

## Relationship between Critical Thinking Dispositions and Dialogue-based Education among teachers

Mohammadreza Neyestani<sup>1</sup>, Mohammadhossein Heydari<sup>2</sup>, Amir Ghamarani<sup>3</sup>

<sup>1</sup> Assistant Professor, Faculty of educational sciences and psychology, University of Isfahan, Iran,

[neyestani@gmail.com](mailto:neyestani@gmail.com)

<sup>2</sup> Assistant Professor, Faculty of educational sciences and psychology, University of Isfahan, Iran

<sup>3</sup> Assistant Professor, Faculty of educational sciences and psychology, University of Isfahan, Iran

**Abstract:** Dialogue-based teaching has been pointed to as an important strategy during process of teaching. Teachers who have intangible qualities or dispositions can create an classroom environment that provides opportunities to dialogue-based teaching. Critical Thinking Dispositions can create desires in teachers to engage in teaching critically. Dialogue-based teaching in schools needs teachers that encompass both cognitive skills and affective dispositional dimensions. Dialogical teachers possess well developed critical thinking skills and a strong affinity toward developing disposition. Dispositions toward critical thinking are the tendencies that motivate teacher to practice and apply critical thinking skills in classroom. Without disposition, teacher won't be willing to develop dialogical methods, strategies and techniques in classroom. The goal of this research is to assess relationship between teachers' critical thinking dispositions and Dialogue-based teaching. Survey method has been used in this research. Statistical population of this research consists of higher school teachers and students. 76 teaches and 1300 students participated in this research voluntarily. Two instruments California Critical Thinking Disposition Inventory (CCTDI) and Dialogue-based teaching questionnaire was administered to participants. The findings obtained from the research show that most of the correlations between thinking dispositions and dialogue-based teaching were found positive.

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### 1. Introduction

Traditional teaching approaches still dominate in world educational systems. Teachers give formal lectures to transmit knowledge. Students receive it passively and are expected to reproduce it accurately in examinations. Students are different because each has a unique experience of the world. In traditional teaching approaches, students do experiments without understanding why they are using the apparatus provided for them or understanding many of the experimental steps. The dialogical teaching has a definite advantage in overcoming this weakness.

In the dialogical teaching, teachers focus on teaching core concepts rather than covering all content, they let students do their own thinking. Curriculum and instruction encourage and assist students in learning how to collect evidence and make solid judgment on their own. Teachers don't present their judgments to students, but they give learning opportunities to students. They create a thoughtful environment for thinking. Classroom culture and environment take into account for fostering critical thinking, including teachers' expectations, the physical space of the classroom, and the tenor of the classroom. Teachers provide a psychologically safe environment that reinforces good thinking in a variety

of explicit tactics. For example, teachers explicitly explain the guidelines for the thinking process and provide consultation during the sessions, before or after the class period.

Jarvis (1990) talks about dialogical teaching as "an approach to education in which the teacher enters a genuine discussion with the learners in order to understand how they perceive reality, so that the teacher and learner can grow together in the teaching and learning process" (p. 97). Dialogue as "communicative action" in Habermas' terms, is an important dimension of Mezirow's (1991) theory of transformative learning. Communicative action is when "an individual with particular aims communicates with another person in order to arrive at an understanding about the meaning of a common experience ... Reaching an understanding is the inherent purpose of communicative action" (p. 96). However, dialogue is not just about solving problems or for reaching agreement on conflicting viewpoints. Dialogue offers the opportunity for creating new ways of thinking and acting, ways that have never been experienced before (Isaacs, 1999).

Dialogical teaching is versus monologue-based discourse. In monologue-based class, the space discourages most direct interaction between the students

and the teacher. Even though the acoustics facilitate direct, one-on-one contact between the instructor and any of students, the other students cannot easily share that exchange. The conversation must be echoed back to the class through the filter of the teacher who stands at the focal/vocal center of the room and often speaks through a microphone. At the same time, the teacher can observe and hear individuals well, even if they do not realize that. The environment promotes a goal for discourse that clearly privileges efficient transmission of information from the authoritative teacher to the passive students. That commonly takes the form of the lecture with the instructor presenting a monologue that contains the important concepts the students need to learn. The multimedia arrays take this even further to remove the physical presence of the teacher and replace it with a disembodied and unchallengeable authority in the form of video and audio presentations.

Paulo Freire describes the paradigm for lecture strategies as transmission. Knowledge possessed by the instructor can be transmitted to the student by means of the lecture. The act of teaching becomes one of "depositing" information into the waiting receptacles of the students (Freire, 1970, 53). As Ira Shor points out, the practice of this "banking model of teaching" can be conservative in the extreme, promoting and maintaining an "official knowledge" that leaves no room for nontraditional cultures or for self-critique (Shor, 1992, 32).

But in dialogue-based teaching, the teacher and student engage in an active dialogue. The task of the teacher is to provide the setting, pose the challenges, and offer the support that will encourage cognitive construction. Since students lack the experience of experts in the field, teachers bear a great responsibility for guiding student activity, modeling behavior, and providing examples that will transform student group discussions into meaningful communication about subject.

