

## The Use of Critical Thinking as a Skill in the 21<sup>st</sup> Century Teaching-Learning Process

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### Abstract:

The capacity to successfully, and positively engage with the cognitive capacities of critical thinking has become the benchmark of employ ability for many diverse industries across the globe and considered critical for the evolution of informed decisive global citizenship. Despite this, educational systems in several countries have developed policies and practices to authentically participate in the discussions, debates, and evaluative thinking that serve to improve the skill set and mindset of critical thinkers. This writing examines the status of critical thinking in different contexts across the globe as reflected in educational policies and academic experiences as a preface to investigating actual classroom practices and possible impacts the support of critical thinking skills may have on the potential development of the global citizens of the future.

**Keywords: critical thinking, educational, context**

## INTRODUCTION

Preparing students to be able to think critically is a goal of many professionals in the educational process and also a quality sought by employers of university graduates. Students' ability to think critically has become a major concern among educators and psychologists as they try to study the factors influencing the acquisition of thinking skills. Therefore, Critical Thinking skill is considered an important variable in the process of students' learning. This study attempts to examine the predictive relationships between student dispositions and their abilities to think critically. The ability to think critically is important among students in higher education as the content of education at this level requires higher-order thinking such as the ability to apply critical evaluation and give evidence for their opinions. Students seem satisfied with their initial interpretations of what they have read and seem genuinely puzzled at requests to explain or defend their point of view. As a result, responses to assessment items requiring explanations of criteria, analysis of texts, or defense of a judgmental point of view were disappointing. Few students could provide more than superficial responses to such tasks, and even the "better" responses showed little evidence of good problem-solving or Critical Thinking skills. However, Critical Thinking is often seen as a universal goal of higher education.

### 1. The Theoretical Framework

The literature on Critical Thinking has roots in two academic disciplines: philosophy and psychology (Lewis & Smith, 1993). Sternberg (1986) has also noted a third Critical Thinking strand within the field of education (cited in Lai, 2011). These separate academic strands, as Lai (2011) claims, have developed different approaches to defining Critical Thinking from different perspectives: the philosophical approach, the cognitive psychological approach, and the educational approach (Lai, 2011). The writings of Socrates, Plato, Aristotle, and more recently, Matthew Lipman and Richard Paul, exemplify the philosophical approach. This approach focuses on the hypothetical critical thinker, enumerating the qualities and characteristics of this person rather than the behaviors or actions the

critical thinker can perform. Those working within the philosophical tradition also emphasize qualities or standards of thought. For example, Bailin (2002) defines Critical Thinking as thinking of a particular quality— essentially good thinking that meets specified criteria or standards of adequacy and accuracy. Further, the philosophical approach has traditionally focused on the application of formal rules of logic. Two of the definitions of Critical Thinking emerged from the philosophical tradition include those proposed by McPeck (1981) and Ennis (1985) respectively: —the propensity and skill to engage in an activity with reflective skepticism<sup>1</sup> and —reflective and reasonable thinking that is focused on deciding what to believe to do<sup>2</sup>. Conversely, the cognitive psychological approach, particularly those immersed in the behaviorist tradition and the experimental research paradigm, tends to focus on how people think versus how they could or should think under ideal conditions. Furthermore, rather than defining Critical Thinking by pointing to characteristics of the ideal thinker or enumerating criteria or standards of good thought, those working in cognitive psychology tend to define Critical Thinking by the types of actions or behaviors critical thinkers can do; they more or less take a reductionist procedure. Typically, this approach to defining Critical Thinking includes a list of skills or procedures performed by critical thinkers (Lewis & Smith, 1993). The third approach to Critical Thinking is educational. Those working in the field of education have also participated in discussions about Critical Thinking. Benjamin Bloom and his associates, as Lai (2011) argues, are included in this category. Their taxonomy for information processing skills is one of the most widely cited sources for educational practitioners when it comes to teaching and assessing higher-order thinking skills. Bloom's taxonomy is hierarchical, with —comprehension at the bottom and —evaluation at the top. The three highest levels (analysis, synthesis, and evaluation) are frequently said to represent Critical Thinking<sup>3</sup>.

