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Teachers' Perception and Practices towards Promoting Critical Thinking among Learners: A Study of Selected Secondary Schools in Dhaka City

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Abstract: Critical thinking is a crucial skill for living life and accordingly thinking pedagogy constitute one of the main aims of education. But what exactly are critical thinking skills? Can it be communicated as the activity of the brain or of the mind? Modern research suggests that critical thinking, like any other skill can be taught, learned and practiced through teaching- learning activities. In the context of Bangladesh, National Education Policy, 2010 also advocates promoting critical thinking among learners documented in aims and goals. But there is no specific guideline. This study is an attempt to examine the teachers' perception, strengths and shortcomings of existing pedagogy and to find out the appropriate strategies for achieving the relevant aims and goals. The study used the tools of interviews and classroom observations as data collection methods. The study found that most of the teachers do not have adequate perception on this issue, few teachers have the idea and they intended to practice this concept in the class room, but failed to implement it mainly due to the absence of thinking- teaching strategy.

Introduction

Critical thinking being an important issue worldwide admittedly requires different interpretation. Critical thinking is the process to analyze, interpret, synthesize or, evaluate information in a clear, logical, reasoned and reflective manner to make a judgment or decisions or establish an argument. Simply, it is more than just thinking clearly or

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rationally. It is about thinking independently. It means formulating one's own opinions and drawing conclusions regardless of outside influence (wabisabilearning.com). It is about the discipline of analysis, and seeing the connections between ideas to reach a conclusion or to solve any problem.

On the other hand, Creative Thinking is the ability to juxtapose ideas in a new and unusual way in order to find solutions to problems, create new innovations, or produce works of art (Blacwell, 1991). It is a generative or divergent way of thinking to create something new or original. In this study, creative and critical thinking are considered as questioning and reasoning with evidence, distinctions and judgments. It is based on the view that creative and critical styles of thinking (CT) are inseparable concepts and they complement one another. By practicing CT notable escalations happen in open mindedness, reasoning and reasonableness among students.

In present education system the goal of education has been changed. Emphasis has been given on professional knowledge and skills. There is such importance on examination as a measure that there is really not much room for students to ask their own questions related to their interests and curiosity. Thus today students are coached and in some cases are trained to memorize facts without understanding its meaning. As a consequence students lack critical and creative thinking skills, verbal communication abilities, interpersonal skills, self-confidence and team work. (Hashim: 2017, p. 2) Knowledge is accumulating at such a rate that it is impossible to learn every-thing. Moreover, as knowledge is transitory, it is difficult to predict what will be useful for the future or what will be selected to learn. It has been proven beyond any doubt that students are overburdened with too many unnecessary tasks related to the rote learning process that has very little meaning in this modern age of professionalism and globalization. Numerous students are rushing for gaining certificates of all kinds, which are also of very practical value. How can we design an educational environment that can minimize the loads of the students and make them more creative and critical intellectually? How can we make the student feel better of them, physically and mentally? How can they contribute to the creation of better atmosphere of tolerance and compassionate attitude for society at all levels? Critical pedagogy attempts to ensure human freedom and social justice by problematizing the assumptions that perpetuate injustice in society. (Talukder, 2019) Therefore, children must be taught how to think and learn i.e. equip them with the basic attitudes, beliefs, skills and resources necessary to tackle fresh problems and acquire new information. (Neville Jones & Eileen Baglin Jones, 1992). So it is essential to emphasize critical and creative thinking, a reasonable reflective thinking as a guide to thoughts and actions.

Statement of Problem

The ever increasing importance on teaching thinking arrive the questions how to achieve this skill and ability. Educationists, psychologists, philosophers are suggesting different teaching methods to incorporate this quality as it can be enhanced through regular classroom activities while teachers teach any subject. Teachers may gain critical thinking skills through training useful for designing lesson plans that get students to think on their own. Teachers of Western countries are looking for more ways to integrate it into classrooms. In Bangladesh, creative evaluation system has been implemented without proper guideline in pedagogy. Practice of rote learning imposing barrier in thinking. In Bangladesh there is a lack of critical thinking ability among the secondary level students which affect them in the long run. Students cannot use their capacity for independent thinking or nurture it further in their life.

Teacher-oriented classes and the tendency to memorize are some of the determining factors for lack of critical thinking of our students. Most of the teachers do not have adequate concept on this issue. Few of them have the idea and they intended to practice this concept in the class room, but failed to implement it due to the absence of teaching-thinking strategy. All in all, the outdated education system of Bangladesh, lack of implementation of existing education policies of Bangladesh, lack of knowledge of teachers, especially secondary levels are responsible for the lack of critical thinking among students.