Dialogue-based education can be held between peers and instructor, between the learner and the written material, as well as within the learner. In the dialogue/discourse process between peers and instructor, "the learners inquire into and respond openly to others' ideas at the same time thinking about and being willing to surface and question assumptions underlying their own and others' statements" is the sealing together of the teacher and students in a joint act of knowing and reknowing the object of study... Instead of transferring the knowledge statically, as a fixed possession of the teacher, dialogue demands a dynamic approximation towards the object. In both dialogic constructs, "students' thoughts are elicited and probed" and students are asked to "evaluate their thinking by making it explicit" (Paul and Binker 1990, 269).

Socratic dialogues are described as asking students to evaluate their thinking and to develop and test their ideas through an oral exchange.

Dialogue-based teaching as practiced through Socratic approaches is a planned, directive form of teaching that functions through indirect instructional processes asking students to make meaning in response to teacher questions. A more current approach to instructional dialogue is found in "reciprocal teaching," a dialogue between teacher and student to teach reading comprehension, wherein student and teacher take turns assuming each other's role (Bruer 1994, 32).

Preparing teachers to be able to teaching dialogically and have critical dispositions is a goal of teacher education. A highly qualified teacher should possess an empathic disposition, which manifests itself in caring relationships with students. John Dewey (1933) asserted that content knowledge and pedagogical expertise are not enough if a teacher does not have the attitude to work at becoming an effective teacher. Dewey believed that teachers need to have three characteristics to connect knowledge and skill: open-mindedness (freedom from prejudice and such other habits that close the mind), wholeheartedness (a teacher's willingness to examine himself or herself, to admit mistakes and learn from them), and responsibility (intellectual responsibility, the desire to learn new things, and holding oneself accountable for teaching in an engaging manner).

Researchers studying thinking dispositions found that although teachers often possessed particular intellectual abilities and the inclination to use these abilities in class, unless they were specifically prompted, they often lacked the sensitivity to know when to put this knowledge and these skills to use. According to Nias (1989), "The attitudes and actions of each teacher are rooted in their own ways of perceiving the world". In fact, "Whether an individual will be an effective teacher depends fundamentally on the nature of his private world of perceptions" (Combs et al., p. 21).

So, critical dispositions are important parts of effective dialogical teaching. Dispositions have been described as "predictive patterns of action" (Borko, Liston, & Whitcomb, 2007, p. 361), exemplifying teachers' tendencies to act in certain ways under certain circumstances (Katz & Raths, 1985). By connecting intention with actions (Sockett, 2009), dispositions serve a more useful purpose than the construct of attitudes and provide a means to exemplify good dialogical teaching. In fact, dispositions serve a more useful purpose than the construct of attitudes and provide a means to exemplify good teaching. Ennis (2002) mentions a comprehensive group of characteristics to his list of

dispositions the critical thinker should possess. Ennis believed critical thinkers should demonstrate, among others, the disposition to show concern about the truthfulness of what they believe. They must be concerned that they can justify any decisions made; that is, care to "get it right" to the extent possible. Critical thinkers must take care to present their position and others' honestly and clearly, and must demonstrate in addition, a corresponding disposition of concern about the dignity and worth of every person.

The goal of this research is to probe relationship between teachers' critical thinking dispositions and Dialogue-based teaching. In fact, we think that dialogue-based teaching in schools needs to teachers that encompass both cognitive skill and affective disposition dimensions. Dialogical teachers possess well developed critical thinking skills and a strong affinity toward developing disposition. Dispositions toward critical thinking are the tendencies that motivate one to practice and apply critical thinking skills in classroom. Without disposition, teacher will not be willing to develop dialogical methods, strategies and techniques in classroom.

## 2. Questions of the Research

To achieve the research goal, this research addresses the following questions:

1. Is there a statistically significant relationship between teachers' critical thinking dispositions to dialogue-based teaching?
2. Is there a statistically significant relationship between dimensions of teachers' critical thinking dispositions to dialogue-based teaching?

## 2. Material and Methods

In this research Survey method has been used. Survey methods are research approaches aim to describe a situation from past or in present. Individual or object indicated as subject in research must be defined in its own conditions (Karasar, 2007). This study was conducted during Winter Quarter 2011-12 in Isfahan city. Before completing the questionnaire each participant signed a waiver acknowledging voluntary participation in the study. Two instruments administered to participants: The California Critical Thinking Disposition Inventory (CCTDI) and Dialogue-based teaching questionnaire.

