The Interaction between Teacher's Instructional Method and Students' Social Intelligence

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Abstract

The current study aimed to investigate the interaction between the instructional method (group discussion vs. lecturing) and the students' social intelligence level (high, medium, and low) and the effects of this interaction on the students' achievement in a history course. One Hundred and twenty grade related to 10 female students were randomly selected by cluster sampling and assigned to three experimental groups based on their social intelligence level (high, medium, and low). The Tromso Social Intelligent Scale (TSIS) was used to measure social intelligence (SI) .Half of the subjects in each group (n=20) received course instructions through group discussion and the other half through lectures. The history academic achievement test was presented as a post-test. Two-way ANOVA revealed the interactional effect between the instructional method and the students' social intelligence. Students with high social intelligence who received instructions through group discussion score higher on their academic achievement examination were compared to their high SI peers in the lecturing method. For student with low social intelligence, the mean academic achievement scores were higher for those who received group lectures were compared to those who were instructed through group discussion. There was no significant difference between the academic achievement scores of the two instructional groups for students with medium SI.

Keywords: social intelligence, instructional method (group discussion and lecturing), history

1. Introduction

"What is the best instructional method?" Perhaps there is no correct answer to this question as the efficacy of the instructional method depends on the characteristics of the students and the educator. One of the most important characteristics that can affect the learning process is the student's social intelligence.

Edward Thorndike was one of the first scholars to define social intelligence as 'the ability to understand and manage men and women, boys and girls – to act wisely in human relationships' [1]. A more recent definition of social intelligence was offered by Goleman [2] who presented a comprehensive definition of social intelligence (SI) and its components. SI refers to varieties of human capabilities to that help establish effective social relationships. According to Goleman [2] the SI is comprised of two subsets; social awareness and social facility. Social awareness is defined as the act of understanding other people's feelings and thoughts in complex social situations. It consists of primal empathy (feeling nonverbal emotional signals), attunement (the ability to listen with complete acceptance), empathetic accuracy (understanding what the other person feels, thinks, and intends), and social cognition (knowledge about how the social world actually works). Social facility is rooted in social awareness and consists of synchrony (interactive behaviors at nonverbal level), self presentation, influence (the ability to shape the

outcome of an interaction constructively, using tact and self-control), and concern (paying attention to others' needs and trying to help).

Harris, *et al.*, [3] conducted a study on 667 students and found a strong significant correlation between different levels of success (very successful, moderately successful, and less successful; assessed based on participant's annual GPA) and social skills such as flexibility and adaptability to the situation. These results are demonstrated the emotional importance of academic success and the social qualifications associated with it.

Fredrickson's *et al.*, [4] study on British high school students (n= 640) with an age average of 16.5 years old indicated that those students with higher social intelligence had lower rates of absenteeism, drop-out, and aberrant and destructive behaviors. Furthermore, findings of Dry, *et al.*, [5] are revealed a significant relationship between the level of social awareness and social skills and grade 5 students' richness of treasury of words, reading skills (specially reading comprehension), and the quality of writing skills; Forty students participated in this study and were asked to write a fiction story and a convincing letter to the head of the school. Social consciousness, specifically, had a higher impact in this context.

In an article titled "collective awareness, a tool for learning", Bouder [6] is considered collective or social awareness among the factors contributing to the increase of collaborative and cooperative learning. He further emphasized on finding circumstances and properties in which useful social awareness occur. In their study on children with learning disabilities, Kaliva and Agaliotis [7] are found these children experienced difficulty in establishing and understanding non-verbal communication. Based on the findings of researchers such as Kinin P. Zeki [8]) the ability to establish effective non-verbal communication between the teacher and the students in the classroom is a powerful resource to increase motivation and concentration and to attract and maintain students in the classroom.

However, here we are argueing that the effect of social intelligence on academic achievement is not direct. Instead, this influence is observed in the profit students way from different forms of instruction. Group discussion is a learner-centered instructional method in which the learners and the teacher collectively engage in a discussion, in order to exchange information, thoughts, and beliefs and to solve the problems. While group discussion motivates thinking and nurtures interpersonal skills, it may requires a high level of social intelligence in order to be an effective tool for learning.

