

INCULCATING CRITICAL THINKING SKILLS AMONG STUDENTS USING INDICATORS FROM ISLAM AND QURAN

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ABSTRACT:

Critical thinking skills are the innate ability among children. The child's first observation about his/her environment is the symbol of critical thinking. The main objective of the current study was to find out the critical thinking skills among elementary school children. Thirty fourth grader students were selected randomly from Faisalabad City. The study employed experimental research design with pretest posttest control and experimental groups. T-test was applied to explore the difference between the two groups. The results revealed that there found a significant difference between both of the groups. The experimental group performed better than control group. The indicators of critical thinking that were inculcated and explored were observation, curiosity, question answers, creativity, inquiry and problem solving respectively. It was recommended that the students should be encouraged to find out solutions of the problems in the light of Quranic teachings.

KEYWORDS: Critical thinking skills, Curiosity, Inquiry development.

Introduction:

The critical thinking skills are used in every day situation. They are useful in making better decisions and solve the problems. These skills are improved using puzzles to reach out the destination. Islam is an enlightened religion that inspires learning and teaching. In very first word shown in the Quran is 'Iqra' means 'to Read.' Seeking knowledge is obligatory in Islam. Many concepts of critical thinking arise in Islam like qiyas, ijtehad, tadabbur, and tafakkur may be referred in many verses of Holy Quran and Hadith Nabwi (PBUH).² Critical thinking is the combination of understanding activities more related to human nature as mentioned in the Quran:

إِنَّ فِي خَلْقِ السَّمَاوَاتِ وَالْأَرْضِ وَاخْتِلَافِ اللَّيْلِ وَالنَّهَارِ لَآيَاتٍ لِأُولِي الْأَلْبَابِ....الآية

Observe! The creation of paradise and earth, and change in night and day, indeed there are signs for men's understanding. The men who have a good time to praise of Allah, standing, sitting, and lay down on sides, and expect the miracles of formation in the paradises and earth, (With the thought).¹ The competence in cognitive skills is an important aspect of learning and teaching process. The teachers should use skills for implementing an effective teaching to improve students' affective and cognitive abilities. The teachings of Islam are to justify the pride of intelligence and science in the form of thinking and reasoning.² The mastery of knowledge is best understood through thinking

skills. These skills improve students' learning and knowledge with problem-solving clarifications.

Concept of Critical Thinking in the Light of Quran: The critical thinking skills are based on Islamic Principle extracted from Holy Quran:

1. A soul cannot believe without consent of Allah, and He will place destruction for those who do not use (thinking) reason.³
2. And He (Allah) has exposed for your reference night, day, sun and moon as well as stars are exposed by His Law. Certainly, symbols for those who use reason (thinking).⁴
3. (People) traveled over the earth and have hearts using reason and ears to hear? Certainly, eyes are not blind, but the hearts.⁵
4. Definitely, the worst among living creatures in front of Allah are those who deaf and dumb who do not use (thinking) reason.⁶
5. And do not follow for which who did not use knowledge. Certainly, hearing, sight and the heart all will be inquired.⁷

Prophet Muhammad (PBUH) played an important role in eliminating uncritical factors from Pagan Arab society. He (PBUH), stressed not blindly accept their ancestors' wrong deeds⁸ prohibit make incorrect allegations.⁹ The concept of critical thinking was based on Oolul-Albab (visionary people). Those people can read the word of Allah in nature and Scripture.¹⁰ They check the authenticity before trusting any information and able to differentiate between good and evil. The quality of thinking critically is the actual reality of truth.¹¹ The role of critical thinking is to analyze the ability of children and human beings to evaluate Information they observe.¹² Analytical skills are critical to improve the ability of understanding in existing evidence. The assessment of critical skills explored the validity of the concept.^{13,14,15} Galinsky¹⁶ explored essential life skills that children use. The indicator of curiosity is the innate ability found among all children to improve critical thinking skills. Critical thinking skills use information, analyze in making judgements, and ultimately active engagement involves imagination. When children experience new information, they tend to accept this information in their brain. They fit the new information with already known changes in mind. The teachers develop higher order thinking abilities among students to fulfil both national and personal needs.¹⁷ They explored certain pedagogical practices that developed effectively developed students' critical thinking skills, knowledge, and temperaments across the academic fields. Halpern¹⁸ explained that critical thinking is goal-directed and purposeful activity that leads towards problem solving, formulate conclusions, and calculate mathematical concepts to make decisions. Critical thinking is a mode of thinking about any content, subject, or problems that increases the quality logical thinking skillfully.¹⁹ The concept of critical thinking is rooted in the instructions of many academic fields.²⁰ The educational organizations are needed to develop students' critical thinking capabilities. According to

