

## Investigation effect of dialogue on fostering critical thinking among high school students

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**Abstract:** This study aimed to investigate the effect of dialogue on critical thinking of first class in high school of Razan city. Research In terms of target, applied and research methods, like testing. The study population includes eighth grade students in the academic year 2013-2014 were enrolled in Razan city. A sample of 38 students was randomized cluster sampling in two experimental and control groups, respectively. To collect the data, critical thinking and to analyze the data Ennis implementation of a two-part questionnaire descriptive statistics (mean, standard deviation) and inferential statistics (multivariate analysis of variance and t test) were used. According to the findings of dialogue on critical thinking in high school students has a significant impact. In other words, this course will enhance students' critical thinking.

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### 1. Introduction

For centuries, philosophers and educational experts believe that humans need to learn to maintain your life and think of it (Zahri, 2009). The purpose of education, learning and its final destination, is the growing power of reasoning and of judgment, so that the priority of education centers, is to teach thinking skills. According to Kant, the knowledge of the discipline to be gathering information from the senses, the only purpose of providing information to student teaching, but its purpose is to help the student information and means the totality of its. The teacher should stimulate student's mind to imagine in his mind is alive (Ahadian and Aghazadeh, 2008). Thinking one of the most accessible ways to increase mental abilities and nurture the brain is extraordinary.

The realization of the ideals of a democratic system, social justice, and rule of law, human prosperity through training creative people, critical and capable of communicating will be possible. Education finds its true meaning when teaching environment to create opportunities for continuous learning to promote research and encourage dialogue, cooperation and team learning, enrichment and development of problem-based learning, critical thinking and provided. Communities, citizens remain stable in light of the knowledge, skills and abilities they need to live in society.

The biggest disaster that education brings monologue based on the distance between the two worlds of human thought and perception is different. Such education is completely one-sided and ubiquity as a man and another one-way communication will be ignored. In education based on human thinking

monologue and unique worlds most fundamental right of a student and the student has the right to communicate thoughts and ideas of its own in bringing the plant to be forgotten.

The greatest mission of teacher monologue-based learning environment of transferring information from adult human and non-human experience cooked with little experience. Student in the communication process weaves his tongue and mouth open like a small bird seed to put in his mouth: the student is taught to be a teacher ear and mind off the storm meaningless words (Neiestani, 2009).

Both traditional and modern teaching approach lacks an educational relationship. Howe believes that only the shadow of a relationship between student and teacher access to experienced and new understanding becomes possible (Howe, 1936). In the traditional view of education, the idealism and reason-oriented, teacher is the source of knowledge in the leading view, students relying on talents, you are his interest, considered to be the source of knowledge. In the traditional view of education, the idealism and reason-oriented, teacher is the source of knowledge in the leading view, students relying on talents, you are his interest, considered to be the source of knowledge. In the traditional view, the student does not have the freedom of choice and the teacher is required to teach and transfer knowledge to students is clear. While the vision of a modern education, student choice and preserves according to motives, interests and needs their knowledge. In fact, in modern education, the student is no overriding authority as five teachers, to foster mental, spiritual and social concern.

According to the two areas of knowledge schools pragmatic idealism that rarely show two strains are a continuum, Buber is realistic in explaining his thoughts on both traditional and modern school education gallop. Both traditional view (idealism and realism) and leading (pragmatism) is criticized. Buber thought his upbringing on the relationship between teacher and student.

Both educational point of view (traditional and modern) human relationship between student and teacher ignore, is unacceptable. In other words, no kind of learning can be achieved without the full participation of students and teachers. Based on the traditional education which focuses on teacher authority and modern educational approach that relies too much freedom students without an intermediate relationship between teacher and student. Real education will be achieved when a human relationship between educator and student and establish two-way. (Buber, 1947).

In an era before the coming of the print textbooks are old and most jobs, fast and continuous innovation to experience the ultimate goals of general education had to be changed and to cultivate method of critical thinking the people as one of the main goals of education, more attention. Also, in the educational process should also boost the morale of teachers Prior to criticize the spirit of criticism and investigation in the field of students to school today, but unfortunately, largely because of advances in science and technology and according to some of the psychological approach, his attention focused more on data and facts and trained people are creative thinkers interface (Shabani, 2003).

According to traditional approaches and modern recently students lack critical thinking and scientific thinking in particular of this study is to examine the impact of the dialogue on critical thinking are students.

