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The Effect of Dialogic Teaching on Students' Critical Thinking Disposition

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Abstract

This study sought to identify the effect of dialogic teaching methods (group discussion and Socratic dialogue) on university students' critical thinking disposition and social interaction. The study was based on qualitative approach using action research methodology. Participants were comprised of two groups of undergraduate students in the field of education who were selected by purposeful sampling (N=40). Data was collected using standardized open-ended interview. The interview was organized in three main themes (evaluation of the education, evaluation of the interactions and the overall evaluation), and the systematic sequence of seven questions. After designing implementing patterns (group discussion and Socratic dialogue), based on topics covered in educational psychology, both methods were used in one semester, followed by interviews with participants from both groups, conducted by the researcher at the end of semester. In order to find constructs, the data collected from the interviews were analyzed using "interpretational analysis." The results indicated the effectiveness of dialogic teaching methods in improving six elements of critical thinking dispositions (analyticity, cognitive maturity, CT self-confidence, self evaluation, open-mindedness, truth-seeking), and seven elements of social interaction (knowing each other, friendship and intimacy, tendency to dialogue, responsibility, class dynamism, interaction with teacher, intimacy with the instructor).

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1. Introduction

Recent interest in dialogic approaches in education is reflected in a growing literature. This interest has been largely directed towards enhancing student's reasoning, however dialogic approaches have also been suggested as a means to develop critical thinking (Moon, 2008 ;Paul& Elder, 2004), to facilitate student's participation in their learning (Slavien 2006) and to participate in democratic action. This paper specifically explores what dialogic approaches might offer towards greater participative involvement of student. It also considers what dialogic approaches might offer for the development of student's critical thinking dispositions.

1.1. The concept of critical thinking

Critical thinking has mainly been conceptualized in terms of "skills" and "dispositions". Some researches define critical thinking as cognitive skills -one general activity or as one aspect of generic concept that includes various

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action- Paul (1995) defined critical thinking as a set of integrated macro-logical skills, and McPeck (1990a, 1990b) characterized critical thinking as the ability to suspend judgment, or temporarily suspend judgment, until sufficient evidence is accumulated to establish the validity of a proposition. According to Ennis (1989) critical-thinking process is a decision about what to believe or do. He describes critical thinking based on twelve elements of cognitive skills. He argues that critical thinking starts as a problem-solving process in a context of interacting with the world and other people. Then, it continues as a reasoning process informed by background knowledge and previously acceptable conclusions, and it results in drawing a number of inferences through induction, deduction, and value judging.

But many definitions do mention the involvement of emotion in critical thinking (Brown & Rutter, 2006, Ford, Johnston, Brumfit, Mitchell & Myles, 2005). They suggest that it is more than skills, more than component activities, a general set of attitudes and habits towards everything, a state of critical being, a way of viewing, feeling and working in and with the world, this state is a disposition. Most researchers also agree that dispositions toward critical thinking play an important role in critical-thinking performance (Facione, Facione, & Sanchez, 1994). Facione and Facione & Giancarlo (2001, 2005) discriminate between mental skills (analysis, inference, evaluation, deductive reasoning and inductive reasoning) and emotion dispositions. According to Facione and Facione (2010) critical thinkers must be both “willing” and “able” to think critically. There is also the need to have - and perhaps the need to assess- dispositional side (“willing”). A certain set of characterological attributes that can be used to describe a person inclined to use critical thinking:

Analyticity: The disposition of being alert to potentially problematic situations, anticipating possible results or consequences, and prizing the application to reason and the use of evidence even if the problem at hand turns out to be challenging or difficult.

Systematicity: The systematic person strive to approach specific issues questions or problems in an organized, orderly, focused and diligent way, however that might be accomplishment.

Inquisitiveness: The inquisitive person who values being well-informed, wants to know how things work, and values learning even if the immediate payoff is not directly evident.

Open-mindedness: The disposition of being open-minded and tolerant of divergent view with sensitivity of the possibility of one's own bias. The person respects the rights of others to hold differing opinions.

CT self-confidence: CT self-confidence person who trust themselves to make good judgment. The level of trust one places in one's own reasoning processes.