In a four-month study on 300 university student participants, Schellens and Valcke in 2006 year [9] are found that group discussion can increase cognitive interaction, task-orientation, and phase of knowledge construction. Aneeq *et al.*, [10] stated that group discussion helps students become life-long learners and develop a feeling of community. Furthermore, the relationships built through this instructional method act as a positive force in learning and increase self-confidence and self-learning. Young [11] noted that when group discussion is conducted well, it can lead to acceptance of different opinions, help students reach consensus on a topic, and improve their problem solving skills.

Lecturing is another common and well-known instructional method; one that potentially relies less on social intelligence compared to group discussion. Lecturing is a method of presenting facts, information, and principles verbally with little or no participation from the audience ([12]. Despite criticism from many researches, lecturing can be a very effective instructional method when used appropriately. For example, McKeachie and Svinicki [13] suggested that lecturing is very appropriate for presenting upto-date information, summarizing material, and focusing on key concepts or ideas.

2. To Investigate the Causes of the Social Intelligence of Students in the Group Discussion:

Today, researchers emphasize to focus on the necessary of academic success and learning predictors; So that in the last three decades, the study of affect factors on academic achievement and learning more and more attention is education professionals [14]. So Heller and Wake 2 [15] believe that accurate prediction of academic achievement, measured only on the basis of capacity, by which intelligence tests are not done, but should provide information on the characteristics of the character, motivation and emotional role mediator between mental abilities and progress, especially in the field of play may also be acquired. But it may also be acquired Information on personality traits, motivation and emotional role of mediator between mental abilities and progress in specific areas of play.

In this context and considering the relationship between cognition, motivation and emotion in human behavior are several variables to determine the academic performance and academic achievement of students in different areas of the curriculum was formed and have been put to the test [16]. But through extensive research on affecting factors the promotion of learning and academic achievement have been conducted to assess knowledge, attitudes research has been dominant. Although the importance of knowledge that can never be denied, but in addition to other features, such as cognitive and social-emotional characteristics are associated with academic achievement [17] because of the view of constructivism, educational programs should be all-encompassing (cognitive, emotional, social, behavioral), but many of the educational system emphasizing only the cognitive aspects and have been left to chance two other aspects of education. Assuming by separating emotion and social skills and their understanding of the behavior, educational programs, these systems have eliminated an essential truth of the educational process.

To fill this gap in recent years has repeatedly emphasized its importance is another dimension, that is to say, the student's social life and emotional dimension, is important. Due to the emotional dimension, as predictors of academic achievement, is a move in the direction of first approach to academic achievement. Among the factors that seem to play an important role in the development and academic achievement plays a social intelligence that variable is emerging.

In this regard, one of the fields in research, the effects of emotional and social competencies is on education satisfaction and academic achievement. The theoretical reason of this kind of researches is emotional intelligence who suggested in 1990 by Mayer and. They believe that social intelligence is an ability to understand and express emotions, consistency and coordination of emotions, thoughts, and emotions and regulate their emotions and rational understanding leads to another [17].

Empirical research shows that social intelligence can be considered as one of the pre-determinants of success, achievement and satisfaction at all levels of life. [17].

Today we know that the teacher training method with the characteristics of gifted learners engage in other words, abilities and skills that teachers determine which students use teaching methods. Group discussion is useful teaching methods that students have minimum requirements. The most important verbal communication skills is effective use of language and words, non-verbal communication and listening skills, assertiveness and influence and impact on others, and so on. Characteristics such as intelligence, today we know them as social or non-cognitive factors in determining the success of people. Since the group discussion in teaching methods, students have to apply carefully to the views of others or the use of just listening skills and also provide a clear and logical answer to other students or in other words a good verbal skill. The result of applying this method Prerequisites for students and requires skills such as listening right or the ability to listen well, good verbal skills and verbal communication effectively, high tolerance and

openness in listening to opposing views, or in general communication skills by having them. That communication general skills and ability to communicate effectively with others is the social intelligence.

