was phrased and grouped into categories or themes according to the teachers' answers.

What is critical thinking?

Participant F defined critical thinking as "the student's ability to think thoroughly, express and justify their thoughts and opinions." Participants A, G, and S from another school defined critical thinking as the students' ability to use higher level thinking skills to analyse and classify information or ideas. On the other hand, from a different focus group, participants M and S's opinions were different as they consider critical thinking to be the students' ability to connect concepts to their real and daily life. "Critical thinking is thinking deeply through different strategies and methods." Participants S and A instead gave examples about critical thinking as the students' ability of thinking through reading a text or solving a problem. "Students can reach an idea starting from one thought and expand it to reach more deep thoughts", while participant A

ISSN: 2687-1866

considered critical thinking as the students' ability to solve problems a systematic way based on their prior knowledge. "Sometimes they are required to find a hypothesis and test it."
It is worth mentioning that some teachers were confused at first to articulate in words a clear and concise definition of critical thinking. However, in general their answers were similar and came close to each other while some of them expressed the definition with examples.

Skills that comprise critical thinking

Majority of the teachers considered listening, communication, analysis, classification, deduction and choosing relevant information from a text or problem to be the main skills that constitute critical thinking. However, participants from one public school listed respect and tolerance as skills that encompass critical thinking "tolerance, acceptance of other people's opinion and solving activities".
Not all teachers gave correct and thorough answers. They were required to name a "skill" but instead they named an "activity" or a "trait".

Critical thinking's role in education

Participant D stated that critical thinking is important since "it expands the students' horizon and thinking level. It motivates the students to learn more, and to go beyond the book at hand". Further, participants F, S and D agreed that critical thinking has a major role in developing the students' higher level thinking skills. "Students go beyond the text they read and beyond the question they hear. Critical thinking helps the students in their real life situations and problems. It builds their character and helps them in their social life. Students understand and analyse themselves to start with, in addition to their behaviours and thoughts. They can also understand and analyse the reaction of the people around them." Participants A and S agreed with other participants and gave another perspective about the significant role critical thinking plays; "it shapes the learners' personality and equips them with skills needed to face real life situations and problems". "Critical thinking strengthens the students' personality and confidence and enhances their thinking skills".
All interviewed participants realized and agreed on the significant role critical thinking plays in education.

Use of critical thinking skills in classrooms

All the participants gave examples about how they use critical thinking in their classes: Asking questions and not any questions, why, how, what if, how did you know, what would you change, what do you think of debate, linking concepts to daily life. Asking a question to a given answer and using sequential order. Participants' answers from a different focus group came similar and as follow: Guess the riddle, correct the mistake, What-If questions, justify your answer, presentation, research, Notice-wonder strategies, visualizing, finding the answer, making predictions, Question Formulation Technique, Inquiry Based Learning, Accountable Talk, debate, dialogue and discussion, Six Hats Strategy, Concept Mapping, problem solving and justification, and Growth Mind-set Technique.
Teachers' answers from all focus groups were positive and reflected the strategies and methods they use in their classes. Teachers use these activities to enhance the students' thinking level in general and not specifically to focus on critical thinking skills. However, it is worth mentioning that teachers in private schools use techniques and strategies way more than teachers in public schools.

Teachers' views on students' abilities to think critically

Participant A.Si stated that students' potentials are unlimited. "We have to trigger their thinking through different ways and techniques. We should always trust the learner." While participant F stated that it all depends on how teachers deals with their students if they guide them by a series of sequential questions, guide their thinking, giving them clues or not. Participants G, M, A and S expressed their opinion: "students' abilities are different but teachers need to improve and sharpen those abilities through different strategies." However, all participants agreed on the following in general: "students have different abilities and skills. They all have the ability to think but individual differences are also present. Some students have higher level thinking skills more than others. Teachers need to provide clues and hints to students. Sometimes the teacher has to ask a series of sequential questions to aid the students in their way of thinking". On the other hand, it is worth mentioning that very few teachers from public schools had an opposite and negative perspective stating that: "Students need help. Alone they cannot give an answer; they need the teacher's help all the time."
In general, teachers' answers from all focus groups came consistent, positive and reflected their confidence in their students' abilities, however, that is not the case in some public schools where some teachers feel frustrated, discouraged, or lack some faith and confidence in their students.