Truth-seeking: The disposition of being eager to seek the truth, courageous about pursuing inquiry even if the finding do not support one's interests and preconceived opinion.

Maturity: The disposition toward inquiry and diction making with a sense that some problems are ill-structured, some situations admit of more than one plausible option and many times judgments based on standards, contexts and evidence which preclude certainly must be made.

1.2. Critical-thinking and dialogue

The use of dialogue as a teaching method can be traced to Socrates (Fisher, 2003). In the Socratic tradition; the teacher is as facilitator in the students' search to construct their Knowledge, the teacher use of dialogue to support the students, to increase their participation in education, and to shift power from herself/himself to students. This dialogue can be seen in the work of adult literacy educators Paulo Freire, and Lorenzo Milani, however they emphasized to the role of dialogue to shift power to students in education, and to shift power to people in the wider society (Gotsman, 2010).

On the other hand, critical theorists opened a new domain of link between Critical thinking and dialogue. Paul and Elder (2004) considers fostering dialogue to be part of the method of critical thinking, because dialogue makes it possible to take the perspective of others into account, which is necessary for ‘the assessment of truth claims’. Instructional formats in which cooperative learning and dialogue feature are expected to promote the students' active learning and higher-order thinking skills simultaneously (Renshaw, 2004). Lip man (1997, 2003) in *Philosophy for Children*, introduces an approach which is entirely focused on dialogue and it can be seen as a dialogic teaching that improves thinking skills. Because it allows children to have more activity and receive more feedback, enables them for reasoning based on fact and logic. Nelson (2009) proposes Socratic dialogue as a method for teaching, based on inquiry, logical dialogue, reasoning together and evaluation of themselves and others.

Link between critical thinking and dialogue can also be seen in the “social constructivism” and based on the concept of “distributed cognition”, that refer to the existence of knowledge, understanding, learning, thinking and

other cognitive processes in a group. Social constructivist emphasizes on ‘‘the process of becoming a member of a certain community’’ (Gage& Berliner, 1992).According to social constructivism learning is seen as co-construction and ‘dialogue’ is seen as a form of collaborative meaning making (Ten Dam, Volman, & Wardekker, 2004), and language functions (such as explaining, reasoning, asking questions) stimulate cognitive processes (Mercer, 2000). In dialogic instruction (such as grope discussion), when the participants ask the questions about classmates’ beliefs or perspectives. They are encouraged to evaluate their perspectives and it stimulates them to think critically about themselves and others. It helps students to recognize genuine understanding that goes beyond merely getting correct answers to problems and it fosters positive attitudes toward cooperation (Mercer& Littleton, 2007). In addition, ‘dialogue’ has other consequences such as ‘‘being able to relate a question to one’s own standards and values, being able to relate a question to general principles such as social justice, equality, respect and consideration, being open towards considering other people(Frijters, Ten Dam, Rijlaarsdam,2008).

Based on social constructivism, we can see two principles in dialogic teaching: First, it typically takes place among peers, sets up a ‘‘social interaction’’ in which everyone is participating in meaningful learning in real world that is related to involvement of student with the others. Second, the opportunities for engagement in dialogues encourage students to have practical experience in ‘‘skills’’ and ‘‘dispositions’’ for critical thinking. So dialogic teaching can be an instructional strategy for stimulating critical thinking. However few questions raises here that which method of dialogue and how? In practice the class time is all devoted to verbal interactions so which method can create the knowledge construction discourse? And which approach is most effective in developing critical dispositions?

In response to these questions, many researches are conducted with various research frameworks and diverse theoretical approaches; for example, researchers like Wallace (2002), Sun Cho (2008), Sanchez (2005), and Sullivan (2004) based on Freirian theoretical perspectives, applied his critical pedagogy as the knowledge construction discourse to develop critical thinking. Some researchers like Angeli& Valanides (2009), Boulter (2010) and Carolyn Yang (2002), applied the methods from Socratic dialogue or philosophical dialogue, based on the critical approach.

