

Strategies to develop critical thinking



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Strategies to Develop Critical Thinking Introduction 1. The issue of developing critical thinking skills in students was primarily derived from the work of Benjamin Bloom who identified six levels of cognitive functioning, with each subsequent level indicating higher cognitive ability. Knowledge focuses on remembering and reciting information. Comprehension focuses on interpreting and comparison of previously learned information.

Application focuses on applying acquired knowledge, techniques, and rules in such a way as to foster solutions to a problem.

Analysis involves the use of critical thinking skills to break down information into parts and understanding how each part relates to the whole. An example would be categorization. Synthesis involves the use of critical thinking skills to form a new and original integration of the whole. This is evidenced by students finding alternative solutions to a given problem.

Evaluation is focused on using critical thinking skills to present and defend conclusions by making judgments, testing the legitimacy of the conclusion, and supporting with fact-based evidence.

Critical thinking is said to take place during the Analysis to Evaluation range of Bloom's taxonomy. To provide the greatest benefit to students, teachers should provide many opportunities for students to engage in the upper levels of Blooms taxonomy, in the range where critical thinking takes place. While most teachers agree that the development of critical thinking skills is an important part of the learning process, few have a clear conception of what exactly it is, or how it should be taught, or methods of its assessment.

The various definitions of critical thinking (CT) illustrate an individual who is actively engaged in the thought process. Not only is this person evaluating, analyzing, and interpreting the information, he or she is also analyzing inferences and assumptions made regarding that information. The use of CT skills such as analysis of inferences and assumptions shows involvement in the CT process. These cognitive skills are employed to form a judgment. Unfortunately, not everyone uses CT when solving problems.

Therefore, in order to think critically, there must be a certain amount of self-awareness and other characteristics present to enable a person to explain the analysis and interpretation and to evaluate any inferences made. The development of CT has been a focus of educators at every level of education for years. 2. Recently researchers have begun to investigate the relationship between the disposition to think critically and CT skills. Many believe that in order to develop CT skills, the disposition to think critically must be nurtured as well. Although research related to the disposition to think critically has recently increased.

Dewey argued that possession of knowledge is no guarantee for the ability to think well but that an individual must desire to think. In his view three attitudes ie; open mindedness, wholeheartedness, and responsibility were important traits of character to develop the habit of thinking. Strategies to Develop Critical Thinking 3. There are various platforms which can be used to develop CT in humans. Two of these will be discussed in the succeeding paragraphs:- 4. Educational Institutes. Educators can use various instructional methods to promote CT and problem solving.

Although educators value a student who thinks critically about concepts, yet the spirit or disposition to think critically is, unfortunately, not always present in all students. This is due to traditional method of lectures as instructional methodology in most educational institutes. When lecturing, the instructor organizes and presents essential information without student input. This practice eliminates the opportunity for students to decide for themselves what information is important to know. Students need to be exposed to diverse teaching methods that promote CT in order to nurture the CT process.

As pointed out by Kloss, sometimes students are stuck and unable to understand that various answers exist for one problem. Kloss stated that students must be exposed to ambiguity and multiple interpretations and perspectives of a situation or problem in order to stimulate growth. Paul and Elder stated that many professors may try to encourage students to learn a body of knowledge by stating that body of knowledge in a sequence of lectures and then asking students to internalize knowledge outside of class on their own time. Not all students possess the thinking skills to analyze and synthesize information without practice.

Educator's may choose any one of the following methodologies or use them in a mix for developing and promoting CT in students. a. Questioning. An assortment of questioning tactics exists to promote CT. Depending on how a question is asked, the student may use various CT skills such as interpretation, analysis, and recognition of assumptions to form a conclusion. Mills suggested that the thoughtful use of questions may be the ideal activity

of an effective teacher. Questions are only as good as the thought put into them and should go beyond knowledge-level recall.

Questions should be designed to promote evaluation and synthesis of facts and concepts. Higher-level thinking questions should start or end with words or phrases such as, “ explain,” “ compare,” “ why,” “ which is a solution to the problem,” “ what is the best and why,” and “ do you agree or disagree with this statement? ” Another type of questioning technique is Socratic questioning. Socratic questioning is defined as a type of questioning that deeply probes or explores the meaning, justification, or logical strength of a claim, position, or line of reasoning.