## **2. What Is Critical Thinking?**

Critical Thinking movement has emphasized is the idea that specific reasoning skills or strategies undergird the curriculum as a whole. In a sense, Critical Thinking refers to the use of cognitive

skills or strategies that increase the probability of a desirable outcome. The idea of rationality is the cornerstone of Critical Thinking. To Critical Thinking, the critical person is something like a critical consumer of information; he or she is driven to seek reasons and evidence. To do that, one must be mastered certain skills of thought to be able to scaffold his/her ideology. Halpern (1999) maintains, —The ability to judge the credibility of an information source has become an indispensable Critical Thinking skill that needs to be deliberately and repeatedly taught in college and earlier<sup>4</sup>. Accordingly, Paul (1994) distinguishes between a weak and strong sense of Critical Thinking. For him, the former means that one has learned the skills, while the latter means that one has incorporated these skills into a way of living in which one's assumptions are re-examined and questioned as well. Paul believes that, because Critical Thinking allows us to overcome the sway of our egocentric and socio-centric beliefs, —it is essential to our role as moral agents and as potential shapers of our nature and destiny<sup>5</sup>. Critical thinking is an abstract or unknown concept to students. Some students misinterpret critical thinking as criticising or oversimplifying it, giving two viewpoints. In terms of practice, students constantly request a demo or exempla as a formula for their assignments, although this will not always lead to successful outcomes because it is written for a specific purpose or argument.<sup>6</sup> Accordingly, Critical Thinking is seen as an essential skill for success in society and has been heralded as a need in achieving goals in most curriculum analyses.

### **3. Defining Critical Thinkers?**

There are lots of questions obsessing every intellectual mind: Why are some people better than others at solving problems and making decisions? Why are some people better than others at supporting their beliefs and actions with good reasons? The answers may seem obvious. Some people are cleverer than others. But is being clever enough? For the latter question, it seems some people have more knowledge or are more eloquent than others. Still, two equally intelligent people can be equally articulate and knowledgeable, but not be equally good thinkers. If only one of them is thinking critically, that one will be better at analyzing and evaluating facts and

opinions, sources and claims, options, and alternatives. Accordingly, Carroll (2004) maintains:

The critical thinker will be a better problem-solver and better decision-maker. When we're thinking critically, we're using our knowledge and intelligence effectively to arrive at the most reasonable and justifiable position possible. When we're thinking uncritically—no matter how knowledgeable we are—we'll make unreasonable decisions and arrive at unreasonable beliefs or take unjustifiable actions, unless we are lucky and end up making the right choice for the wrong reasons!<sup>7</sup>

Accordingly, further adds that a critical thinker is neither dogmatic nor gullible. The most distinctive features of the critical thinker's attitude are open-mindedness and skepticism. Being open-minded means being willing to examine issues from as many sides as possible, looking for the good and bad points of the various sides examined. A critical thinker must cultivate a sense of healthy skepticism along with an ability to be open-minded, especially when considering viewpoints contrary to one's own. Critical Thinking does not mean being argumentative or critical of others. However, too much skepticism leads to doubting everything and committing oneself to nothing; too little skepticism leads to gullibility. Ultimately, to function in the world, we have to accept the probability that at least some things are as they seem. This requires trust. If we can analyze the basis of what we take as true, we are more able to discern when it is reasonable to be trusting and where it is useful to be skeptical. Ennis (1987) identified a range of dispositions and abilities associated with Critical Thinking. These focused on: the ability to reflect skeptically; and the ability to think in a reasoned way:

Skepticism in Critical Thinking means bringing an element of polite doubt. In this context, skepticism doesn't mean you must go through life never believing anything you hear and see. That would not be helpful. It does mean holding open the possibility that what you know at a given time may be only part of the picture.<sup>8</sup>

Thus, Cottrell implies a Critical Thinking is a tool for a critical thinker to use skepticism and doubt constructively so that he/she can analyze what is before him/her.

#### **4. Critical Thinking Evolution**

Halpern proposes a four-part model of instruction for Critical Thinking. Not surprisingly, it includes two parts we have sparsely discussed—instruction in the skills and dispositions for Critical Thinking—but it also includes structure training and metacognitive monitoring. With structure training, students are taught to create retrieval cues from the structural aspects of a problem or an argument so that when these structural aspects are present in the novel context, they can serve as cues for retrieval. Metacognition is usually defined as —what we know about what we know. In fact, metacognitive monitoring is determining how we can use this knowledge to direct and improve the thinking and learning process. While engaging in Critical Thinking, students need to monitor their thinking process, checking that progress is being made toward an appropriate goal, ensuring accuracy, and making decisions about the use of time and mental effort. To enhance Critical Thinking, students need to develop the ability to critically evaluate the work of others.