On the other hand, many researchers studied the role of dialogue in developing the critical thinking on the basis of social constructivism that there are diverse applied models, some employed the models of question-response in enhancing critical skills and dispositions (such as Pomerleau 2002, and Boghossian 2004), while some like Sullivan (2004) and Capone (2010) introduced models of group discussion, and some like Boulter (2010) and Carolyne Yang(2002), preferred the models of Web- Based discussion.

However, there are no studies that have examined the effect of both group discussion and Socratic dialogue on student’s critical thinking dispositions. This paper will aims to exam them because we want to know which of them can be conceptualized as a social participatory mechanism, and which of them can develop student’s critical thinking dispositions.

2. Recent study

2.1. Purposes: The present paper seeks to identify the effect of the dialogic teaching on the social interaction and the critical thinking. Specially, it is an effort to identify the role of both methods of teaching (group discussion and Socratic dialogue) on student’s critical thinking dimensions and social interaction in university.

2.2. Questions:

- 1- How does dialogic teaching affect (group dialogue and Socratic dialogue) on the student’s critical thinking dimension?
- 2- How does dialogic teaching affect (group dialogue and Socratic dialogue) the student’s social interaction?

2.3. Method: This study (the effect of dialogic teaching methods on students’critical thinking dimension and social interaction) was performed in a qualitative approach using action research methodology.

2.4. Participants: This research was done with the participants in natural groups (without researcher’s interference in grouping) in one educational semester. They were in two groups (N=40) of undergraduate female students in the field of education, who were passing the course of educational psychology.

2.5. Methods of dialogic teaching

This study was conducted with two methods of dialogic teaching including group dialogue and Socratic dialogue. Both methods were practiced in one educational semester (28 sessions, two sessions per week, the sessions were one hour and a quarter, and one hour and forty five minutes), in the appointed time and place:

A. Group discussion: instruction in terms of group discussions resembles the three-part model of Sternburg and Swirling (2005) comprising of lecturing, group discussion and evaluation, (first 14 sessions were lecture and the other 14 sessions were group discussion and evaluation). According to this model, teacher (researcher) first introduced new concepts and gave information by the lecturing method (session 1:15), then at the end of this session and for opening the second step, some questions were posed which were forming the basis for creating two opposite groups and so students, based on their collected information and on the basis of their in-group discussions, evaluated and critiqued each others' viewpoints (group discussions). Meanwhile, the teacher was trying to guide students' attention to some delicate points, with posing some questions and inquiries. In the third step, the teacher and the students were evaluating and making conclusion from discussions and different viewpoints.

B. Socratic dialogue: this method was applied with combination of Nelson's (2003) Socratic dialogue and Freire's (1972a) critical education in three steps (determining the problem, discussion and evaluation). In the first step, in a short class session (1:15) the teacher and students with reviewing previous discussion were posing some controversial points and were preparing the context for new problem and discussion. In the second step (discussion, 1:45) the teacher was starting the class discussion with posing abstract problems of the 'what' of the problems. Students were sharing their definitions, each definition was being coupled with the critical questions concerning the dimensions, components and elements were being analyzed and students were engaging in discussion and critiquing each others' viewpoints. In this step teacher was expressing herself consciously curious, rather than the one who knew the correct answer. In the third step, teacher and students were reviewing, evaluating and concluding their understanding and feelings of the presented problem.

2.6. Instrument

Interview: In this study the collected data was applied by "the standardized open-ended interview". The interview was organized in three main themes (evaluation of the education, evaluation of the interactions and the overall evaluation), and the systematic sequence of seven questions. Interviews with participants from both groups (Socratic dialogue and group discussion), were conducted by the researcher at the end of semester and time for each interview was 20-30 minutes.

2.7. Analysis: Collected data was analyzed by "interpretational analysis". The purpose of this method is finding constructs by classifying content and making concepts based on researcher's interpretive understanding (Borg & Gall & Gall 2006). For this purpose, first content was formulated in "segments", and so they were interpreted based on internal components critical thinking dimensions (characteristics of a critical thinker) in Facione and Facione's theory (2010). Obtained results are these:

3. Results

3.1. Interpretation

- The first question of the interview was about the effect of the applied methods in comprehension and learning the concepts. The participants answered this question like "*it is unlike parrot memorization*", "*comprehension in higher levels*" and "*deeper learning*", which show that in these methods, the discussions could cause deeper contemplation and better understanding through posing the critical questions. According to Facione, Facione (2010) this concept can be attributed to **Analyticity**.