#### **The aim of the research:**

The effect of fostering dialogue on critical thinking of first class in high school students

#### **Research hypothesis:**

Dialogue has effects on fostering critical thinking of first class in high school students

#### **Literature Review:**

Meaning of word dialogue should be sought Greek root. Dialogue of the word "dia" and "logos" is formed. Dia word means between, through and logos mean word, speech and thought, reason and judgment. Refers to the process of dialogue in which the word, speech and thought is exchanged between individuals through people. Dialogue on the meaning of their first cognitive represent that person through dialogue with oneself, with one or with a group will obtained. Dialogue can be a way of thinking and the thinking of

others. In fact, a search dialogue, shared, creative, empathic and understanding of the concepts for understanding the world from this point of view, dialogue is a means or a technique, but rather a process, an attitude or moment or two people more to meet (Neiestani, 2009).

Buber's view that any connection between me and the bond anymore, certainly it can be called a relationship: Discussing the "spirit of the books" of Buber's view, a relationship between the reader and the book of life established Interstitial. In the face of a written work, singer and spirit of the book is created. Communicating with others, whether face to face, whether in books and stories, gives the opportunity to people to understand others and achieve their (Buber, 1967). According to Howe, both traditional and modern education perspective without an educational relationship and believes that only the shadow of a relationship between student and teacher access to experienced and new understanding becomes possible (Howe, 1936). In the traditional view of education, the idealism and rationalism, is to acquire knowledge and insights leading, student, relying on talent, power and self-interest, considered to be the source of knowledge. In the traditional view, the student does not have the freedom of choice and the teacher is required to teach and transfer knowledge to students is clear. While the vision of a modern education, student choice and preserves according to motives, interests and needs their knowledge. In fact, in modern education, the student who graduates from five teacher education authority as being mental, spiritual and social concern is important.

According to both schools of idealism and pragmatism knowledge less than two strains represent a continuum, and Buber are realistic in explaining his thoughts on both traditional and modern school education gallop. Both traditional view (idealism and realism) and leading (pragmatism) is criticized. Buber thought his upbringing on the basis of mutual respect is based between teacher and student.

Both educational perspective (Traditional - modern) human relations and mutual between students and teachers ignore, is unacceptable. In other words, no learning can be achieved without the full participation of students and teachers are important. Based on the traditional education, which focuses on teacher authority and modern educational approach, it relies on freedom of students.

According to Bakhtin, in what the individual states, the individual's existence, because words and other linguistic forms do not belong to the individual is important. Speech in terms of content, meaning and paper, equations in terms of the social environment can be created and produced.

In fact, what I do not mean to Yemen in terms of the social and other terms that dates back to me, my voice can only have meaning with others, with chorus and dialogue take place at the best of times (Ansari, 2005).

Thinking man caught in static structures and instead focus on integrity is considered a phenomenon of trace elements. The concept of "birth order" implies that man must be his usual thinking patterns that are accustomed to it and it does not feel comfortable, leave and break through the domination of stress in order to achieve it (Bohm, and Pitt, 1987).

We created something we can not remain silent, but in word and in action is based on the idea that we could create something. No effective dialogue, ideas can not be summoned to participate as democratic. In fact, there is no dialogue, no communication, and without communication there can not be genuine education (Freire, 1982).

Habermas believes that the current society, a society that is sick due to lack of understanding or communication is distorted.

According to him, the area of power and wealth is the inevitable result of practical reason. So, the realm of the mind is the dominance of consensus and understanding is important. These are all effects and damage caused by the expansion and modernization of the West is the instrumental rationality has grown up, but cultural rationality is lost.

His solution is nor revolution nor violence, but the theory of communicative action. His way out of this situation as the cultural rationality and therefore the importance and necessity of spreading education to achieve rationality and consensus and understanding stresses (Norouzi, 2008).

Due to cultural and individual differences among humans, dialogue can play an important role in education. A good school is where the benefits of dialogue in dealing with various issues. Dialogue leads to improved democracy and the formation of a social activity between persons of the cognitive development of students in class and can create, maintain and help create social realities in the educational environment.

Based on socio-cultural theory Vygotsky, dialogue can be like a "psychological tool" is intended that through participation, enhance the sense of class (Vygotsky, 1978).