Rational of the Study

Considering the importance of CT this study aims to investigate the condition of CT teaching in Bangladesh perspective especially in some secondary schools of Dhaka city. Significance of the study can be realized through following discussion:

Philosophical Perspective: Philosophical inquiry is a form of investigation on ideas and concepts to derive a greater understanding and meaning. It encourages students to be engaged in critical questioning and creative reflection because discussion and questioning are built in the nature of philosophy. (Hashim: 2017, p. 22) The root of Critical thinking as the method of teaching and learning is philosophical inquiry, the teaching practice and vision of Socrates 2500 years ago. In 12th century Muslim scholars Az-Zarnuji argued that, "It is necessary to pursue knowledge by means of discussion, argument and questioning."

Global Perspective: The body of work on critical pedagogy is growing with works by pedagogues from different areas of the world (Pennycook, 2001, Norton & Toohey, 2004 mentioned in Talukder, 2019). According to Putranto (2013), competence of di-

vergent thinking, critical and creative among learners is very important in this global era competition, because the level of complexity problems in all aspects of modern life is getting higher. American philosopher John Dewey (1910) introduced the term ‘critical thinking’ as the name of an educational goal, which he identified with a scientific attitude of mind. Contemporary political and business leaders express support for critical thinking as an educational goal. (<https://plato.stanford.edu/entries/critical-thinking/history.html>)

In 1960 Professor Matthew Lipman created an approach drawing on the works of Vygotsky, Piaget, and Dewey, based on the tradition of Socratic dialogue is called P4C (Philosophy for Children) which is practiced in approximately 60 countries. This teaching and learning approach is motivating and challenging for pupils and teachers and taught learners to think critically. Research has clearly established that it improves behavior, motivation, learning, social, emotional skills and dispositions over time, as well as cognitive abilities. P4C engages children in developing their own questions in response to a given stimulus and learn in the process of ‘how to learn’. They then enquire thoughtfully, and collaboratively, guided by the facilitator (the teacher). Finally they reflect on their thoughts and participation, and suggest how they can be improved on their learning (skills and content) next time. Consequently, both the process and the content of learning are simultaneously developed.

(<http://www.learn2think.org.uk/history.html>)

Recent days CT has reached in a more academic approach world-wide. Such as, the European Commission has funded “Critical Thinking across the European Higher Education Curricula”, a nine-country research project to develop guidelines for quality in critical thinking instruction in European institutions of higher education. The Centre for Educational Research and Innovation of the Organization for Economic Development (OECD) in early 2018 issued a call for institutions of higher education to participate in a two-year study, with control groups, of interventions in undergraduate or teacher education designed to improve creative and critical thinking. (<https://plato.stanford.edu/entries/critical-thinking/history.html>)

National Perspective: National Education Policy, 2010 of Bangladesh enjoins critical and creative thinking as the aims, objectives and principles of the Policy. Aims related to CT are as follows:

To stimulate the intellectual and practical qualities of the learners so that moral, human, cultural, scientific and social values are established at personal and national levels (Aim No. 2);

To foster creative and thinking faculties among the learners through a system of education that contains indigenous spirit and elements and which will lead to a life-oriented development of knowledge of the learners (Aim No. 5);

To ensure a creative, favorable and joyful environment for the students at the primary and secondary levels for their proper protection and congenial development.

(Aim No. 15).

Critical thinking ensuring Value Education: Critical pedagogy problematizes all oppressive and unequal power relations of society to ensure human freedom and social justice. It aims at ensuring liberation, transformation, and empowerment of learners (Giroux, 2011; Kincheloe, 2004; Pennycook, 1989, 2004; McLaren, 1989; Freire, 1970 mentioned in Talukdar, 2019). To facilitate the practice of problematization, it involves students in dialogue that ensures freedom and equal opportunities for everybody. (Talukdar, 2019)

This study will be a new addition in educational theory and practices in Bangladesh. A huge number of researches have been done and so many organizations are working on CT education worldwide. But in the context of Bangladesh it is very few. There is no such academic approach or initiative to implement CT in Bangladesh. Very specifically the study will be helpful for popularizing the ideas and concepts of critical and creative thinking (CT) skill as an effective tool of pedagogy in the educational context of Bangladesh. Thus it can contribute to the educational policy of the country.

Objectives of the Study

The objectives of this study are-

- To determine the teachers' perception about critical thinking.
- To examine the practices of the existing pedagogy in regard to promote thinking skill.
- To recommend the appropriate strategies for promoting critical thinking

Scopes and Limitations of the Study

The proposed study follows a qualitative research approach, involving the use of the document analysis, classroom observation and semi-structured interview as tools of data collection. It will be limited to no more than 30 teachers as respondents from 5 Secondary schools (class 7 to class 10) of Dhaka city because of the time constraints involved in interviewing and subsequent data analysis.