So some of the answers in this part like "*the instrument of acquiring knowledge*" and "*going beyond obtaining information solely*", along with the answers regarding extent of the learned knowledge like "*attention to other point of views*" and "*variety of experiences and learned knowledge*" demonstrates that the discussions could force student to search more about the truth and guided them to the analysis based on divers perspectives. Above all, regarding the effect of the methods in reasoning, the answers like "*comparison of the point of views*" and "*attention to bases of the theories*", shows that attending in discussion not only could guide student to search more about the reasons and evidences (**Truth-seeking**), but it could also make them to have an accurate and criterion-based evaluation, that based on the views of Facione, Facione (2010), this concept can be related to **maturity** (cognitive maturity), that responses like "*attention to validation and authentication of the reasoning*", "*recognizing the fallacies*" and "*preventing to insist on the wrong reasoning*" confirms it.

On general, with deep contemplation in the phrases which are given as response from both groups to the three parts of the first question, and based on the elements of tendency toward the critical thinking, we can deduct three elements that according to Facione, Facione (2010) are **analyticity, truth-seeking and maturity**. The high tendency

of the respondents in each (at least 76%) shows that, participation in discussions and listening to different points of views leads the students to more accurate and comprehensive evaluation. So their contemplations improves in different issues and results in better learning and understanding, because it provides the opportunity to express different perspectives, it attracts the student attention to other aspects and make them to do more researches.

The same result can be declared based on the Miller & Miller (1997) viewpoint especially for the explanation of the effect of discussion method for the university students. In this research they have used a method of discussion in the university class titled as “Guided discussion”. About the effectiveness of cognitive functions of this method they believe that, it stimulates the students to have more contemplation around the issue, analyze and evaluate their own point of view accurately and defend their own view by criticizing other views and accordingly in the higher level of cognitive domain (analyze, synthesis, application and evaluation) they are obliged to think and practice in the real situation. That was what clearly appeared in the participants’ responses of both groups and as the expression of their feeling about the improvement of critical capabilities for instance they stated that “*they grew the power to criticize*”, “*learned the logical reasoning*” and “*empowered the reasoning skills*” as the result of participating in the discussions.

- The answer o the first part of the second question in the interview regarding the tendency to talk among other student was expressed as “*the courage of expressing ideas in front of others*” and “not being scared”. They show that, discussion in the class is an opportunity for more self expression and presence of the students, and according to Facione, Facione (2010) this concept can be attributed to **ct self-confidence**. This result is consistent with the research outcomes of Wallace (2002), Sun Cho (2008). While Wallace was searching for the ways to replace banking education with critical education and stated that individual growth and self expression in front of others is the impact of Ferierian educational dialogue, Sun Cho figured out that individual identity improvement is the emotional effect of attendance in students’ participatory seminars for critical reading. He explains that opportunity to participate in social interrelation with others, criticizing their point of view and self reflection are effective in improving individual’s identity. As an explanation to these findings and according to Lipman’s opinions, when student participate in a dialogue, they learn that it is not sufficient only to have faith in one belief. But rather they have to be able to justify their viewpoint with proper reasoning, recognize the distinctions for its explanation, bring examples, listen to the opposite reasons and bring reasons in defence. It is in this case that the courage to express ideas improves and as a result the student’s self confidence improves too. Similarly Miller & Miller (1997) also believed that self esteem and courage to express opinions is one the emotional effects of participation in discussion and exchanging ideas among students. So it seems that, the class dialogues in both methods of group discussion and Socratic discussion could encourage the students to give their opinions and motivates them to have courage in their expressions and improve their self confidence through making constant questions and requiring them to answer and defend their ideas. For example some of the respondents said that “*my self-confidence is increased*” or “*now I have a word to say and share*”.