ISSN: 2687-1866

Obstacles that hinder the improvement of critical thinking skills

Almost all participants had similar responses and expressed the great obstacles they face. Participants A and C stated: "Students' social status is the greatest obstacle we face. In public schools, sometimes students come from poor or underprivileged families. They are not taken care of properly also, not all parents check their children's homework since some of them are either illiterate, or working, or neglectful". Participants Ai and D elaborated: "Students' parents focus on the grade their child obtains not how they think or sometimes they teach their children in a wrong or unfruitful way". Participants H and F expressed the obstacles they face: "Students' environment plays an important role in either improving their children's thinking skills or not. Generally speaking, some parents lack the needed educational awareness". On the other hand, participant D highlighted some of the curriculum problems she faces: "for example in math books some high level thinking questions are present, but that is not the case with science books for, however, teachers themselves can ask questions that improve the students' thinking level." In short, all teachers agreed on the following: not all teachers are qualified or trained enough to work on the students' higher level thinking skills. Learners' social background, parents' awareness, students' level, curriculum's nature, lessons contents, language barrier, students' behaviour and concentration level, schools' equipment, teachers' need for intensive or continuous training, and the overloaded curriculum are all problems they listed. Moreover, in public schools, participants M, S, and A stated that the students' number in every class which might reach 37 students is the main hindrance to improving critical thinking skills as teachers do not have the time they need to reflect, guide and monitor all the students. They also mentioned parents' negligence, lack of students' awareness and students' nature (hyperactive students, students with special cases etc.).

Teacher's role in incorporating critical thinking skills in the classroom

Participants' answers were positive, common and reflected the significant role teachers play in incorporating critical thinking skills in classes. Teachers' responses came as follow: teachers should motivate and guide the students' thinking and start from zero to build fine thinking skills. Further, teachers should use situation analysis and what if questions. They should encourage the students to express themselves outside school limits and connect what they learn to their real life. Participant D regards one of the teacher's most essential roles is to motivate the students to think more and on deeper levels. "Also we should motivate the students to rise above their society that sometimes hinders their improvement. The teacher should know how to ask questions that trigger the students' thinking and expand their thinking horizon. Not all students have the same level of higher thinking skills, therefore, teachers must guide low-achieving students with extra worksheets and support." All the participants agreed on the teacher's critical role in improving the students' level of thinking. Teachers must provoke their students' thoughts, ask them enlightening questions and guide them through the lessons.

Suggestions to improve the use of critical thinking skills

Participants' answers were common and came as follows: create up-to-date workshops for teachers, revise and update the curriculum, include new teaching-learning strategies in classrooms, decrease the curriculum content and revise it, decrease the number of students in large classes, use PYP technique and integration of subjects, create afterschool math or language clubs and create parents and student awareness campaigns. However, participants G, B and J elaborated on the problem with curriculum stating that that the curriculum needs to be improved since it has a number of problems. "Sometimes it is not directly related to the students' lives, society, or environment. Reading lessons are too long and hard. Some lessons are not related at all to the students' lives." On the other hand, participant D suggested that they can use other books, for instance, videos, situation analysis, problem solving, and they can try to merge the students who have good higher level thinking skills with other students who sometimes fail to analyse or evaluate information. All in all, since almost all the teachers seem to suffer from the same problems, their suggestions were similar and revolved around several points out of which they agreed that if the current curriculum is revised or a new up-to-date curriculum is established then not only the students' critical thinking skills will improve, but the whole teaching-learning process will develop.

CONCLUSION AND SUGGESTIONS

Education in the 21st century; knowledge, skills, character and metacognition. Skills relate to the use of knowledge on one hand and to character on the other. Students' skills that are needed for the 21st century are what is called with the 4Cs; creativity, critical thinking, communication and collaboration. However, back to the core definition of critical thinking, an individual is considered a critical thinker when they use a disciplined process of applying, synthesizing and evaluating gathered information, keeping in mind that critical thinking comprises a vast range of mental activities (Bialik & Fadel 2015). In fact, the focus group discussions indicate that the theoretical concept of critical thinking and the skills that constitute it are somehow vaguely understood to some teachers. Further, teachers are applying critical thinking in their classes but not

ISSN: 2687-1866

under a general label or title as “critical thinking”. Teachers apply the principles of critical thinking but not to the extent that is defined or discussed in the review of the literature. Additionally, teachers’ answers reflect a positive atmosphere about the status of teaching critical thinking, but still not enough compared to the characteristics of critical thinking that is mentioned in the literature section of the research. In General, teachers’ understanding to critical thinking, it’s role in education, the obstacles they face and their suggestions came consistent to a certain extent, however, some discrepancies were recorded in public schools especially with teachers who entered Dar Al Moalimeen when the faculty of education had not been established yet in the Lebanese republic.

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