#### **5. Critical Pedagogy**

In the language of Critical Pedagogy, the critical person is empowered to seek justice, to seek emancipation. Not only is the critical person adept at recognizing injustice but, for Critical Pedagogy, that person is also moved to change it. Here Critical Pedagogy wholeheartedly takes up Marx's Thesis, that philosophers have only interpreted the world, in various ways; the point, however, is to change it. For Paulo Freire (1985), Critical Pedagogy is concerned with the development of "critical consciousness"<sup>9</sup>. Freedom, for Freire, begins with the recognition of a system of oppressive relations, and one's place in that system. The task of Critical Pedagogy is to bring members of an oppressed group to a critical consciousness of their situation as a beginning point of their liberatory praxis. Praxis involves theorizing practice and practicing theory. Critical Pedagogy considers a continuous relationship

between practice and theory which involves a constant give-and-take of practice by theory and theory by practice. As Freire eloquently notified, —Cut off from practice, theory becomes a simple verbalism and separated from theory, practice is nothing but blind activism<sup>10</sup>.

The fundamental aspect of Critical Pedagogy is the sharp and meticulous distinction that is made between the banking system of education and problem-posing education. The banking system of education sees students as empty vessels waiting to be filled with information by knowledgeable teachers.<sup>11</sup> Students are viewed as passive sponges waiting to soak up facts. Teachers in this model are viewed as —bank-clerks who make deposits into empty students. The banking system of education is a mechanistic conception of education. It fits well with the assumptions of behaviorist learning theories (Monchinski, 2008). The two main characteristics of the banking system of education could be defined as that the teacher knows everything and the student knows nothing and the teacher talks and the students listen. In fact, in a banking concept of education, a —culture of silence exists. In these classrooms, students feel what they say isn't or won't be considered important. This may lead to —mutism where students in classrooms avoid dialogue in favor of becoming silent. Mutism and a culture of silence signify oppression and dehumanization in classrooms. On the other hand, in direct opposition to the banking system of education, problem-posing education as one form of the realization of Critical Pedagogy in a classroom context encourages Critical Thinking. One of the teachers' roles in problem-posing education is to —problematize situations by presenting to students situations with which they are familiar but in a way that makes them think about those situations in new ways.

## **6. Critical Thinking and Critical Pedagogies**

Critical Thinking and Critical Pedagogy share two features: The concept of criticality and dialogical thinking. Criticality requires one to do something, whether that something refers to seeking reasons or seeking social justice. For Paulo Freire, criticality requires praxis— both reflection and action, both interpretation and change. As he puts it, "Critical consciousness is brought about not through intellectual

effort alone but through praxis— through the authentic union of action and reflection"<sup>12</sup>.

Another feature that these two—critical theory and Critical Pedagogy— share is what Paul (1983) called dialogic thinking' which is inherent to Critical Thinking. Nevertheless, regarding Critical Pedagogy, the social dimension of dialogue is emphasized within Critical Pedagogy: dialogue occurs between people, not purely as a form of dialogical thought. Here again, Critical Pedagogy focuses more on relations between individuals, whereas Critical Thinking focuses more on the individuals themselves. To better appreciate the concept of dialogue within Critical Pedagogy, let me put it another way, being in contact with others is one absolute necessity for having a dialogue. This contact, of course, may indirectly involve others—the so-called dialogic thinking. However, Vygotsky claims that the development of such capacities for individuals necessarily involves social interactions as well. Interaction is valued as a vehicle for developing, through mentoring, the Critical Thinking skills of students. Paul addresses this point, but it does not play the central role in his theory that it does for Freire and other Critical Pedagogues. The method of Critical Pedagogy for Freire involves, using his phrase, "reading the world" as well as "reading the word" (Freire & Macedo 1987). Dialogue is essential to the implementation of Critical Pedagogy in the everyday classroom. For dialogue to be a method of true knowledge, the knowing subjects must approach reality scientifically to seek the dialectical connections which explain the form of reality. In this important regard, Burbules and Berk (1999) hold Critical Pedagogy and Critical Thinking arise from the same sentiment to overcome ignorance, to test the distorted against the truth, and to ground effective human action in an accurate sense of social reality.