- The responses of both groups to the question about talking in a group were expressed like “*what is important is that you talked*”, “*you have something to say*” and “*when you talk, everyone notices you*”. These expressions not only are the indications of self confidence among students, but they also show the tendency of both groups to **dialogue**. Similarly Yannuzzi (2007) referred to this as the effect of critical pedagogy on the students’ tendency to dialogue, and Carolyne Yang (2002) stated this as tendency toward more application of Socratic dialogue. Carolyne Yang (2002) statement was the result of a research with the aim of discovering the relationship between the Socratic questions and critical thinking skills. As Gage& Berliner (1992) we can say that in class discussion situation, the way of participation in class including the way of sitting, talking and expressing opinions has been changed due to posing questions and controversial issues. These changes motivate the students to enter the discussion and show more tendencies to express opinions and consequently the ground for discussions and critical analysis would be provided.

- The students answered the next part of second question about the effect of applied method in tendency toward the criticism in the following sentences; “*we should learn true discussion*”, “*in order to make a criticism, we have to pay attention to bases of theories*” and “*we are weak in making criticism*”. These examples are the indication of the attention that the respondents pay to “*the need of having criterion*” for analysis and fair criticism. It also worth noticing the critical answers in this part like “*lack of capacity in some student for discussion*” and “*we are weak in discussion*”. Through these sentences respondents are pointing to the fact that participation criterion is not respected by some other attendees in the discussion. This concept can be relevant to the Facione, Facione (2010) theory about

cognitive maturity. These statements can also contain another concept of self-criticism or **self-evaluation.** This is more clearly visible in comments like “the discussion of our opposite side forced us to be to have more vigilance and critical thinking”. In the next part of the second question which was about the tendency to know, the students said that: “*I could not respond because I did not study well*” and “*an issue has many dimensions which might not be noticed*”. With a second look to the examples, they show that in discussion about evaluation and criticism of the opposite side, the students are forced to review their opinions. Especially at the time of defending their own opinions, the second study of their reasons leads them to evaluation and recognition of the deficiencies in their ideas. Fisher (2003) believes that this achievement is the teachers’ art in the process of Socratic dialogue. He continues that, this is in fact the art and teachers’ significant skills at the time of discussion that they do not respond to the questions or gives information directly. Instead by challenging the students, giving them the responsibility of researching and in a flow of constant action and reaction, the students’ power to discern improves. In order to give a reasonable response to the opposite side in a discussion and dialogue, the students also have to evaluate their own views continuously and to examine their own beliefs in comparison with other students’ beliefs.

- Coming to the third question of the interview about the participants feelings when the opposite group was shaping and their criticism, some expression by the students were like “*my opposite view might be true*” and “*student have different point of views*”. These examples are the indication of participants’ attention to the differences in beliefs and respecting these differences. What Facione, Facione (2010) said as **open mindedness** refers to preparedness of critical student to see others views, tendency to listen the opposite opinions and having patience and respect for them. The students expressed themselves in sentences like “*I have more patience in listening to others’ views*” and “*at first I was getting upset of the opposite views but I understood that I should not get scattered and should accept the correct criticism*”. The high ratio of these responses can show that presence in the discussion and proposing different perspectives not only can attract student’s attention to the other aspects of an issue, it also can provide an opportunity for distinguishing the differences of view points and various reasoning which can empower the respect for opposite views and accepting others. Slavien(2006) in his views regarding the effectiveness of the dialogue based on methods in emotional dimension, concluded that increasing the respect for the opposite view and accepting the views of others is the precious result of taking part in the dialogue and this would prepare student to have an effective participation in the democratic process and social commitments. Paul, Elder (2004) believe that dialogue method that they call “*dialogic thinking*” through extensive exchange of disagreements and following that preparing a framework for testing the strength and weaknesses of views, neutralizes the tendency to have self-centeredness and causes more respect and acceptance toward others. Sternberg and Swirling. (2005) also believe that the process of permanent exchange between self and other in the flow of discussion is an effective factor for decreasing the self-centeredness and growth of student capacity for listening to others, accepting and respecting them.