Jan Irons Harris *et al.*, [18] A study on 667 *students between different* levels of success (very successful, moderately successful and less successful) for each year based on the average of the various dimensions of social intelligence, including flexibility and compatibility with the agreement found a powerful connection the importance of emotional and social competencies imply academic success. Gordon G. Gallup [19] social intelligence product is self-awareness and self-consciousness approach to his words as a tool for inference about others and their experiences (social intelligence capability), he said.

Amy and colleagues [20] studied 40 fifth grade students who are a fictional story and a compelling writing to their school principal, found that between the scores or grades of literacy assessment in the areas of vocabulary, reading and reading with understanding, the quality of children's writings and social education (social awareness) and social skills there is a significant positive relationship. Especially in this area, the effect was stronger social awareness. Jurgen Buder [21] in a study tool for learning as a collective consciousness, collective consciousness and social power and influence (the third component of social intelligence) guarantee the cooperation and collaborative learning and discovery mechanisms or conditions under which the expressed social awareness are useful, stresses.

Zaki [22] in a study as the importance of non-verbal communication in the classroom, according to research results found that nonverbal communication can be a source of motivation and focus for student learning and a means of attracting and maintaining attention in the classroom. Curtains care Zalizan *et al.*, [23] on the importance of communication skills (the second component of social intelligence) in motivation and enhance their performance in research as communication skills and work motivation among teachers, experts point out.

Zalizan *et al.*, [23] in his study of communication skills among students, through self-report questionnaire to measure the ten elements of communication skills and found that the skills can be combined with the learning process and students to enter the labor market and your investments should equip these skills. And that students should not only through discussion and group work in the classroom but also enhance the skills of communication with the outside world become familiar position. And training and improving the skills for their professional development is necessary in the future.

Zahra Kar [24] his research to examine the relationship between emotional intelligence and academic performance using emotional intelligence questionnaire - get that the correlation observed between all the components of emotional intelligence and academic performance is positive but meaningful component of optimism, satisfaction, stress tolerance, impulse control and problem solving predictors of academic performance are more meaningful. Hanifi *et al.*, [25] showed that 99% significant level of non-cognitive factors, there is a positive relationship between students' academic progress and also between non-cognitive intelligence; there is a significant difference between girls and boys.

In summary, previous research has indicated a positive relation between the student's social intelligence and academic achievement. Students who are equipped with social intelligence abilities learn more as they can form more effective interactions with the classroom climate, teacher, and other students; all important factors in academic achievement. However, teachers usually utilize multiple instructional methods in one class and classroom climates vary occasionally. As a result, we need to address the ways in which students with different SI levels are affected by different instructional methods. Social intelligence can be a beneficial factor in student's learning when paired with the appropriate instructional method. In this study, we aim to determine a) whether an

interaction exists between Lecturing and group discussion methods and learners' social intelligence in history lessons b) if students with high social intelligence gain more from group discussion than from lecturing and c) if group discussion can make a difference in the academic achievement of students with low, medium, and high social intelligence.

3. Method

Participants: One hundred and twenty grade related to 10 female students were randomly selected through multistage cluster sampling (40 participants in high SI group, 40 in medium SI group, and 40 in low SI group). Of the students selected in each group, 20 received history lesson instructions in group discussion method and, 20 through lecturing.

The present research used an experimental design which investigated the interaction of two factors; the first was instructional method with two types of group discussion and lecturing and the second was SI with three levels of high, medium, and low.

4. Instruments

Teacher-made academic achievement test in the history course: This test was created by the authors and consisted of 30 multiple-choice questions in 3 cognitive domains (knowledge, comprehension, and application). The validity of the test was obtained through the table of specification and its reliability was determined to be 0.70 by Chronbach α.