Review of Related Literature

Concept of Critical Thinking

Critical thinking is the ability to investigate a text critically, and a critical thinker is an independent thinker. Critical thinkers go into the deeper layers of a text and discover its underlying hidden meaning. They can initiate and carry on an argument about a text, scrutinize it and so relate it to its political, social, moral, philosophical contexts of the then society or time (Rupa, 2013). It is clear, reasonable, reflective thinking focused on deciding what to believe or do. Apart from that, critical thinkers know how to analyze with a purpose and question the validity of a text. As a seeker of knowledge critical thinker is motivated by rationale and facts. So critical thinking means acquiring specific abilities such as learning to analyze arguments, formulating and protecting peculiarities. (Rupa, 2013) Jadidi & Begheri (2014) support this saying that “The concept of critical pedagogy is essentially more tangible for language teachers and plays a vital role in the construction of learners’ understanding of unfamiliar and ambiguous belief systems, values and practices and their negotiations of new social relationships”.

Critical thinking is emphasized in National Education Policy; 2010 of Bangladesh describing education system is to foster thinking skills among learners. The concept of critical thinking pedagogy is essentially more tangible for language teachers when they try to address educational inequality. Language, identity and cultures from the language teachers schemata assisting them to question the dominant power relationships both because of particular learners and language they teach which can serve to empower and marginalize (Jadidi, 2014). Teacher education should encourage prospective teachers to critically reflect on their own identities and positioning in society. Pertaining to English for Young Learners (EYL), creativity refers to the teacher’s ability to create or to add something new to the common teaching practices. Etymologically, creativity deals with the ability to create something (KBBI, 2005: 599).

The objective of the program Philosophy for Children (P4C) in Malaysia is to make youth more critical, creative and ethical. Lipman’s P4C program was used here as a model. The Critical thinking pedagogy is infused in the teaching of English, Malay, Islamic Studies and Moral Education and is also taught as a stand- alone subject. The influence of the program on participants was supportive and has a positive influence on students’ ability to think and reason also in cognitive and social skills. (Hashim, 2013)

Theories and practices of Critical Thinking Teaching

According to Amabile (2012) “individual creativity may be affected by even very minor aspects of the social environment.” Aspects of social environment such as exces-

sive time pressure, sense of competition over supervision, unavailability of working material etc. According to the World Bank report (2013) Bangladesh is also facing so many problems. Teachers do not have much effective training, also the curriculum and testing procedures encourage and reward rote learning, the most common teaching style in Bangladesh is lecturing and reading textbooks. Teachers do not get much time; they have limited contact hours available during the academic year. Many teachers also have low motivation- because the profession is not regarded as high- profile one, career progression opportunities are limited, and incentives for innovating effective teaching and learning practices are non- existent. Here existing situations are briefed below.

Large class size, limited physical space, lack of resources, and insufficient time to complete the syllabuses are among factors that hinder the fostering of such thinking. The constraints of insufficient time and the haste to cover the curriculum have often led to rigid and structured ways of teaching that leave little room for creativity or flexibility. (Hassan, 2018)

Challenges in the Learning Objectives: National Education Policy; 2010 of Bangladesh also provides guidelines such as learners should be discouraged from rote learning, rather use their own thoughtfulness, imagination and urge for curiosity. It also stressed to ensure creative, favorable and joyful environment. It is also emphasized to evolve an education process that is oriented to creativity, practicability and productivity to achieve advancement in the economic and social fields of the country.

Instructional Teaching Strategy: There is really not much room for students to ask their own questions that relate to their interests and curiosity. Due to this emphasis, schooling becomes a chore for some students, killing their sense of curiosity and wonder, even boredom and loss of interest in learning. They lack critical and creative thinking skills, verbal communication abilities, inter- personal skills, self- confidence, and teamwork. (Hashim, 2017)

'Present Situation of Science Education in Secondary Schools' (BANBEIS, 2015) study emphasizes much in promoting scientific literacy. According to this study, teachers give less emphasis to achieve the purpose of science. Students disinterest in science occurred due to the absence of interesting classroom teaching, lack of qualified, trained and motivated teachers, lack of favorable infrastructure of teaching-learning environment or "learning by doing" strategy in school. So, development of creativity, problem solving skill is hindered.

Teaching Aid: Text Books are not at all suitable, some unknown terminologies and shortcomings have been marked in textbooks, some contents are not clear and some are incomplete. (BANBEIS, 2015) In the text book of NCTB, textual representations are

not sufficient to solve the exercises provided in text books. To solve the questions provided in exercises students need to take help from guidebooks or internet sources. Sometimes teachers also get confused about the proper answers. In these cases guidebooks misguide the students. Some experts view about this problem is learners need to learn more than the information of textbooks; they should search for relevant knowledge by themselves. But the question is how much relevant knowledge they should try to gather as they have already have loads in their study.