- In another part of the third question about students’ feeling while they were criticizing others, some of the students said that: “*in discussion you find criterion for criticism*”, “*I learned the correct method of criticism gradually*” and “*we learned logical reasoning*”. Based on the theories of Fashion & Fashion (2001, 2010) we can deduct the **cognitive maturity**, from these statements and it seems that dialogue provides an opportunity that not only forces student to make criticism as a real experiment, but listening to others criticism. The necessity of studying the criticisms for response, leads student to identify the existing flaws and defects in criticism which can be a practice in reasoning skills and nurture their power to discern. On the other hand sentences like: “*in discussion, we can find a criterion for criticism*” and “*with criticism our self confidence improves*” which are stated by some students, show that real practice of discussion in classroom situation not only teaches the correct rules and criterion of discussion, but it also increases the students’ **self confidence** in applying them through more experiences. In the same way Fisher (2003) explain it based on two principles of joint exploration and discussion, believes that Socratic dialogue is a social environment for discovering in which student are forced to have deep contemplation about the issue and encourages them think about the basic ideas that are hidden behind words and finally share the issues that are derived from these ideas. He continues that, students learn to listen the opposite reasoning and bring their own reasons in response, instead of just accepting and believing in a belief. According to him the students can explain their own thought with apprehensible and clear words and sentences, specify the differences and bring examples. In this case, they can exercise their reasoning skills practically through listening to others and studying the opposite reasoning. This will result in improvement of their self-esteem and nurtures the courage to express their opinions.

- The respondent of both groups answered the fourth question of the interview that was about the effect of these methods in student's relationship. On one hand some students said *"I get to know their level of thinking and attitude"* and *"when I listen to the concern of others, I know them and their perspective better"* which was referring to the effect of class discussions in improvement of student's recognition from each other. On the other hand expressions like *"I did not count on them before, but now I know them; their attention and method of reasoning becomes interesting for me"* and *"in spite of differences in our views, I count on them more and get to know them better"* insists on the effect of **knowing each**, as the outcome of dialogue, in shaping the views and new relationship between classmates. Based on this, it seems that the discussions could help the participants for better recognition and more realistic view to each other which could have impact their interactions. Students point to effect of class discussion methods in shaping **friendship and intimacy** among the classmates and stated that *"everyone help each other in groups and this is a form of collective responsibility"*. This point is considered as a valuable application in participatory teaching method that emphasizes to cooperation. In participatory education, the responsibility of learning is put on shoulders of students instead of teachers. In this method, the students work with the assistant groups and mingle with the learning process more and more. In this situation, they not only are responsible for their own understanding, but also have responsibilities in front of their group members and this **responsibility** forces them to perform duties (Cooper, 2000). Beyond all of these, in participatory methods, the major aim of enjoying group is not to get help from other members and achieve proficiency in the subject. The significant aim of participatory education is to practice to take responsibilities in groups and increase the capability of group work (Slavien, 2006). So in explanation about the effects of group discussions, he asserts that, development of social skills due to more tendencies to corporations with each other and learning cooperation rules and playing a role in group causes students' development and prepares them for democratic actions.

But this concept is not confined to group discussions. Because respondents in Socratic discussion group also believe that the form of interaction in this method is effective in improvement of relationship and intimacy among the classmates. For example they said that *"sitting round in class has more eye contact and intimacy"*, *"in this class no one feels superior, and we are all equal and help each other in the discussion"* and *"when we move out of the formal and strict class, jokes and funny points among classmates make us more intimate"*. What Freire (1972a) believes about such relationship in dialogue-based education is that, as long as there is no absolute ignorance and no absolute wisdom, student are cooperating with each other in a shared reality and with the help of each other create something more than their own personal action. The logical result of such dialogue, in contradiction with dominance relationship in traditional training, is a horizontal relationship. This kind of relation guarantees the mutual trust and more development of kindness, humility and understanding in which student can rely on each other faith. So it seems that dialogue-based education in both methods, through making changes in communication space, could transform the one direction relationship between the student and teacher to the atmosphere of interaction and cooperation. What has happened in a form of responsibility in a group for the participant in group discussion method, in Socratic discussion became possible through changing the dominance and formal relationship into a common duty among all students to study the issues critically. While sitting around in the class and having eye contacts between members in both methods, first provides the possibility of more interaction among student and second gives an equal position that moves student to more cooperation and participation.