Sternberg²¹ current educational institutions are emphasizing rote learning among students that requires repetition and recital of concepts. On the opposite, the critical thinking skills require skillful investigation, interpretation, and evaluation. The children are basically knowledge based and stored information that linked with trivial facts. It stimulated teachers to use information in inculcating and transfer of skills in their lives. The view of Piaget's is an individual attempt, Vygotsky explored the position of past involvements, previous knowledge, culture and society in endorsing cognitive development.²² Piaget highlighted the features displayed by children in specific age, Vygotsky investigated the process of children growth. Vygotsky supposed that knowledge is established by social collaboration. The process of learning happens through shared experiences and language and adults raised children development and learning intentionally and in systematic way. Vygotsky's explored the concept of Zone of Proximal Development (ZPD), that means learning is human and social potential and practical limits of human potential depends on social interaction quality.²³ Paul and Elder²⁴ established a model to analyze critical thinking. This method employed critical and strategic thinking in action. The indicators are used to investigate critical thinking through class activities, questions, inference and interpretation of concepts. The studies show that concepts of critical thinking had three categories, critical disposition, critical thinking skills and values that guide thinking.²⁵ Critical thinking skills is an assets of Islam. The teachers develop among students critical reasoning through examples from many verses of the Holy Quran. They develop belief of reasoning as Muslims.²⁶ The role of thinking and reasoning is transformed through national education system that highlights higher order thinking skills.^{27,28} Many studies show that students' critical thinking skill is inclined by style and quality of teaching.^{29,30,31,32} The teachers unable to practice the process of thinking do not motivate students to learn solid concepts.^{33,34,35}

Objectives of the Study: The study explored the following objectives:

1. To find out the critical thinking skills among school going students.
2. To explore the factors that are responsible for promoting critical thinking skills.
3. To trace out the difference in pretest and posttest experimental designs when critical thinking skills are inculcated to students.

Research Questions: The research questions were designed as:

RQ. 1: What are the critical thinking skills among school going students?

RQ. 2: What are the factors that are responsible for promoting critical thinking skills?

RQ. 3: What is the difference in pretest control and experimental group designs when critical thinking skills are not inculcated to students?

RQ. 4: What is the difference in posttest control and experimental designs when critical thinking skills are inculcated to students?

Research Design: The study was experimental in nature and pretest posttest experimental research design was applied.

Population and Sample: The population comprised all the fourth grader students studying in public sector elementary schools if Faisalabad city. The 30 fourth grader students were randomly selected from govt. girls high school Faisalabad.

Experiment Process: The self-developed test was made to explore the existing critical thinking skills among fourth grader students. The questions like Encouraging curiosity, learn from observation, asking questions, evaluate information, promoting children interest, Inquiry development and improving problem solving ability. The said skills were developed creating multiple activities about critical thinking skills. The pretest was developed and result of the students was saved. The experiment was lasted for four weeks (The activities lasted four days a week of the period one and half hour class). In this way a total of 24 hours the experiment lasted. The post test was designed and the results were saved. The t-test was applied for the comparison of results of pretest and posttest.

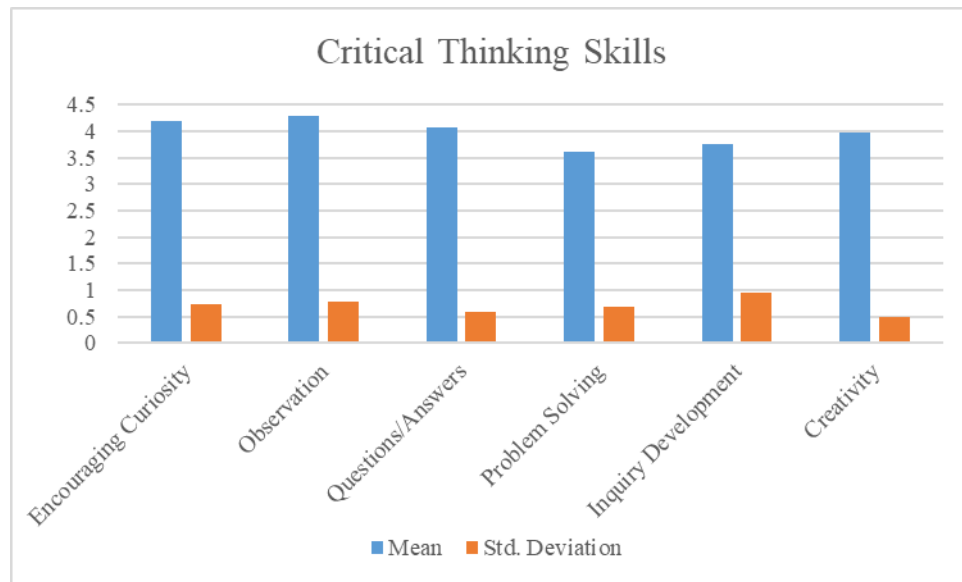
Data Analysis: RQ. 1: What are the critical thinking skills among school going students?