Challenges in Assessment: According to National Education Policy 2010, the National Curriculum and Textbook Board (NCTB) of Bangladesh has made changes in the content of the syllabus as well as the question pattern to assess the learner's creativity. But, the teachers are not capable enough to carry out the plan. Around 41% high schools teachers cannot prepare creative questions. 55% teachers of primary schools do not understand creative system. According to a recent survey conducted by Research for Advancement of Complete Education (RACE), more than half of 100 primary school teachers, who took part in a survey, are still blurred about creative education method. Even more alarming is that about half of the teachers (47%) surveyed rely on guidebooks to prepare lessons while 92% students take the help of guidebooks to understand their lessons. Guidebooks, private tutors and coaching centers have been the top dependence for the learners. (Azad, 2016)

Implementing Strategies

Critical thinking refers primarily to teach students how to analyze and develop reading and writing assignments from the perspective of formal, logical patterns of consistency. (Rupa, 2013) It is the teacher who facilitates the process of learning, and strives to ensure freedom and equal opportunity for students' voice in the classroom. (Talukdar, 2019)

It needs to be assured that it is high time to come out from 'memorization based teaching and examination system'. Students need to be inspired to think and write to explore critical thinking and broaden the outlook of knowledge. We need to engage our students using the approach called 'learning by doing'; activities like presentations, debate, inquiry-based questions, brainstorming, problem- solving, project- based learning, Socratic method and many more activities encourage students to think before doing their work. (Ismail: 2017, Karim: n. d.)

According to Putranto (2013), by using Observations, Association, Ask, Concluding and Communicating (OAACC) method on mathematics learning teacher can provide an opportunity for students to examine in depth the mathematical topics attractively packaged. Besides, using OAACC method provides an opportunity to investigate in

depth math problems, so that students can construct all possible solutions as divergent, critical and creative.

A naturalistic inquiry by Abdullah (2013) examines the processes of implementing a critical thinking pedagogy for developing the quality of classroom dialogue. The study explains that learners' cognitive and meta-cognitive skills, highlighted in the critical language awareness theory, plays a significant role in engaging learners in successful interaction, through creating participation opportunities based on the notion of critical thinking.

A supportive school culture is needed to cultivate dispositions related to fostering constructive creativity and critical thinking. ICT can be used as a tool for developing thinking skills and facilitating critical thinking and higher-order learning. When using electronic devices, an intellectual student-computer partnership is established where the computer amplifies the student's thinking. Cognitive tools are designed to make learners think harder about the subject matter being studied while generating thoughts that would be impossible without the tool. (Hassan, 2018)

Regarding creativity Shin (2012) argues that "creativity is the key" when teaching English. In order to teach in an interesting atmosphere, the teachers are required to possess adequate creativity. They have to build a paradigm where children should have fun. The teachers will direct themselves to set up stimulating lesson plan covering such activities as singing, finger plays, storytelling and so forth. Kind and Kind (2007) reported different perspectives in defining creativity in science education, and different approaches adopted by science educators, including poetry, inquiry-based science teaching, experimental methods, imagery and imagination. Cheng (2006) suggests multiple approaches to foster creativity in Physics education, including discovery, understanding, presentation, application, and integration of science knowledge. For infusing creativity into regular lessons, one may need to consider the approaches of existing curriculum. In science learning creative writing by the use of analogies is another useful strategy to nurture creativity. Analogies lead an individual to new ideas which help to foster imagination. Kind and Kind (2007) and Starko (2010) commented that such process of imagination in specific situations results in students' better understanding and new perspectives.

Todd (2003) argues that creative teachers use variety of classroom activities. To do so, the teacher sought to comprehend the existing theoretical aspects and adapt them to meet the students' needs. The creative teachers design teaching materials and classroom activities tailored to specific, unique, and real classes. In such context, the local wisdom, religious view, personal experiences find their way to be integrated into the

classroom activities. Courses stimulate learners to raise a range of inquiry or questions. Students have to be assigned some tasks which need thinking or speculation rather than simply factoid presentation. Homework will be selected that will teach them some skills. They shouldn't be given such homework which needs just copying. Let them ponder their study. The assessment system of Bangladesh depends on rote and regurgitation. Such tendency must be eliminated gradually. Rote learning cannot be avoided. But it needs to be selective. Like students should memorize the tables of multiplication by rote learning. But they also have to learn and think how to apply these; rote learning cannot be followed in this regard (Zannat, 2014). Similarly, (Zannat, 2014) highlighted that students should have reflexive thinking in class, in whole day, and every day. They should make it a habit to mull over each new idea to connect it with previous knowledge. Thinking about the connections increases the usefulness of each memory, by increasing the number of ways in which it can be recalled. They have to be responsible for their own learning. Student should be helped to be aware of the ways in which they learn and make them able to monitor their own learning. To enhance critical thinking skills teachers should care about using instructional strategies that actively engage students in the learning process rather than relying on lecture and rote memorization which is mostly absent in sampled classrooms. (Snyder & Snyder, 2008)