## **7. Disposition and Critical Thinking**

What kind of a person would be apt to use their Critical Thinking skills? The experts poetically describe such a person as having —a critical spirit. Spirit can be defined as —an inclination or tendency, mood or emotional state<sup>13</sup>. Spirits can denote a disposition, affect, or



frame of mind, i.e. in high or low spirits. Having a critical spirit does not mean that the person is always negative and hypercritical of everyone and everything. The experts use the metaphorical phrase critical spirit in a positive sense. By it they mean —a probing inquisitiveness, a keenness of mind, a zealous dedication to reason, and a hunger or eagerness for reliable information<sup>14</sup>. Therefor, Facione holds, —A critical spirit suggests a positive effect that transcends normal thinking and can assist us in transforming our thinking<sup>15</sup>. Also, about the importance of disposition, Halpern claims:

It is not enough to teach college students the skills of Critical Thinking if they are not inclined to use them. Critical Thinking is more than the successful use of the right skill in an appropriate context. It is also an attitude or disposition to recognize when a skill is needed and the willingness to exert the mental effort to apply it.<sup>16</sup> Sears and Parsons (1991) call these dispositions the ethic of a critical thinker<sup>17</sup>. Accordingly, lazy or sloppy thinkers may have a large repertoire of Critical Thinking skills but not be inclined to use any of them. No one can develop expertise in any area without engaging in the effortful processes of thinking<sup>18</sup>. Thus we need to find ways to make students value good thinking and the work that is needed to achieve that goal.

Critical Thinking is best developed through an engagement with different areas of knowledge rather than as an autonomous skill to be taught in itself. However, teaching content and skills is of minor import if learners do not also develop the dispositions or inclination to look at the world through a critical lens (Burbules, & Berk, 1999). Thus, Critical Thinking in this way requires a critical person to have both the capacity and the disposition to seek reasons, truth, and evidence. Dispositions, unlike skills, cannot be taught; they can only be cultivated through such activities as modeling (Reece, 2002). A Critical Thinking disposition suggests a mind frame or inclination to use Critical Thinking.

Critical thinking dispositions include a willingness to take a position and defend it, showing creativity, flexibility, perseverance, reflection, and maturity in judgments, and being truth-seeking,

systematic, and showing maturity in judgments (Facione, 1990). These have also been described as critical thinking indicators which also include self-awareness, genuineness, and self-discipline (Alfaro-LeFevre, 2004). Furthermore, Critical Thinking is dependent upon a person's disposition to use it (Paul, 1983). Disposition to think critically can be defined as consistent willingness, motivation, inclination and intention to be engaged in Critical Thinking while reflecting on significant issues, making decisions, and solving problems. According to Zoller, Ben-Chaim, and Ron (2000), a student's disposition to think critically is a necessary pre-condition for Critical Thinking and greatly affects Critical Thinking capability. Experts continue to agree that Critical Thinking includes the dimensions of skill and disposition.

Teaching students to think critically must include allowing them to come to their conclusions. Implicitly, a teacher should scaffold students so that he/she can provide an effective program for developing Critical Thinking which creates a culture of thinking in the classroom. To do that, (1) teachers' programs should provide models of good reasoning behavior. The purpose of the model's criterion is to make sure that students are provided with exemplars of what thinking dispositions look like in practice; (2) the program should also provide direct explanations about the purpose, concepts, and methods of good reasoning. In other words, students should be told why good reasoning is important, and directly taught some key reasoning concepts and moves; (3) a program for teaching reasoning should provide plenty of opportunity for peer interaction around reasoning. These are interactions in which students reason together, discuss reasoning with one another, evaluate reasoning together, and so on. The purpose of this criterion is to bring the thinking disposition alive for the student by anchoring it in meaningful interpersonal interactions; and (4) last but certainly not least, the program should provide plenty of opportunities for formal and informal feedback around thinking dispositions. Through teacher feedback, peer feedback, and self-feedback, students should learn about the strengths and weaknesses of their reasoning behavior. Furthermore, 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.