Tromso Social Intelligence Scale (TSIS): The TSIS, a self-reporting scale is consisting of 21 questions, was constructed by Silvera, Marinussen and Dahl [26] for the assessment of SI. This scale measures social intelligence based on three sub-scales 1) SIP: this sub-scale focuses on the ability to understand and to predict others' behavior 2) SS which focuses on behavioral aspects such as entering new situations and social compatibility and 3) SA which focuses on unawareness of events in social situations.

Reliability and validity of the scale: TSIS was translated to Farsi by Rezayei [27] and its reliability was calculated through the test-retest and internal consistency methods. The reliability coefficient of Chornbach α was 0.75, 0.73, 0.66 and 0.64 for total scale, and the SI, SS, and SA sub-scales, respectively.

5. Results

Table 1 contains the descriptive results of academic achievement scores for group discussion and lecturing classes with regard to the participants' SI level. As seen in figure 1, the mean of academic achievement score increases rapidly with the increase of SI level for the group discussion class. However, the mean of academic achievement score of low SI students was higher for the lecturing compared to group discussion class.

Table 1. Mean and Standard Deviation of Academic Achievement Scores for Group Discussion and Lecturing

Variables	Statistical indicators instructional method	M	ds
Lecturing	Low social intelligence	12.90	3.21
	Medium social intelligence	13.65	2.01
	High social intelligence	14.15	2.78
Group discussion	Low social intelligence	10.65	3.10
	Medium social intelligence	13.55	3.19
	High social intelligence	16.90	2.47
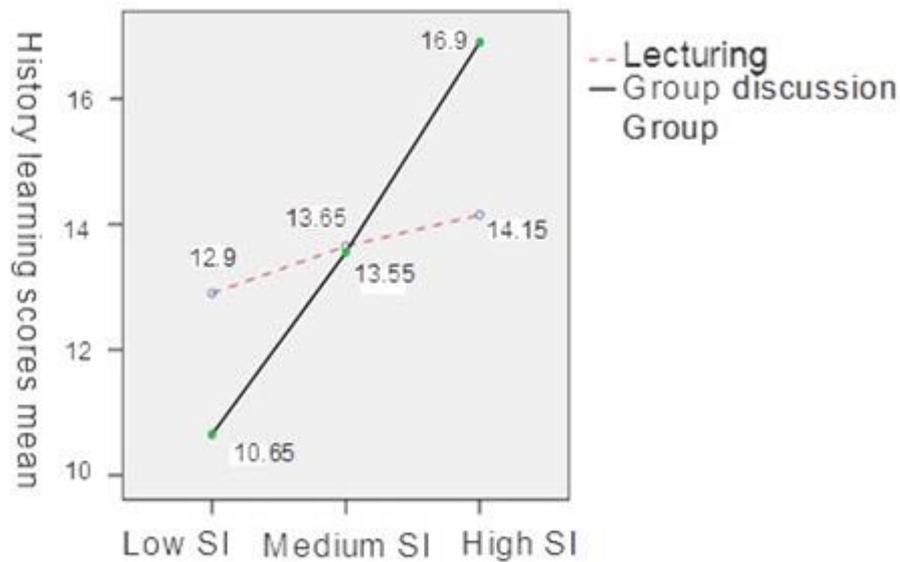
Figure 1. Linear Graph of Academic Achievement Scores based on Instructional Method and Social Intelligence

As demonstrated in Table 2, academic achievement scores do not significantly differ based on the instructional methods (F: 0/07., Sig: 0/78). In contrast, the main effect of the SI on the rate of learning course material, is significant regardless of the instructional method (F: 17/62., Sig: 0/001). In the third row we observed a significant interactive effect between the instructional method and the SI level (F: 7.88., Sig: 0/001). With a 95% confidence interval, it can be said that teaching history through group discussion and lecturing methods can create different results in students with low, medium, and high social intelligence.

Table 2. The Results of Two-Way Analysis Variance on History Scores based on Instructional Method and Social Intelligence

Source of effect	value F	df	significance level	eta square
Instructional method of history	.07	1.114	.78	-
Students` social intelligence	17.62	2.114	.001	.24
Instructional method*SI	7.88	2.114	.001	.12

Table 3 In order to compare the academic achievement scores of the three SI groups in the group discussion category, we used a one-way ANOVA. We observed a significant difference in the achievement scores of students with low, medium and, high SI (F: 22.69., Sig: 0/001). Scheffe's follow-up test was used to test the significance of the mean scores and students with high SI were found to have higher scores compared to those with medium and low SI.