- The fifth question of the interview was about participants' evaluation of differences of this method with other methods. The students gave answers like *"it was challenging"*, *"forced the students to do more activity"* and *"the class was more interesting"* which show that the participants paid attention to the differences of this method in making more challenges and active students. From the examples above we can deduct the dynamic education. The high ratio of reference by both groups (90% and 100%) states the positive effect of both methods of dialogue-based education in improvement of class participation and making more tendency in playing a role in the process of education. This result shows that, dialogues due to posing controversial issues and provoking students' thought into mental challenges can make education more interesting and force student become more active. In this way, it can initiate the process of high level thinking like critical thinking. So we can say that **dynamism** in both methods of dialogic teaching, is not just one of the aspects of critical thinking, but it is also one of the fundamental conditions of effective education. It also indicates the capability of dialogic teaching methods in attracting participation of more students in the process of education and with making student more dynamic in educational interactions.

- The other part of the fifth question of the interview was about the participants' evaluation of interaction and intimacy of students with the teacher in these methods. The students believed that *"I do not feel the teacher's*

superiority because we think together and share our thoughts” and “I not scared of teacher, I feel free in class and can express my ideas easily” which refers to having interaction and partnership with teacher. This element is the indication of fact that in the discussion situation, the relationship atmosphere between the student and teacher is changed and has transformed teacher’s high and controlling position into a cooperative one. High ratio of reference by both groups about partnership and having **interaction with teacher** (81% and 72%) and feeling **intimate with the teacher** (74% and 77%), not only points to the effect of dialogic teaching in increasing the interaction and partnership with the teacher, but it also illustrates the positive evaluation of participants from this different way of having relation with teacher. This outcome is also stated in the Ferrari (2010) findings, titled as changing the traditional role of students and teachers to more participation of students in the process of their educating and the role of teacher as a learner; as Sanchez (2005) in the studies of the effect of Friirian critical education on students, has mentioned this as teachers’ more tendency for having closer relationship with the students and coming out of their traditional role (in knowledge presentation only). For more declaration based on the Friieri views (2009), we should say that, in critical discussion of free classes, teachers are not in front of students but are beside them and are understanding and thinking along with the students and constantly rebuild their thoughts in relation to the students’ thoughts. In this case learning and teaching is like a permanent and interwoven process of social interactions in which the teacher no longer is only the transformer of information, but is also cooperating in clarifying the direction of students’ activity and providing the essential references and in this way everyone help each other to create something more than their individual action. The logical result of such dialogue in a horizontal relationship (in contradiction with dominant relationship) is based on a mutual trust and development of kindness, humility and understanding (Friieri, 1972b).

• 3.2. Comparison

- **The Comparison of two groups in evaluating the educational experience:** Comparing the inferred elements of both groups about their educational experience, the students have referred to six elements of tendency toward critical thinking: *analyticity, cognitive maturity, CT self-confidence, self evaluation, open mindedness and truth-seeking*. The least tendency was toward self confidence and the most was related to analyticity in Socratic discussion method. Socratic discussion group has more referred to three elements of analyticity, self confidence and self evaluation, while the other group (group discussion) has more reference to maturity, and Truth-seeking. So it can be concluded that, Socratic discussion method is in a better situation in comparison with group discussion method due to the number and variation of references.

- **The Comparison of two groups in evaluating the social interactions:** Comparing the inferred components of both groups about tendency toward social interactions, the students have referred to seven elements: *knowing each other, friendship and intimacy, tendency to dialogue, responsibility, class dynamism, interaction with teacher, intimate with the teacher*. Both groups have very similar point of view about the effect of applied methods in creation of intimacy and cooperation between the classmates (44% and 45%). In the evaluation of applied method regarding the improvement of social interactions, both groups referred to class dynamism. In three other elements (knowing each other, interaction with teacher, intimate with the teacher) the Socratic discussion group had evaluated applied methods better. In this case, we can comprehend that Socratic discussion method with priority in four elements of tendency for social interaction, has more impact in attracting the tendency for social interaction in class. Especially high reference of Socratic discussion group to class dynamism is the indicator of higher impact of Socratic discussion method in comparison with group discussion method and enhancement of students’ tendency for more activity and responsibility in the process of education. This can be relevant to the method of interaction in Socratic discussion class and the exchanges that happen between every single person in class. In another word, when we put the students in supporting and opposing groups, despite the opportunity that is provided for inter group interactions, can create a form of grouping in which the relations is only possible in the framework of two groups and prevents further interactions between every student with others. This point can also be true about creating intimacy and interaction with the teacher, because in the process of group discussion the teacher cannot discuss with every single student and the discussion happens between the teacher and two groups. For this reason the inter - personal interactions are provoked less and relation happens in the framework of two groups instead of relation between teacher and every single students.