Both the teachers and the students must have the practice to think about what they are going to speak. Great Saint like Imaam Ash-Shaafi'ee (rahmatullaah) said: When one desires to talk, then it is upon him to think before he speaks. If there is beneficial good in what he will say, then he should speak. And if he has doubt about that, then he must not speak until he clears that doubt (by making his speech good)." So teacher must have clear concept on respective subject before entering the classroom and students should be taught where to find the information they need or how to research on a topic and whom to ask for information. Several barriers can impede critical thinking instruction. Lack of training, limited resources, biased preconceptions, and time constraints conspire to negate learning environments that promote critical thinking. (Snyder: 2008)

Assessment techniques should be used that provide students with an intellectual challenge rather than memory recall is instructed by Snyder (2008). Most programs and approaches for teaching thinking work on the basis that one must not only teach skills but also encourage the disposition to use them – proficiency is not enough: there must also be a tendency to exercise that proficiency. These dispositions are not themselves skills, but they do represent a readiness to use them. Examples of such dispositions, which are both cognitive and affective in nature, might include: respect (for others and

for the procedures of enquiry); open-mindedness (readiness to consider alternative views/explanations); and courage (to offer a point of view, a counter-argument, a justification etc.) (Richard: 1995)

According to the critical pedagogy classrooms of Talukdar (2019), problematization was facilitated as the students were engaged in dialogue with freedom and equal opportunity to speak. In the critical pedagogy classroom, students expressed their own views and questioned each other's views. The teacher intervened to make space for the voices in the minority. However, he positioned himself as one of their co-interlocutors in the classroom. So the students could question the teacher's views. Here, it appears that students shared the view that no knowledge and ideas are beyond question, as they are produced by individuals who necessarily have 'a class, a set of beliefs, a social position' or at least 'member [ship] of a society' and hence cannot be unbiased. As a result, the oppositional voices could engage in dialogue and students were so empowered that they went on to question the teacher's views.

How to promote thinking skill among students is a prime concern of the educational researchers of worldwide. Huge researches have been done in Western perspective. But research based on Eastern perspective is less specifically for Bangladesh situation is not conducted. Also it is important to have a study involving teachers of respective field and this study will serve the purpose.

Therefore, it is time to launch the "Thinking School" focusing on key strategies such as:

(i) infusion of critical and creative thinking skills into the school as well as university curricula, (ii) reduction of subject content, and (iii) revision of assessment modes. (Hasan, 2018)

Methodology of the Study

A qualitative research approach based on interpretive paradigm is proposed for this study. The data collected in a qualitative study includes more than words; attitudes, feelings, vocal and facial expressions, and other behaviors are also involved. The data was consisting of interview transcripts, notes from classroom observations.

Sampling

Interview of 30 teachers from 5 secondary schools were conducted. In addition 5 classes of these 5 schools were selected for observation. Sample was selected based on convenient sampling. The targeted population of this study is the school teachers of Secondary Education classes from 7 to 10 at Dhaka city, Bangladesh.

Sources of Data

The primary sources of this study are the text books, teachers of secondary education. And secondary sources are research articles and related books.

Tools and Methods of Data Collection

Document analysis, semi- structured interview, class observation were the tools of data collection.

Methods of Data Analysis and Presentation

Observations notes were written in conjunction with the interviews, and casual encounters with subjects. Memoranda also were written while listening to taped interviews, typing transcripts, and reflecting upon a particular interview. Collection, coding, and analysis of data and ongoing literature review processes were blended throughout the study then thoroughly examining the transcripts to find final codes and themes. Developing the codes and themes “grounded” in the data analysis were completed and then researcher reported the information by writing a report. In the findings section, the researcher displayed the different themes and direct quotes. It is a qualitative study hence report were prepared using text and detailed descriptions.

Discussions and Analysis

Teachers’ perception on critical thinking skill

Based on the findings of interviews, it is evident that most of the teachers (60%) do not have clear concept about critical and creative thinking skill they showed ignorance through their responses. Some teachers (40%) have ideas on critical thinking skill, but there was no application in their class room. Some teachers responses are in brief: ‘It is to introduce students with widening knowledge, process to deliver them in and out of a topic’, ‘making a reasoned judgment’, ‘to create something new...’, “Critical thinking skill is the ability to analyze topics and ideas clearly, logically, rationally. I recognized the importance of critical thinking skills in academia”.

Even the teachers do not have any idea about National Curriculum and Teachers’ Guide. Hence they cannot follow Teachers’ Guide provided by the Government. Teachers’ response is that: ‘We have to continue with our own way and have to prepare students to get good score.’