The CCTDI consists of 75 Likert-type response items (Facione 1996). The CCTDI scale scores measure: (1) truth-seeking, (2) open-mindedness, (3) analyticity, (4) systematicity, (5) self-confidence, (6) inquisitiveness, and (7) maturity. Truth-seeking targets the disposition of being eager to seek the truth, courageousness about asking questions, and being honest and objective about pursuing inquiry. Open-mindedness targets the disposition of being

open-minded and tolerant of divergent views. The analyticity scale targets the disposition of being alert to potentially problematic situations, anticipating possible results or consequences, and prizing the application of reason. Systematicity targets the disposition toward organized, orderly, focused, and diligent inquiry. Self-confidence refers to the level of trust one places in one's own reasoning processes. Inquisitiveness measures one's intellectual curiosity. Maturity targets how disposed a person is to make reflective judgments (Facione 1996). Reliability coefficient for analyticity is .75, for open mindedness is .75, for curiosity is .78, for self confidence is .77, for search for truth is .61 and for systematicity is .63. Internal consistency coefficient for full scale is .88.

Dialogue-based teaching questionnaire is composed of 40 items that are designed to reflect dialogical teaching by teachers that were completed by students. Subjects rate each item on a six-point Likert type scale, with one meaning strongly agree and five meaning strongly disagree. We asked each student to complete a questionnaire about his or her participation in the dialogues. Our purpose in giving and recording the results of the survey were to obtain a more complete understanding of students' opinions regarding her or his teacher dialogical teaching. When we developed the questionnaire, we solicited feedback from experts, our committee members, to ensure the content validity of the questionnaire. We used test-retest reliability to ensure that no differences existed between participants' responses.

Statistical population of this research consists of higher school teachers and students. Total of high school teaches, 76 participated in this research voluntarily. Total of students participated was 1300. Data was analyzed with SPSS 17 version. In the analysis of the research data was used Pearson **correlations** and multiple regression analysis.  $P=.05$  significance level was accepted for the interpretation of the research results.

## 3. Results

The findings obtained from the research are presented according to the sub problems and briefly interpreted as follows.

Table 1, Correlation between Thinking Dispositions and Dialogue-based education

Variable	Truth-seeking	Systematical	Open-mindedness	Cognitive-maturity	Inquisitiveness	Self-confidence
Based-dialogue education	.440	.522	.384	.154	.603	.627

Most of the correlations between thinking dispositions and dialogue-based teaching were found positive. The highest positive correlation was found between Self-confidence ( $r = 0.627$ ,  $p < 0.01$ ). Other positive correlations are found: Inquisitiveness ( $r = 0.60$ ,  $p < 0.01$ ), Systematical ( $r = 0.52$ ,  $p < 0.01$ ), Truth-seeking ( $r = 0.44$ ,  $p < 0.01$ ) Analyticity ( $r = 0.41$ ,  $p < 0.01$ ) and Open-mindedness ( $r = 0.38$ ,  $p < 0.01$ ).

According to the results of multiple regression analysis held between sub dimensions of critical thinking dispositions and based-dialogue education, regression equality regarding prediction of is as follows: Analyticity = 13.104,  $P=0.05$  Self-confidence 18.397,  $P= 0.01$  Inquisitiveness 15.036 ,  $P= 0.05$

Table 2. Results of regression analysis

Model	B	Std. Error	Beta	T	Sig.
(Constant)	47.279	33.023		-1.432	.158
Analyticity	13.104	6.265	.215	2.092	.041
Self-confidence	18.397	6.345	.345	2.900	.005
Inquisitiveness	15.036	6.427	.275	2.339	.023
Cognitive maturity	.451	5.487	.008	.082	.935
Open mindedness	1.634	4.983	.034	.328	.744
Systematical	4.149	5.549	.086	.748	.458
Truth seeking	5.507	6.503	.088	.847	.401

- a. Predictors: (Constant), Truth seeking, Cognitive maturity, Open mindedness, Analyticity, Systematical, Inquisitiveness, Self-confidence  
 b. Dependent Variable: Based-dialogue education  
 $R = 0.754$ ;  $R\text{ Square} = 0.569$ ;  $F = 10.56$ ;  $P = 0.000$ .

#### 4. Discussions

The findings obtained from the research show that most of the correlations between thinking dispositions and dialogue-based teaching were found positive. So for creating dialogical class, we need to prepare the teachers.

Unfortunately the teacher education focuses on the academic ability of candidates while

neglecting the dispositional aspects. The reality is that many teacher preparation programs concur that knowledge of subject matter is the foundation for good teaching and should be assessed prior to entry into a teacher education program; however, knowledge of subject matter alone does not make one an effective, compassionate teacher.

If teachers are to become highly qualified in schools, they must possess not only the content knowledge but also the affective characteristics that enhance their effectiveness in the classroom.

It is also imperative that candidates possess positive dispositions that affirm all students, as students respond favorably to this type of relationship. Schools teachers have to possess dispositions that could create the environment of the thinking classroom and engage in practices that provide opportunities to dialogue-based teaching.

For effective teaching, teachers should be habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in selection of criteria, focused on inquiry, and persistent in seeking results which are as precise as the subject and circumstances of inquiry permit.

#### Corresponding Author:

Dr Mohammadreza Neyestani

Department educational sciences and psychology,  
 University of Isfahan, Isfahan, Hezae jerib, Iran,  
[neyestani@gmail.com](mailto:neyestani@gmail.com)

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