• **The Comparison of two groups in general evaluation:** The comparison made between the points of views of the participants of two groups in a general evaluation of the applied methods, especially regarding their answers about the probability of using these methods, indicates the positive evaluation that both groups made in using these methods. This was appeared with a high ratio of agreement in having tendency for using these methods. However, comparing the participants in group discussion methods (90%) with the other group (77%) shows that they have more tendencies for choosing their own experienced method. In an explanation about their choice they refer more to better learning and then to more dynamism in class. While participants in Socratic group discussion refer first to more dynamism in class and second to better learning which can indicate that group discussion method could satisfy the participants with better learning and Socratic discussion method was more successful in satisfying the students with the dynamic class. So it seems that, Socratic discussion method, due to providing the opportunity for exchanging of dialogue between every student with the teacher, made better feeling of inner class interactions and causes better evaluation of class dynamism. On the other side, the group discussion method gave a better feeling of learning better due to the opportunity for participation, and cooperation in criticism, giving reference and answers.

4. Conclusion

A: In response to the following question: “How does dialogic teaching affect (group dialogue and Socratic dialogue) on the student’s critical thinking dimension?” We can say that:

- Dialogic teaching of both methods, the group discussion and Socratic discussion, through posing of questions and the necessity of answering and defending views, could encourage the students to express ideas and stimulate their courage to dialogue and in this way improve their self confidence. Presence in the discussions and posing different views, not only can attract student’s attention to other issues, but it also can provide an opportunity to distinguish the differences in view points and reasoning. In the class dialogues of both methods through the wide exchange of agreements and disagreements, a framework is shaped to examine the strength and weaknesses of views that it decreases the tendency toward self-evaluation and in contrast empowers the respect to the opposite views and acceptance of others point of view (open mindedness). The discussions could invite the students to listen and make deep contemplation in reasons of the opposite side through making a dialogic atmosphere instead of contradicting with them. With understanding different views, the students will be freed from dogmatism and will have better and more realistic understanding about each other.

B: In response to the following question: “How does dialogic teaching affect (group dialogue and Socratic dialogue) on the student’s social interaction?” We can say that:

- Critical discussions motivate the students to have mental challenges and more activities and makes education more dynamic. In this way, they take more responsibilities through reading more and having more active participation in criticism and evaluation of themselves and others in the process of learning.

- In a dialogic class where the students are sitting around and have eye contact, the formal and dominance relationship will change and everyone have a common duty to study the issue and critically dialogue.

- These classes provides more possibility for the interaction between student and equal position which leads student to percept the common rules in discussions, understand the similar rights and respect the right of other student.

- Changes in the method of participation in class, including the way of sitting and learning, helps students for more expression of opinions and cooperation and forces them to have more participation. This process improves the interactions between them and causes more intimacy and friendship.

- From another perspective, these methods change the high and controlling position of the teacher into a cooperative, interactive and partnership relation with students so that they feel more intimate with teacher.

In general, regarding the universal achievement of dialogic teaching methods and through the analysis and interpretation of the responses of both groups,: we can say that both dialogic teaching methods in addition to the effects in enhancement of understanding and knowing each other and improvement of intimacy among the participants, have also improved their social growth through increasing the participation and taking responsibilities, have caused more tendency for a logical dialogue and positive tendency for using these methods, and finally could attract the critical tendency of the participants to six elements of critical thinking dimensions: Analyticity, cognitive maturity, CT self-confidence, self evaluation, open- mindedness and truth-seeking.

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