Existing pedagogy in regard to critical thinking

During the interview most of the informants (66.6%) have positive views regarding the practices of CT skill in teaching. They were agreed upon in a point that it is essential for teaching but in practically CT's use is very limited (only 6 teachers out of 30, 20%). The informants could not assure about practicing CT in their classroom.¹⁶ Teachers' admitted that they don't allow questioning in the classroom as it is time consuming. In 4 schools out of 5 sampled schools teachers take classes through power point presentation. They show videos and pictures. But using tangible objects is absent in classroom practice. Teachers' strategy is to solve the questions from Guidebooks especially the teachers of grade 8, 9 and 10. Other teaching strategies used by the teachers are group discussions, telling relevant stories, praising, project works, and let students to ponder, to relate the study with day to day life.

It is praiseworthy that Government of Bangladesh has taken extensive steps to implement assessment system which will promote critical thinking among students. But most of the efforts are in vain as the education is not life oriented. It is remaining in paper and pen. Thus creative evaluation system implemented in Bangladesh has increased the scope for private tuition and wide spread use of guidebooks. Teachers and coaching centers give excuses that for learning how to write creative answers students need to take extra supports from school teachers as private tuitions. During assessment students do not have any scope to think deeply in the given short period of time. Thus it does not help them to improve their critical thinking. Teachers are always bound to force the students on writing long answers in exams rather than writing with applying critical and creative thinking.

Some teachers (40%) try to use alternate teaching methods other than lecture methods. Snyder (2008) refers actively engaging students in project-based or collaborative activities can encourage students' critical thinking. But this effort also remains ineffective. For instance when teachers are providing project work to the students, teachers also give them information to buy the project in prepared way. Most of the teachers are unable to apply various teaching method for their limited skills and experiences. But experienced and capable teachers also admit that they only use traditional methods due to lack of facilities and infrastructures.

Regarding textbooks the informants stated that the texts which have designed for Secondary students do not support using critical thinking pedagogy because of the open ended and close ended questions set in the passage for the language activities. They argued that multiple choice questions encourage a learner to choose only one or the best and the correct answer. Multiple choice answers do not encourage a learner to find out

alternative answers. Moreover time constrain is the biggest factor for not using different teaching methods and aid. According to National Curriculum of Bangladesh a period should be of 50 minutes. But in practical it continues for 35- 40 minutes which is not sufficient for a proper teaching- learning experiences.

The researchers did not find any emphasis on focusing instruction on the process of learning. Snyder (2008) emphasizes on focusing instruction on the process of learning rather than solely on the content. Emphases are given on solving questions from guide rather than reading books or enjoying study. But new learners need to take his or her work seriously and continue to create and solve things creatively. Students perform better when they able to share their own thoughts without relying on teachers and texts. But, the teachers hardly inspire the students to write on their own thoughts. They have to write according to teacher's directions or from a guidebook selected by the teacher.

Strategies for developing the Pedagogy

Most of the informants (93.3%) were agreed with the essentiality of critical thinking skills in the classroom. The respondents also claimed that for applying critical thinking pedagogy teachers have the pioneer role. Apart from this, teachers can encourage students to be creative and innovative by using critical thinking pedagogy.

In regular classroom activities there was too less application of dialogical approach or inquiry method. The nature of Socratic Method is dialogical. In this method each has to listen to the other. Each learns from the other thus dialogue is naturally empowering. Teacher becoming a facilitator should not impose his or her views on the students. A teacher displaying true Socratic irony only knows that he or she knows nothing, and is ever ready to join anyone on the journey of learning (Kazmi, 2011). Rosnani Hashim (1999) also stated that, “new methods of instruction must be explored and teachers should be creative and innovative especially for moral development”.

Some teachers comments on critical thinking is that, in Bangladesh we have lack of thinking capacity due to traditional education system. Both teachers and students don't get time to have gone through thinking procedures. Rote learning, guide/ note books, structured questions, load of books and exams all are the barriers which need to be removed from policy level. Even creative assessment system is also structured in a way that forces to stop thinking.

Teachers also suggested to spread the concept of thinking among the parents also as parents are not ready to accept the change of traditional method of teaching. It needs to determine the importance and relevance of arguments and ideas. With the cooperation of parents teachers can implement dialogue, question- answer or inquiry methods in

classroom to promote thinking among students. Thus arguments can be recognized and appraised. Inconsistencies and errors in reasoning should be identified that students should not go through unnecessary or adamant arguments. Teachers also paid importance on teachers' training both in- service and pre-service.

