

## **Influencing Factors of Critical Thinking in Class Room Teaching**

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*'Critical Thinking' (CT) as such is a professional development program for educators. It promotes active inquiry, student-initiated learning, problem solving, cooperative learning, thinking critically, writing and reading processes and alternative assessment. For teaching and learning are used in CT. the existing curriculum, text books, contemporary political situations, traditional types of examination system, existing administration system, previous back ground of students and traditional form of classrooms etc. are the influencing factors for CT strategies in the classroom teaching. The most successful classrooms are those that encourage students to think themselves and engage in critical thinking. It needs to be started at the primary level.*

### **1. Introduction**

There are two types of thinking, one is critical thinking (CT) and the other is creative thinking (Lohani: 1998). Creative thinking is the process which we use when we come up with a new idea. Creativity is the bringing into being of something which did not exist before, either as a product, a process or a thought.

Critical thinking means correct thinking in the pursuit of relevant and reliable knowledge about the world. Critical thinking means making reasoned judgments. It refers to process methodologies that employ reasons; insight awareness, imagination and sensibility in order to criticize and evaluate a text or what so ever. In another word, critical thinking means to describe it as reasonable, reflective, responsible and skillful thinking that is focused on deciding what to believe or do. A person who thinks critically can ask appropriate questions, gather relevant information, efficiently and creatively sort through this information, reason logically from this information, and come to reliable and trustworthy conclusions about the world that enable one to live and act successfully in it. The Delphi experts define critical thinking as:

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*Purposeful, self regulatory judgment which results in interpretation, analysis, evaluation and inference as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based.*

According to Paul and Elder (2005):

*Critical thinking is a process by 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 (p.1).*

William Huitt (1998) defines critical thinking as -

*The disciplined mental activity of evaluating arguments or propositions and making judgments that can guide the development of beliefs and taking action.*

Critical thinking is essential for effective functioning in the modern world.

According to Paul (1989), to learn to think critically is a combination of both affective and cognitive skills. It is the use of those cognitive skills or strategies that increase the probability of a desirable outcome. The most successful classrooms are those that encourage students to think for themselves and engage in critical thinking.

## **2. Strategies of Critical Thinking and Learning**

The area of the critical thinking is broad. It not only includes logical arguments but also the intellectual criteria such as clarity, credibility, accuracy, precision, breadth, fairness and so on. It is structured, productive and innovative idea of thinking. So, critical thinking is also called non-destructive methods of creating new ideas. In addition, critical thinking is useful and appropriate to generate ideas for instruction of different discipline.

For teaching and learning, there are many strategies that have been used in critical thinking. Among different strategies, we need to select appropriate strategy of instruction according to the subject, content and topic of instruction. In fact, The determining factor in selecting strategies are number of students, level of students, Individual differences, geography of classroom etc. This approach opines that teaching is more than a set of methods or strategies. It focuses on developing students' skill and strategies for learning, at the same time, they learn the content of the curriculum. However, it suggests a number of methods and strategies useful for teaching to develop critical thinking ability in the students. Some of the strategies are: Think/pair/share (T/P/S), Know/want to know/learn (K-W-L), what/so

what/now what, Mix/freeze/pair, Quick-write, Pens in the middle, Value line, Directed reading activity (DRA), Jig-saw, One stay/three stray, Walk around/talk around, Reciprocal teaching, Save the last word for me, etc.

## **2.1. Phases of Critical Thinking approach**

CT specifies classroom teaching in three phases. These phases are abbreviated as termed as A B C:

- Anticipation
- Building knowledge
- Consolidation

### **Anticipation**

Each lesson begins with a phase of anticipation, in which students are directed to think and ask questions about the topic they are about to study. The anticipation phase serves to call up the knowledge that students already have. It informally assess what they already know including misconceptions, sets purposes of learning, focuss attention on the topic, and provides a context for understanding new ideas.

### **Building Knowledge Phase**

In this phase, teaching leads students to inquire, find out , make sense of the material, answer their prior questions, and find new questions and answer. This phase serves to compare expectations with what is being learnt, revise expectations or raise new ones, identify the main points, monitor personal thinking, make inferences about the material, make personal connections to the lesson, question the lesson.

### **Consolidation Phase**

Toward the end of the lesson, once students come to understand the ideas of the lesson, there is still more to be done. Teachers want students to reflect on what they learnt and ask what it means to them, reflects on how it changes what they thought, and ponder how they can use it. This phase of the lesson is called the consolidation phase. The consolidation phase serves to summarize the main ideas,

interpret the ideas, share opinions, make personal responses, test out the ideas, and assess learning ask additional questions.

### **3. Conceptual Framework of the Study**

Critical thinking is a professional development program for educators. It is research based instructional methods to help students think reflectively, take ownership of their personal learning, understand the logic of arguments, listen attentively, debate confidently and become independent life long learners. The most successful classrooms are those that encourage students to think for themselves and engage in critical thinking (Halpern 1996; Kurland 1995; Unarau 1997). So, it is important and useful for students. It develops writing, listing, speaking and thinking skills.