RQ. 2: What are the factors that are responsible for promoting critical thinking skills?

Table 1: *Factors Responsible for Promoting Critical Thinking Skills*

| Indicators | Encouraging Curiosity | Observatio n | Questions/ Answers | Problem Solving | Inquiry Developmen t | Creativity |
|----------------|-----------------------|--------------|--------------------|-----------------|----------------------|------------|
| Mean | 4.189 | 4.276 | 4.066 | 3.601 | 3.745 | 3.964 |
| Std. Deviation | .7295 | .7818 | .5818 | .6864 | .9565 | .4956 |

The table revealed that multiple factors were responsible for the development of promoting critical thinking skills among fourth graders. The top skill that students learn was observation of different situation in learning environment with mean score of 4.276. This finding was totally aligned under the studies of Gonya³⁶ investigated that children sees the daylight as sun shines through the house window. After the window closes it prevails darkness. The second indicator was encouraging curiosity. The third indicator was question and answers. The fourth indicator was creativity. The fifth indicator was inquiry development 3.745 and the last indicator of critical thinking was solution of problems with mean value of 3.601. These findings were aligned with the studies that the child stands in front of house window, makes the shadow and inquire will all objects make shadow every time. The process tends to arises through observation, doing practical and seeking answers to questions. The children then want to explore how the sun sets and rises in the same patterns. The child then explored different books illustrated the functions of sun. This is the stage where the students find solution of their observation answers of questions. It was illustrated in graph below.



RQ. 3: What is the difference in pretest control and experimental group designs when critical thinking skills are not inculcated to students?

Table 2

Pretest Control and Experimental Group Designs Comparison

| Experiment | Group | N | Mean | Std. Deviation | t | p |
|------------|--------------|----|--------|----------------|--------|------|
| Pretest | Control | 15 | 10.533 | 1.6417 | -1.784 | .085 |
| | Experimental | 15 | 11.466 | 1.1872 | | |

The table 2 showed that pretest control and experimental group designs comparison was made before inculcation of critical thinking skills to students. The comparison revealed a non- statistical difference between both groups. The mean score of control group 10.533 and that of experimental group 11.466. Both groups had same performance regarding the use of critical thinking skills.

RQ. 4: What is the difference in posttest control and experimental group designs when critical thinking skills are inculcated to students?

Table 3: *Posttest Control and Experimental Group Designs Comparison*

| Experiment | Group | N | Mean | Std. Deviation | t | p |
|------------|--------------|----|--------|----------------|--------|--------|
| Posttest | Control | 15 | 11.800 | 1.0141 | -8.101 | .000** |
| | Experimental | 15 | 14.800 | 1.0141 | | |

**p<0.01

The table 3 explored that posttest control and experimental group designs comparison was made after the inculcation of critical thinking skills to students. The comparison revealed a statistical difference between both groups. The mean score of control group 11.800 and that of experimental group 14.800. Both groups had different performance regarding the use of critical thinking skills. The experimental group performed better after inculcation of critical thinking skills.

Results and Discussion: The critical thinking skills are used in every day situation.³⁷ This study aligned under the studies of³⁸ that investigated children sees the daylight as sun shines through the house window. After the window closes it prevails darkness. The children repeat the stands in front of house window, makes the shadow and inquire will all objects make shadow every time. The process tends to arises through observation, doing practical and seeking answers to questions. The children then want to explore how the sun sets and rises in the same patterns. The child then explored different books illustrated the functions of sun. This is the stage where the students find solution of their observation answers of questions. Islam is an enlightened religion that inspires learning and teaching. In very first word shown in the Quran is 'Iqra' means 'to Read.' Seeking knowledge is obligatory in Islam. Many concepts of critical thinking arise in Islam like qiyas, ijihad, tadabbur, and tafakkur may be referred in many verses of Holy Quran and Hadith Nabwi (PBUH).³⁹ Critical thinking skills is the theme of Islam. The Holy Quran developed the belief of reasoning as Muslims.⁴⁰ The thinking and reasoning is the higher order thinking skill.⁴¹ The teachers unable to practice the process of thinking do not motivate students to learn solid concepts.^{42,43,44,45}

¹Al-Imran, verse 190-191

² Asmawati, S., Aderi C. N., Abd. Muhsin, A., & Khadijah, A. R. (2016) Towards Excellence Through Cultivating Innovation. *Journal of Technical & Social Sciences*, 6(1), eISSN:2289 7356

³Quran Surah Yunus, Verse-100

⁴Quran Surah Al-Nahl, Verse-12

⁵Quran Surah Al-Hajj, Verse-46

⁶Quran Surah Al-Anfal, Verse-22

⁷Quran Surah Al-Isra, Verse-36

⁸(Al-Bukhari, No. 1043)

⁹(Al-Bukhari, No. 18)

¹⁰Quran Surah Al-Baqrah, Verses 190-191

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