Classroom observation

The researchers observed five classes of 5 secondary school teachers for knowing how they practice CT pedagogy in their classrooms. Researchers' observations of two classes are as follows:

Class-1: "The researcher observed a class conducted by English teacher with the students of class IX at one of the school of Dhaka and noted down the findings on CT pedagogy. The teacher opted the discuss lesson 1: 'The Ferry Boat' (p. 38-39) from the English text Book for classes IX and X. 'The Ferry Boat' roughly and briefly discusses the problem of over-population through the analogy of overcrowded small country 'Ferry Boat' which sank in the river. The teacher asked the students to read out the whole passage and when that was done they participated in group discussion. Then the students come up with sharing their experiences and knowledge they have gathered from their discussion. The teacher asked them to discuss/tell whether they find any incident occurred in their life or society and the sinking of the boat given in the passage. At this, a number of students participated in the discussion, they talked about the road accidents and sinking of launches in the Meghna river or some similar accidents and losses of lives and property that they have either witnessed or read in the newspaper. But no one came up with comparing or small overcrowded boat with small country struggling with too much population and the boat man with the leader of a country and told them to open at page no. 40 and 41 and go through lesson 2: "Are we too many?" It generated a list of interests among the learners and many come up with interesting discussions. They also discussed the problems a small country with too much population faces. The students who had a good command in English were still participating in the discussion enthusiastically and spontaneously. When the discussion was over the teacher again asked them whether they find any dissimilarity between the sinking of a small overcrowded boat and a country with too much population. The teacher invited the learners to discuss whether it is fair to compare a small country boat to an overpopulated country. He asked them to think the matter from the other end as critical thinking encourages comparing, contrasting and going beyond the text. The teacher asked the learner whether population can be treated as an asset as well. A heated discussion followed as many talked of using manpower positively at home and in the foreign lands while many others opposed the idea of using or managing too many

people positively. Those who supported the idea argued that skilled manpower are assets for a country and they can earn bread from foreign countries as well. But those who opposed the idea argued that a container cannot contain water beyond its capacity. It will overflow and can never be managed. If paddies, jutes and plants are planted too densely, the yields of crops hamper. Things must have a logical proportion otherwise it will culminate into disastrous consequences. The teacher thanked the participants and left the class.

Class- 2: The teacher taught Digestive System in science classroom of grade 7 while the researcher was observing class. The teacher showed different part of a digestive system in a picture through Power Point presentation. First he explained the different terms of the system then he asked the students to explain those. Students repeated the answers accordingly.

Moreover, in 1st class observation when teacher felt that sufficient discussion has been taken place, he asked the learners whether they have any idea about critical thinking. Everybody responded with a negative answer saying 'no'. The teacher realized that they have no idea about the theory but they have done the class following almost all the features of critical thinking. In 2nd class observation it was a good practice that the teacher has conducted the class through power point presentation and showing different pictures. It would be more effective if teacher along with the students could prepare a model of digestive system. Teacher here used question- answer method. But the questions teacher asked to the students did not promote critical or creative thinking rather it helped to memorize the lesson. Hence teachers should prepare lesson plan in such a manner that should promote critical thinking. The teacher used to take class in traditional lecture methods. Inquiry method is totally absent in the class. Even the teacher did not spend enough time to explain questions provided in exercise of Science book.

Findings

In terms of practicing critical thinking skill and creative thinking skill in EFL and Science classroom some of the participants admitted that they practice it partially in their classroom. However, some others showed ignorance to this concept through their responses. Nevertheless, all the participants agreed with the essentiality of CT and creative thinking skill. One of the objectives of 2010 Bangladeshi National Education Policy calls for education that promotes creativity, practicability and productivity for the advancement of the economy and society. Rosnani, (1999) states that, "New methods of instruction must be explored and teachers and lecturers should be creative

and innovative especially for moral development". To this end, she recommends teaching critical thinking.

The second section discusses the findings of classroom observations, it was evident that most of the English teachers do not practice the instructional methods proposed by the objectives of English language teaching, such as delivering lessons in English, using Communicative Language Teaching method (CLT), enhancing students' participation and encouraging student creativity. As a result, the main aims of English language teaching were not fulfilled; the students are not becoming masters with the four English language skills. The National Education Policy of 2010 introduced the use of CLT for English, and teachers admitted during their interview that CLT is an effective method. Nevertheless, there is little evidence in the practical use of CLT in the English classroom that was observed by the researcher. These findings are similar to those reported by Chowdhury (2012). It was also noted that key features of CLT and effective science classroom, namely critical and creative thinking require a more learner-centered approach involving group work, peer work and a high level of students' participation; yet there was a lack of such practices in the classes observed.

Recommendations

Based on the study, following are some specific suggestions both for policy level and classroom level:

Recommendations for National Policy Level

1. According to Oxford dictionary a textbook is a book that is used as a standard work for the study of a particular subject. In view of that Textbooks of NCTB (National Curriculum and Textbook Board) should be revised to be the standard of particular age, need, psychology of the children and social condition. It can be assured by following the Education Policy, 2010. NCTB should be more careful about preparing textbooks such as avoiding mistakes and ambiguous pictures. Rather using understandable way to explaining the teaching aids, tools, assessments and subject materials. Relevant, life oriented and sufficient examples should be cited.
2. Government needs to disseminate the idea or steps taken for improving the quality of education such as to make acquainted the teachers with recent curriculum, education policy and teachers' guide through training and workshops.
3. Incorporating the concept of 'Teaching Thinking' in teacher education in order to orient the teachers with critical thinking so that they can adopt this approach in their classroom teaching.