### **8. How to Enhance Students' Critical Thinking**

All education consists of transmitting to students two different things: (1) what to think and (2) how to think. We do an excellent job of the former; however, we have failed to teach students to think critically about the content presented to us (Schafersman, 1991). If we do not teach students how to think critically, we implicitly lead them to harmful thinking—notably, illogical thinking and emotional thinking. The former is realized as fallacious reasoning supported by inadequate or unreliable reasoning, and the latter is emotional thinking which relies on emotions to search for and discover truth or knowledge. Critical Thinking involves that one rejects opinions and conjectures that are wrong.

It is indisputable that children are not born with the power to think critically. It is a learned ability that must be taught. Humans are conditioned from birth to follow authority figures and not to question them as the goal of education is to instill traditional values like respect for authority, perseverance, fidelity to duty, consideration of others, and practicality. Such conditioning is done by parents and teachers using a wide variety of positive and negative reinforcement techniques. The result of such conditioning is in contrast with the thesis of both scientific investigation and Critical Thinking. To develop the ability to think critically, the following strategies are suggested: (1) annotating, which refers to the underlining keyword, writing comments, making questions in the margins, making notes of anything that strikes you as interesting, bracketing important parts, or highlighting the important parts; (2) previewing which helps one to have a preconception of what the text is about and how it is formatted. Thus, a critical thinker is suggested to skim the text and take a look at the pictures (if provided), and titles of the passage to grasp a tacit understanding of the text; and (3) contextualizing refers to the notion that when one reads a text, he/she must read it from his/her lens. Thinking will be critical if the students provide a link

between what is in their background and what is in the text. In effect, this implies the communicative perspective that meaning does not reside in the text but in the mind of the students. We believe these three strategies can be consolidated if they are accompanied by making Socratic questions on the part of students; and reinforcing the students to express their thoughts. At first steps, the role of a teacher, as a scaffolder in classroom interaction, is pivotal. For learners to be taught to be critical thinkers, teachers should help them to voice their words; that is, let them talk from their vantage points. Gradually, teachers can stick to the margin and act as a facilitator of the process of learning. Here, Socratic questioning is gradually instilled by teachers. Socratic questioning can be used to pursue thoughts in many directions and for many purposes, including exploring complex ideas, getting to the truth of things, opening up issues and problems, etc. The art of Socratic questioning is intimately connected with Critical Thinking because the art of questioning is important to the excellence of thought. What the word "Socratic" adds to the art of questioning is systematicity and depth in assessing the facts and opinions. Both Critical Thinking and Socratic questioning share a common end. Both are in their pursuit of meaning and truth. In a nutshell, in teaching, teachers can use Socratic questioning for at least two purposes : (1) to help students begin to distinguish what they know or what they do not know; (2) to foster students' abilities to ask Socratic questions, to help students acquire the powerful tools of Socratic dialogue, so that they can use these tools in everyday life. To this end, teachers can model the questioning strategies they want students to emulate and employ. Critical Thinking through the employment of Socratic questioning teaches students to dig beneath the surface of ideas. It teaches us the value of developing questioning minds in cultivating deep learning. In the same line, some of the Socratic questions that if cautiously employed will certainly help students develop their Critical Thinking are as follows: (1) getting students to clarify their thinking e.g., 'Why do you say that?'; (2) challenging students about assumptions, e.g., 'Is this always the case?'; (3) alternative viewpoints and perspectives, e.g., 'What is the counter argument for?', and the most meticulous one (4) question the question e.g., 'Why do you think that I asked that question?'

## 9. CONCLUSION

Critical Thinking is best understood as the ability of thinkers to take charge of their thinking. This requires that they develop sound criteria and standards for analyzing and assessing their thinking and routinely use those criteria and standards to improve its quality. Moreover, it is a valuable skill that, once learned, can be applied in many different disciplines; however, researchers have contended that having mere skills doesn't guarantee Critical Thinking. It is an attempt to make a distinction between facts and opinions, it also decides rationally what to or what not to believe. Critical Thinking involves, in part, the attitude of being disposed of. The research indicated that there is a need for both skills and dispositions in curriculum models. Dispositions require students to be internally motivated or better said be scaffolded by their teacher so that they can think critically. We believe educational and professional success requires nurturing one's consistent internal willingness to think as well as developing one's thinking skills. To do this, the teacher must provide students with as many models, opportunities, exemplars, and explanations as possible to help them operationalize their skills. Having the mere skills to think critically is not enough. The teacher should find ways to make students willing and disposed to think critically.

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