Practical solutions based on dialogue, a teacher in training should be given to them:

• **Communicate with students:**

Education in a general sense is not the relationship between teacher and student. In fact, the coach wants to communicate with your student to enter into dialogue, in the training of teachers to linkages unwanted calls. So the most important and

the most influential factor in education, communication between student and instructor. As long as the connection between the two is not talking about education is meaningless. Given the difficulties facing education based on the need for dialogue and communication between the instructor and students sympathetic, unfortunately, many coaches instead of solving their communication with students, have been cleared for the problem. These coaches instead of improving the management of its relationship with the students have to disconnect the inexperienced students have found an excuse to disconnect.

This leads to a lack of critical thinking and promote the knowledge, insight and social skills of the students that the most important goal of basic education. It seems that the most important factor of true communication research in classrooms, inexperience, and lack of education, skills and ability to coach in the management of the classroom. Students will look at actions and movement teacher, teaching and technical ability and training, as well as can define how your relationship with the teacher.

• **Understand student attendance:**

Another important point that teachers should be aware is that the dialogue-based learning, students' understanding and their independent character. Dialogue between students and teachers that occurs only when the student's self-esteem and identity, authority and character of his counterpart to be understood.

• **Change architecture of class:**

The most important role players in education based on dialogue, changing the architectural design and layout transform the class. In class-based dialogue, a teacher from power and kingly role (care-based power and punishment) comes down and the only member of the class is an experienced group. All participants in the class (both student and instructor) in such training, involving more from another and no one is superior over the other. Class layout is such that all sit around the encapsulation is designed in such a way that the identity of all students will be honored.

• **Manage a class discussion**

After changing the architecture class, players must manage a classroom Dialogue. In fact, teachers need to develop a set of criteria and subject to a process of empathic and creative efforts to make the dialogue class (Neiestani, 2009).

**Critical Thinking:**

Interest in the development of critical thinking skills in educational circles is not a new phenomenon and chat Myers is the author of critical thinking that is the source of interest in Plato's Academy, the pattern of modern universities, but today it rose gradually from the long distance and have focused most of their

attention to the presentation of information (Mayzer, 2007).

Whitehead also with his famous words that student learning is useless unless you lose your books, pamphlets and details of the burn are and try to forget. . . Implicitly refers to the sense that the real fruit of education should be a thought process that there is not a field of study through data collection was amazing (Myers, 2007).

William Sami in 1906 published a book in which to study sociology Foundation has studied and documented that the human mind tends to think of community-based non-critically but schools play a role in social education maintain. His extensive studies about the negative effects of the lack of critical thinking in schools, the formation of a uniform and false beliefs, facts half right and wrong decision to accept the undisputed information provided to students in the schools of the importance and necessity of critical thinking and life the education effort did (Sternberg, 2002).

Malcolm Nals also believes that in order to create social change increasing, Educators should review their educational role and activities and training on the skills and techniques that student need for independent research focus and that he believes that, given the rapid developments and increasing discoveries in the natural sciences and other fields, truths that are taught at a young age not only sufficient but in most cases is inaccurate and loses its effectiveness under new technologies (Myers, 2007).

Freire is the first philosopher to foster critical thinking and men in education, revolutionary theory or liberation is read at the beginning of the spotlight focused on adult literacy. His frequently critical thinking education is critical. From his perspective and education, more of a suggestion, imposing, compatibility with set values and social regeneration in which the wrong place for compromise and acceptance of and obedience trained to (Style 2003, Quated by Marjani, 2006).

John Mack Pack in book on critical thinking and education suggests that the neighbors thought as thinking about what is unknown and the unknown thing can never be general, but should always be part of his vision in addressing the thinking critical analysis of skills represents a classic replacement and any proportional relation to the number of fields Dewey in how we think the nature of critical thinking is examined. In his view, critical thinking logically consists of two stages: the first stage of the doubt, uncertainty, complexity and mental problem is that at the beginning thought to apply and practice curiosity, research and find the material to come out of that state the second phase is the uncertainty and complexity. Critical thinking and healthy skepticism of his nature

or absolute judgment defines (Riavi, 1982, translation by Sayyed Muhammad, 2006).

It can be concluded that many thinkers in various aspects have helped to promote critical thinking. Ludwig and Teigen, Montana Stein not only the importance of the concepts of human thinking, but also the need to analyze the concepts and assess the strengths and limitations of the human mind is also mentioned. Piaget's thinking and desires, self-centered and community-centered man to expose and reject the necessity of critical thinking that makes such a point of view one could argue and to level the name of "conscious understanding» reveal it (Quoted by Madandar, 2006).

Piaget is one of the most important studies about the human mind is the case of the century. He desires to turn self-centered and community-based human thinking would argue that the ability to think and then to a higher level to reach an informed understanding (Qabool, 2005).