If Critical thinking strategies are adopted in classroom teaching, it obviously promotes the active inquiry, student initiated learning, problem solving, thinking critically, cooperative learning, writing and reading processes and alternative assessment. Critical thinking is a broad and abstract concept. It is not new topics for teachers. All the teachers who are trained or hold degrees in education, they have knowledge of problem solving methods, deductive and in-deductive methods, cooperative learning methods etc. These all methods are parts of critical thinking strategies. But its use is less in daily class activities. Again, we all pre-service CT trainers, who are teaching in different campuses, also face problems to apply CT strategies in classroom teaching. The queries, such as - Why are CT strategies not used in classroom teaching? What influence CT strategies used in classroom teaching? are interesting questions. So, the purpose of this paper is to find out influencing factors of CT strategies in class room teaching specially in mathematics.

### **4. Study Procedure**

This study is based on critical thinking pre-service teachers' training. There were 32 participants in critical thinking pre-service teachers training program. Among 32 participants, five participants were selected for interview in this study. Among the five, four participants were campus teachers who have been teaching different subjects in campuses and the remaining participant is the employee of

District Education Office. All the participants worked on three session plans based on CT strategies and practiced them in the class room teaching. For the purpose of data collection, interview form was administered, which consists of the following structured questions regarding critical thinking –

1. Experience of CT strategies used in class room teaching,
2. Factors influencing CT strategies in class room teaching, and
3. Implementation in CT strategies in classroom teaching.

## **5. Discussion of the Study**

Let's discuss all these aspects separately as described below -

### **1. The Experience of CT Strategies Used in Class Room Teaching**

All the practitioners said that use of CT strategies in the class room teaching became effective and students actively participated curiously in the class work. But it was difficult to achieve the desired objectives of the lesson. Aman, a mathematics teacher, said that the consolidation phrase has good impression especially in geometry but building knowledge is a difficult feeling in teaching. In all the cases, CT strategies in mathematics can not be used. Sarad, an English teacher, expressed that, K/W/L, T/P/S were successfully used in the class room teaching. Another participant Bira, a Nepali language teacher, said that application of CT strategies is better easy in teachers' training than classroom teaching. Suman, an education administrator, also had similar experience. It indicates that only selected CT strategies are useful in classroom teaching.

### **2. The Factors Influencing CT Strategies in Class Room Teaching**

We all have background of education (learning psychology, teaching methods and evaluation etc.) and know about CT strategies from training. What is the reason that we are not used to CT strategies in the classroom teaching. The factors influencing CT strategies in the classroom teaching is another main discussion point of this study. In this point, as Sarad viewed, administration support is very essential in CT strategies in the classroom teaching. Similarly, curriculum must be compatible to CT strategies. Bira further adds her opinion about the class size. It is one of the important influencing factors of CT strategies in the classroom teaching. Class size is

the prime concern in quality of education (Bajracharya: 2007, p. 222 - 224). She also adds one of another important factor is students previous background. The previous background influences student achievement especially in mathematics directly (Bajracharya: 2007, p.158). Again, Aman adds some other influencing factors such as - text books, teaching materials and regular evaluation etc. These are the influencing factors of CT strategies in the classroom teaching. Finally, above discussion concludes that the participants have similar experience of existing curriculum, contemporary political situation, traditional type of examination system, class size, previous background and old administration procedures.

### **3. To Implementation in CT Strategies Classroom Teaching**

How to implement CT strategies is another point in this discussion. As Mira said, first of all, when we apply CT strategies in the classroom we face the problem about choosing better and effective strategy, the way of its application, and perceive difficulties we facing. Therefore, its discussion from time to time is essential. Similar view has been put forward by Bira. As she said, CT is a new technique for all teachers here. Thus, regular discussion is essentially required. Aman adds that supervision is also important to implement CT strategies in the classroom teaching. Again Suman and Sarad added that teachers need periodic workshops, meetings and discussions to implementation of strategies in the classroom teaching. All the participants finally concluded that regional seminars from time to time are essential to implement CT strategies in the classroom teaching. Such seminars enlighten participating teachers in terms of applying CT strategies.

### **6. Conclusion**

Critical Thinking is a professional development program for educators. There is no doubt for teachers, If CT strategies are adopted in the classroom teaching. It obviously promotes active inquiry, student-initiated learning, problem solving, cooperative learning, critical thinking, writing and reading processes and alternative assessment. In our context, some of the CT strategies are useful in classroom teaching. However, there are no doubt CT strategies that promote students' writing, listening, speaking and thinking skills. So, influencing factors such as existing

curriculum, text books, contemporary political situations, traditional types of examination system, existing administration system, previous back ground of students and traditional form of classrooms etc. are the influencing factors for CT strategies in the classroom teaching. The most successful classrooms are those that encourage students to think for themselves and engage in critical thinking and it must be start in primary class. Regarding successful and effective implementation of CT strategies, regional seminar for teachers has been very effective and crucial.

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