Table 3. One-way ANOVA on Academic Achievement Scores of Group Discussion Category based on SI Level

variable	Groups of students	Number of observation	mean	Standard deviation	F value	Significance level	Eta square
Learning history by discussion	Low social intelligence	20	10.65	3.10	22.69	.001	.44
group	Medium social intelligence	20	13.55	3.19			
	High social intelligence	20	16.90	2.47			

Table 4 to compare the academic achievement scores of participants in the lecturing class based on their SI levels, we used a one way variance analysis (ANOVA). As is demonstrated in Table 4, there was no significant difference found between the academic achievement of students with different SI levels in the lecturing group.

Table 4. One-way ANOVA on Academic Achievement Scores of Lecturing Class based on SI Level

Variable	Groups of students	Number of observations	mean	Standard deviation	F value	Significance level
Learning history by lecturing	Low social intelligence	20	12.90	3.21	1.08	.35
	Medium social intelligence	20	13.65	2.01		
	High social intelligence	20	14.15	2.78		

Table 5 a t-test was used to investigate any difference between the academic achievement score of high SI students in the lecturing and group discussion classes. Table 5 is demonstrated a significant difference between the means. As a result, it can be argued that teaching history through group discussion was more effective compared to that through lecturing for students with high SI.

Table 5. Independent T-test of the High SI students' Academic Achievement Scores in Lecturing and Group Discussion Methods

Method	N	Mean of score	SD	T value	Significance level
Lecturing	20	14.15	2.78		
Group discussion	20	16.90	2.47	-3.31	.002

Table 6 the same method was used for comparing scores in students with low level of social intelligence. At this SI level, students in the lecturing class obtained higher scores compared to students in the group discussion category.

Table 6. Independent T-test of the Low SI Students' Academic Achievement Scores in Lecturing and Group Discussion Methods

Method	N	Mean of score	SD	T value	Significance level
Lecturing	20	12.9	3.21		
Group discussion	20	10.65	3.1	2.25	.03

6. Discussion

Effective instruction through group discussion requires prerequisites and abilities such as listening, tolerance, self-expression, social influence, verbal and nonverbal communication abilities, and effective use of language. Based on our findings, we contend that academic achievement in a history course can be significantly improved through group discussion instructions only for students with high SI.

Therefore, we contend that SI is a non-cognitive factor that can influence the learning rate through cooperative methods such as group discussion and we recommend the use of cooperative and group discussion instructional methods to enhance the learning of students with high levels of SI. We further propose that cooperative methods should be avoided for students with low SI as these student may experience an academic decline brought upon by this instructional method.

While social intelligence is a deciding factor in effective learning through group discussion, it doesn't affect learning through lecturing method. This can be explained by realizing that lectures are teacher–centered instructions during which students act as receivers with little social involvement in the learning process. Our results indicated that students with low SI were more successful at learning when instructed through lectures, instead of group discussion. In other words, lecturing was a more effective method compared to group discussion for low SI students. Petty and Brewer [12] suggested that formal lecturing is the most effective instructional method when introduce new or complicated concepts or ideas or when there is a need to cover several concepts or ideas in a short period of time. We add that the lecturing method is also the effective method when students are not able to interact and communicate with each other sufficiently.

In sum, both lecturing and group discussion methods have advantages, disadvantages, and limitations [12]. However, this composite can be changed by the interaction between instructional methods and learner features. In fact, talents and abilities of the learner determine the efficacy of the instructional method. When students possess social intelligence components such as the ability to communicate verbally and non-verbally, good speech, listening skills, and the ability to self-present, group discussion can be a very beneficial instructional method. Therefore, Teaching methods are in interaction with the characteristics of students.

Acknowledgments

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