Questions are asked that investigate assumptions, viewpoints, consequences, and evidence. Questioning methods, such as calling on students who do not have their hands up, can enhance learning by engaging students to think. The Socratic Method focuses on clarification. A student’s answer to a question can be followed by asking a fellow student to summarize the previous answer. Summarizing the information allows the student to demonstrate whether he or she was listening, had digested the information, and understood it enough to put it into his or her own words.

Avoiding questions with one set answer allows for different viewpoints and encourages students to compare problems and approaches. Asking students to explain how the high school and the collegiate or university field experiences are similar and different is an example. There is no right or wrong answer because the answers depend upon the individual student’s experiences. Regardless of the answer, the student must think critically

about the topic to form a conclusion of how the field experiences are different and similar.

In addition to using these questioning techniques, it is equally important to orient the students to this type of classroom interaction. Mills suggested that provocative questions should be brief and contain only one or two issues at a time for class reflection. It is also important to provide deliberate silence, or “wait” time, for students upon asking questions. Waiting at least 5 seconds allows the students to think and encourages thought. Elliot argued that waiting even as long as 10 seconds allows the students time to think about possibilities.

If a thought question is asked, time must be given for the students to think about the answer. b. Classroom Discussion and Debates. Classroom discussion and debates can promote critical thinking. Various techniques are available. Bernstein developed a negotiation model in which students were confronted with credible but antagonistic arguments. Students were challenged to deal with the tension between the two arguments. This tension is believed to be one component driving critical thought. Controversial issues in psychology were presented and discussed.

Students responded favorably and, as the class progressed over time, they reported being more comfortable arguing both sides of an issue. Daily newspaper clippings directly related to current classroom content also allow an instructor to incorporate discussion into the classroom. This provides a forum to enlighten students to think for themselves and realize that not each person in the room perceives the article the same way. Whatever the

approach taken, investigators and educators agree that assignments and arguments are useful to promote thought among students. c. Written Assignments.

Written assignments can also serve as powerful vehicles to allow students to expand their thinking processes. Emig believed that involving students in writing serves their learning uniquely because writing, as process and product, possesses a cluster of attributes that correspond uniquely to certain powerful learning strategies. As a general rule, assignments for the purpose of promoting thought should be short (not long term papers) and focus on the aspect of thinking. Research or 1-topic papers may or may not be a student's own thoughts, and Meyers argued that term papers often prove to be exercises in recapitulating the thoughts of others.

Allegretti and Frederick used a variety of cases to promote CT regarding different ethical issues. Countless case-study situations can be created to allow students to practice managing situations and assess decision making. These topics present excellent opportunities to pose questions to senior-level students to examine how they would handle various situations and provides the students a appropriate place to analyze the issue and form a decision. Once the students make a decision, additional factors, assumptions, and inferences can be discussed by having all students share the solution they chose. . Demonstrations with Questioning at the End. Demonstrations are done to provide opportunities to learn new explorations and visual learning tasks from a different perspective. It may also be used for proving a fact by reasoning and giving logic. The students may be afforded chance of asking queries and may also be asked to explore the hidden lessons / morals. e.

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Field Trips. These are excellent occasions to force students to boggle their minds and find logic and resolution of various issues. 5. Everyday Life. Improvement in thinking is like improvement in a game, or in playing a musical instrument.

It is unlikely to take place in the absence of a conscious commitment to learn. As long as we take our thinking for granted, we don't do the work required for improvement. Development in thinking requires a gradual process requiring plateaus of learning and just plain hard work. It is not possible to become an excellent thinker simply because one wills it.

Changing one's habits of thought is a long-range project, happening over years, not weeks or months. The essential traits of a critical thinker require an extended period of development.