Theory of cognitive, meta-cognitive and constructivist, of cultivating critical thinking in the educational process support (Shabani, 2003). Cognitive theorists, the students in the learning process look like information processing, and for those who have experience in searching for information to solve problems in their mental structure what is useful to solve new problems and diagnose their work instead of passively affected by the environment to be active. For this reason, cognitive learning position as one of the most important factors in the learning process.

From the perspective of cognitive: the student must have an ongoing monitoring process of their mental and reconstruction activities set your mind to. Some even believe that all cognitive and metacognitive abilities and skills at the ages of five to seven years to grow and a large number of students from significant growth as well.

Another theory to support critical thinking "constructivist theory" that is rooted in cognitive thinking is a philosophical foundations of such an approach based on the principle fallible and knowledge. Constructivist learning process as well as cognitive psychologists of perception and experience and believe, anchors curricula should provide a situation in which students interact through discussion and analysis accelerate the argument that facilitate the practice of critical thinking were. (Shabani and Mehrmohammadi, 2000).

John Dewey, the nature of critical thinking "suspended judgment" or "healthy skepticism" is defined. He critical thinking involves active search, accurate, stable and knows every thought or knowledge. (Lotfabadi, 2005).

"The psychology of America" in the context of the nature of critical thinking has stated: "We understand that this kind of critical thinking that should judge itself and whose purpose is to interpret, analyze, evaluate lead stem. (Hashemian, 2001).

Therefore, teaching critical thinking involves creating a new atmosphere to the students could deliberate thought process to change or modify or rebuild it. One of the basic ways that simultaneously learning critical thinking to students' thinking gradual manner, the following question and be supported them in developing new methods. In the early stages of teaching critical thinking to students, teachers, students experienced conflicts with complex cases avoids too. Instead, his attention to teaching basic forms of discipline, such as word concepts, problems, and to provide focus sweep of ways to organize knowledge and questions in the field pays. Many teachers, creating visual models to understand their thought processes are much more useful than practicing written and oral. This way of thinking, strictly in accordance with Piaget's theory, in which learning before it comes to the absolute mode to the actual experience starts. Learn to think critically, including the development of thought processes through the feed beyond self-centered attitudes and perceptions and immediate sensory experience is the ability to decide for handling new experiences and visualization possibilities beyond the immediate experience of the important elements are considered critical thinking. Classroom can take the intimacy and the fact that it would lead to fostering critical thinking and stimulate the interest of students. It is not enough that the right answer to the problems students learn, and how true they must also learn to think and make judgments based on critical thinking.

#### Research project:

The study used a quasi-experimental design.

Population, sample and sample selection procedure:

The first study population consisted of all high school students in the academic year 2013-2014 in Razan city. Prototypes, including 18 students who attended classes' dialogue, and 18 of peers groups, formed the control group, sampling was random cluster sampling. The experimental group during 16 sessions of 2 hours per week, a total of eight weeks in classes and on the basis of a questionnaire critical thinking Robert Ennis (once before the start of classes and one after classes) studied that were in the control group was the same situation.

Dialogue training in the experimental group:

1. The development of standards and rules

At the beginning of class the teacher should ask the students to abide by the following rules.

- Good and counted speak.

- Entries sometimes find themselves in a regular structure your presentation.

- Concepts that you use in conversation, the well-defined.

- To see if other well listen.

- Control your feelings.

- Telling yourself that silence and thinking about the views of the participants, it is important to speak.

- Your turn to speak compliance and avoid disruption of speech of participants.

2. Find a suitable subject for dialogue

3. Propel students to probe

4. Create a system of thought in students

5. Control of Emotions

6. Participants relationship management

In the process of dialogue classroom, students are normally involved in speech problems, mental prejudices, misunderstandings, different points of view, conflicting beliefs, are controversial and the subject of intense emotions. All of this indicates the need to manage relations between participants of the coach.

7. The registration process of dialogue

Analysis of data:

Results for the statistical analysis of descriptive and inferential statistical methods were used in the descriptive statistics of the sample standard deviation average deviation Standard in the statistics of several variable analysis of variance t test was used.

Descriptive section: This section examines the descriptive indicators, including average and standard deviation, etc. will be discussed the results were as follows.

Inferential analysis used the results according to the data of the questionnaires were Ennis, that for the work of two descriptive statistics continue to be offered.

#### Research hypothesis:

Is the dialogue on the development of critical thinking of students affected?