4. Parents or guardians should be made aware along with the teachers to cooperate with school teachers. To materialize this 'Parents- Teacher interactions' program should be scheduled in yearly routine of each school.
5. Government has taken several steps in collaboration with some NGOs to improve education system. Such a project is Teachers' Training. Massive training has been provided though some lacking remains. In such case monitoring is important.
6. Though the National curriculum has been improved a lot to meet the challenge of vision 2020, it needs to be more revised. The load of study should be minimized by making the curriculum more life oriented and enjoyable. The researchers also believed that, syllabus or curriculum should be designed in a way which encourages a learner to go for critical thinking.
7. Preparing comprehensive teachers' guides/ modules for all subjects which will guide teachers a way to implement teaching thinking strategy in classroom. This will also consider the feasibility for applying those strategies in practical field.
8. Rethinking about the issue of teacher- student ratio, how to reduce this gap. Research study can be conducted to solve this problem. It can minimize appointing more teachers, introducing more sections or shift in schools. Disseminating or decentralizing quality education throughout the country might be some solutions. Also local resources should be utilized to prepare teaching aid.

Recommendations for Implementing to the School-Classroom level

1. School authority should strictly follow the class timing 50 minutes instructed by Education Policy.
2. Teachers must follow 'Teachers' Guide' provided by the Government of Bangladesh. Along with these guides Science teachers must follow '*hate- kolome Shikkha*' (Hands- on learning) guides.
3. Coordinators or school head must check the lesson plans before implementing it in classroom by respective teachers.

Conclusion

Nowadays shockingly Youngers are becoming addicted to devices, social media, and above all drugs. Degradation of social, moral values is in alarming condition. Family bonding are at a risk, youth having lack of respects for parents, teachers and for other also. Thus they are losing their self-respect and integrity. Teachers are facing lot of troubles during class-time to control the unruly students. In this consequence, teachers

suffer a lot to implement a proper teaching method. Teaching CT can step ahead to solve all those problems. As Critical thinking fosters resilience, empathy, flexibility of thinking and self-confidence. Such skills offer the best immunization against misinformation, bullying and indoctrination. (<http://www.learn2think.org.uk/>) Education is not only a process of transferring information and knowledge, but also is a process of transferring behavioral change within the students themselves. In this competitive age of education where information is overflowing it needs to select information cautiously. A strong critical thinking ability is urgent to be benefitted from all those overwhelming knowledge. Promoting critical thinking will enable students to be rational ultimately to have the quality of value- judgment which is an urgent need of society.

The findings of the classroom observation also showed that time duration of classes and students' tendency to do well in the examination are detrimental for using critical thinking methodology in the class room activities. Proficiency in the target language, time limitation of the class, tendency to do well in the examination, learners knowledge of society and world around she/he is living must be taken into consideration to conduct a class using critical thinking pedagogy.

According to the recent importance of critical thinking this study is to investigate different approaches of integrating thinking skill teaching learning activities into regular lessons. Different studies show that using different teaching approaches are useful in developing students' thinking ability, yet teachers experience different tensions and dilemmas. Teachers in Bangladesh depend only on rote learning. For limited time, skills, experiences, facilities and infrastructures teachers could not apply different methods to upgrade thinking ability. To make the education more life-oriented it should not be only exam oriented but also enjoyable. In this case government, educationists, teachers need to work and plan in collaborative way to improve the education system of Bangladesh.

Critical thinking pedagogy being an approach to teaching should be focused in curriculum, aiming to be more reflective of immediate relevance. This pedagogy problematizes social realities which are brought into focus through engaging dialogues and learners find their own places to think and share their opinion which lead them feel significant. A space is provided for learner to express their own views on a wide range of issues immediately relevant to their lived reality. Critical pedagogy reverses and reinvents the traditional roles of students and teachers. Within mainstream model teachers are seen as passive transmitters of knowledge. As a result both teachers and students are deskilled and disempowered. While critical thinking pedagogy views

teachers as intellectual transformative and learners as active participants in their own learners initiated dialogues (Mohamed et al, 2014).

Apart from that, CT enables the human mind to be innovative. CT is often described as thinking ‘out of the box’, coming up with fresh, divergent responses original ideas and objects, new solutions to problems, or ways of looking at problems. More specifically, critical thinking skill has long been believed as an essential factor for learners particularly for young learners. This is to say that CT skill should be approached in an integrated manner in each subject.

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