How, then, can we develop as critical thinkers? How can we help ourselves and others to practice better thinking in everyday life? There can be many strategies which may help a person to develop and improve CT. We will explain here nine strategies that any motivated person can use to develop as a Critical Thinker. a. First Strategy: Use " Wasted" Time. All humans waste some time; that is, fail to use all of their time productively or even pleurably. Sometimes we jump from one diversion to another, without enjoying any of them.

Sometimes we become irritated about matters beyond our control. Sometimes we fail to plan well causing us negative consequences we could easily have avoided (for example, we spend time unnecessarily trapped in traffic — though we could have left a half hour earlier and avoided the rush).

Sometimes we worry unproductively. Sometimes we spend time regretting what is past. Sometimes we just stare off blankly into space. The key is that the time is “ gone” even though, if we had thought about it and considered our options, we would never have deliberately spent our time in the way we did.

So why not take advantage of the time you normally waste by practicing your critical thinking during that otherwise wasted time? For example, instead of sitting in front of the TV at the end of the day flicking from channel to channel in a vain search for a program worth watching, spend that time, or at least part of it, thinking back over your day and evaluating your strengths and weaknesses. For example, you might ask yourself questions like these: (1)When did I do my worst thinking today? (2)When did I do my best? (3)What in fact did I think about today? (4)Did I figure anything out? (5)Did I allow any negative thinking to frustrate me unnecessarily? (6)If I had to repeat today what would I do differently? Why? (7)Did I do anything today to further my long-term goals? (8)Did I act in accordance with my own expressed values? (9)If I spent every day this way for 10 years, would I at the end have accomplished something worthy of that time? b. Second Strategy: A Problem A Day. At the beginning of each day (perhaps driving to work or going to school) choose a problem to work on when you have free moments. Figure out the logic of the problem by identifying its elements.

In other words, systematically think through the questions: What exactly is the problem? How can I put it into the form of a question. How does it relate to my goals, purposes, and needs? (1)Wherever possible take problems one by one. State the problem as clearly and precisely as you can. (2)Study the <https://assignbuster.com/strategies-to-develop-critical-thinking/>

problem to make clear the “ kind” of problem you are dealing with. Figure out, for example, what sorts of things you are going to have to do to solve it. Distinguish Problems over which you have some control from problems over which you have no control.

Set aside the problems over which you have no control, concentrating your efforts on those problems you can potentially solve. (3)Figure out the information you need and actively seek that information. (4)Carefully analyze and interpret the information you collect, drawing what reasonable inferences you can. (5)Figure out your options for action. What can you do in the short term? In the long term? Distinguish problems under your control from problems beyond your control. Recognize explicitly your limitations as far as money, time, and power. 6)Evaluate your options, taking into account their advantages and disadvantages in the situation you are in. (7)Adopt a strategic approach to the problem and follow through on that strategy. This may involve direct action or a carefully thought-through wait-and-see strategy. (8)When you act, monitor the implications of your action as they begin to emerge. Be ready at a moment’s notice to revise your strategy if the situation requires it. Be prepared to shift your strategy or your analysis or statement of the problem, or all three, as more information about the problem becomes available to you. . Third Strategy: Internalize Intellectual Standards. Each week, develop a heightened awareness of one of the universal intellectual standards (clarity, precision, accuracy, relevance, depth, breadth, logicalness, significance). Focus one week on clarity, the next on accuracy, etc. For example, if you are focusing on clarity for the week, try to notice when you are being unclear in communicating with

others. Notice when others are unclear in what they are saying. When you are reading, notice whether you are clear about what you are reading.

When you orally express or write out your views (for whatever reason), ask yourself whether you are clear about what you are trying to say. In doing this, of course, focus on four techniques of clarification : 1) Stating what you are saying explicitly and precisely (with careful consideration given to your choice of words), 2) Elaborating on your meaning in other words, 3) Giving examples of what you mean from experiences you have had, and 4) Using analogies, metaphors, pictures, or diagrams to illustrate what you mean.

In other words, you will frequently STATE, ELABORATE, ILLUSTRATE, AND EXEMPLIFY your points. You will regularly ask others to do the same. d.