As the results table shows the calculated value of  $f$  426.29 with a degree of freedom he was 20 times larger than the critical value after 0.99 confidently predicted that the dialogue on the development of critical thinking of primary school children affected and confirmed.

Table 1- descriptive indicators

Statistical indicators		Number	Means	Standard Deviation
Groups				
Critical	Test	18	489.8	44.12

Thinking	Control	18	542.20	42.42
	Total	36	516	45.84

Table 2- descriptive indicators

Pillay effect	Value	f value	df	df	Significance level
	0.79	29.426	1	20	0.001

### Discussion and conclusion:

According to the analysis of data comparison between two groups was significant variation between the experimental group and the control group there. The dialogue increases the sense of questioning, reasoning and analyzing and evaluating the students.

So away from teaching (monologue) that passive method is for students to understand the psychological and social conditions and respect for the opinions of their students can achieve today is to think that the Education and the Department of class and the school will deal with fewer problems.

For a discussion of education and develop critical thinking in our education system, we must first review their teachers in their role and its activities focus on teaching skills and methods that students would need for independent research.

The actual process of education should not assume that the information collected intellectual process, but a string of study. Therefore, an essential condition for raising students' thoughts knowledge of teachers in relation to high level cognitive abilities is important. Constructivist teacher acts as an intermediary between the student's programs and to lead meaningful to the learner.

Constructivist teacher relationship with students should respect (power-information), but they should be teacher relationship based on cooperation and opportunity to dialogue and exchange of ideas among students provide. He should be possible to prepare students for the challenges in such a situation; the training program will facilitate learning.

Teachers have the independent intellectual properties, critical thinking, intellectual curiosity, obligation to provide reasons, have an open mind and assertiveness. Only in this way that students will develop their critical thinking. Our students have classes with different and contradictory aspects of various issues, including economic ideas, political, social and cultural encounter and to practice critical thinking about their problems. It is not enough to know the right answers to issues learn and they must learn how to just think and make judgments based on critical thinking. The most important thing in this process is to create an atmosphere in the classroom is that students encountered any issues with it, to

challenge and broaden their perspectives and their richness.

Such work requires critical thinking skills such as event detection and verifiable, accurate determination of one opinion, to determine the validity of a source of information, diagnosis and determine the strength of an argument and a claim of bias. If these skills in their students and moreover, to continually learn and adapt them to their own thoughts and judgments in various fields, take advantage of critical thinking. Of course, teaching critical thinking with only one teacher and one lesson can be completed successfully. This training should be done in all lessons. Because only by fostering the development of critical thinking by a teacher, the student will not get a clear framework it. He needs to link and analyze issues in all areas, to practice their analysis to achieve all-round development. The course requires critical thinking is constantly maintained, not that students transfer from one base or base course or courses in higher education, has learned the material, cuts sense. In addition to acquiring a clear framework for critical thinking, education must begin from the years of primary school students to understand the structure and organization of their experiences to gain.

But usually our educational system for preset answers, and students must learn the answer. This approach is inconsistent with the manner in which they achieve through rethink about different things and new ideas, to develop their thinking. Teachers should note that it is not enough that only students they report, define, explain and explain. But also students should be asked to analyze, infer, their relationship, their combination, criticize, make their assessment, they think and rethink. So teaching should encourage critical thinking and the way of thinking brought to the school class lessons.

### Suggestions:

- Monologue away from traditional methods, even in the so-called new approach is evident.
- The development of theoretical and practical lines of Psychology professionals
- Teachers teaching method, pay attention to the eight skills:
  1. Questioning
  2. Analysis

3. Evaluation
4. Linking
5. Reasoning
6. Organization of scientific concepts.
7. Application of critical words
8. meta cognition for critical thinking
  - Assumed facts to determine whether the evidence they approve or not, will be tested.
    - Do not allow students to narrow their issues.
    - Do not allow students to narrow their issues.
    - helping students to find the right way of thinking, not just a guide serving requests. Teachers with these questions should give students a great value. Thinkers know that new ideas of students about the world around them, and the initial response in order to better guide students.
      - The teacher is a good model of the habit of thinking for students.
        - Teaching critical thinking to teachers as project manager in schools
          - Critical thinking and writing lessons for different levels, especially primary school
          - The inclusion of teaching critical thinking in other textbooks
            - Use active teaching methods, including the method of dialogue in the classroom
            - Use the opinions of students in the classroom and school management

- Educate family to raise divergent thinking, including critical thinking at home

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