Fourth Strategy: Keep An Intellectual Journal. Each week, write out a certain number of journal entries. Use the following format (keeping each numbered stage separate): (1)Situation. Describe a situation that is, or was, emotionally significant to you (that is, that you deeply care about). Focus on one situation at a time. (2) Your Response. Describe what you did in response to that situation.

Be specific and exact. (3)Analysis. Then analyze, in the light of what you have written, what precisely was going on in the situation. Dig beneath the surface. (4)Assessment. Assess the implications of your analysis. What did you learn about yourself? What would you do differently if you could re-live the situation? e. Strategy Five: Reshape Your Character. Choose one intellectual trait—intellectual perseverance, autonomy, empathy, courage,

humility, etc. — to strive for each month, focusing on how you can develop that trait in yourself.

For example, concentrating on intellectual humility, begin to notice when you admit you are wrong. Notice when you refuse to admit you are wrong, even in the face of glaring evidence that you are in fact wrong. Notice when you become defensive when another person tries to point out a deficiency in your work, or your thinking. Notice when your intellectual arrogance keeps you from learning, for example, when you say to yourself “ I already know everything I need to know about this subject. ” Or, “ I know as much as he does. Who does he think he is forcing his opinions on me? By owning your “ ignorance,” you can begin to deal with it. f. Strategy Six: Deal with Your Egocentrism. Egocentric thinking is found in the disposition in human nature to think with an automatic subconscious bias in favor of oneself. On a daily basis, you can begin to observe your egocentric thinking in action by contemplating questions like these: Under what circumstances do I think with a bias in favor of myself? Did I ever become irritable over small things? Did I do or say anything “ irrational” to get my way? Did I try to impose my will upon others?

Did I ever fail to speak my mind when I felt strongly about something, and then later feel resentment? Once you identify egocentric thinking in operation, you can then work to replace it with more rational thought through systematic self-reflection, thinking along the lines of: What would a rational person feel in this or that situation? What would a rational person do? How does that compare with what I want to do? (Hint: If you find that you continually conclude that a rational person would behave just as you

behaved you are probably engaging in self-deception. g. Strategy Seven: Redefine the Way You See Things. We live in a world, both personal and social, in which every situation is “ defined,” that is, given a meaning. How a situation is defined determines not only how we feel about it, but also how we act in it, and what implications it has for us. However, virtually every situation can be defined in more than one way. This fact carries with it tremendous opportunities. In principle, it lies within your power and mine to make our lives more happy and fulfilling than they are.

Many of the negative definitions that we give to situations in our lives could in principle be transformed into positive ones. We can be happy when otherwise we would have been sad. We can be fulfilled when otherwise we would have been frustrated. In this strategy, we practice redefining the way we see things, turning negatives into positives, dead-ends into new beginnings, mistakes into opportunities to learn. To make this strategy practical, we should create some specific guidelines for ourselves.

For example, we might make ourselves a list of five to ten recurrent negative contexts in which we feel frustrated, angry, unhappy, or worried. We could then identify the definition in each case that is at the root of the negative emotion. We would then choose a plausible alternative definition for each and then plan for our new responses as well as new emotions. For example, if you tend to worry about all problems, both the ones you can do something about and those that you can't; you can review the thinking in this nursery rhyme: “ For every problem under the sun, there is a solution or there is none.

If there be one, think til you find it. If there be none, then never mind it. ” h.

Strategy Eight: Get in touch with your emotions: Whenever you feel some negative emotion, systematically ask yourself: What, exactly, is the thinking leading to this emotion? For example, if you are angry, ask yourself, what is the thinking that is making me angry? What other ways could I think about this situation? For example, can you think about the situation so as to see the humor in it and what is pitiable in it?

If you can, concentrate on that thinking and your emotions will (eventually) shift to match it. i. Strategy Nine: Analyze group influences on your life: Closely analyze the behavior that is encouraged, and discouraged, in the groups to which you belong. For any given group, what are you “ required” to believe? What are you “ forbidden” to do? Every group enforces some level of conformity. Most people live much too much within the view of themselves projected by others. Discover what pressure you are bowing to and think explicitly about whether or not to reject that pressure.