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The relationship between learning atmosphere and social creativity in primary school boy students

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ABSTRACT

Social creativity is defined as the creative methods in individuals' interaction. The present study deals with the survey of the relationship between teacher-student interaction and social creativity in the primary school boy students. The study participants are 114 primary school boy students from the four educational districts in Shiraz who have been selected by taking advantage of multistage clustering sampling method with a basic sample class unit; and they were asked to complete the teacher-student interaction and creativity questionnaire. To determine the reliability and validity the Cronbach's alpha and items correlation were used respectively along with their dimensions and dimensions correlation with the total score. The results and evidences were indicative of the favorable validity and reliability of the questionnaire. The results obtained from the Pierson correlation coefficient showed that there is a negative and significant relationship between the dimension of responsibility and freedom with creativity. Also, the results of the regression analysis indicated that from among the dimensions of teacher-student interaction only dimension of responsibility and freedom are negative and significant predictor of the social creativity in primary school boy students.

Keywords: teacher-student interaction, social creativity, primary school boy students.

INTRODUCTION

Creativity, which is nowadays regarded as an important and determining factor for the countries' growth and promotion, is a subject matter which has been the focus of the attention of thinkers and experts in the field of teaching and training. Creative thinking seeks to realize the problem, find solutions and then test the hypothesis and presuppositions and solutions. The existence of general and inclusive skills in all of the creative individuals (problem-solving ability and presentation of novel approaches) and the existence of special skills in various fields expressed by the creative mind (scientific creativity and artistic creativity), on the one hand, and the fundamental conflicts and paradoxes which are swirling in the minds of the creative individuals, on the other, has caused the expansion of the creativity concept to numerous fields such as emotions, social relations, ethics and so on [1]. Among these, the inter-personal area is one of the latest and newest dimensions which has been posed as social creativity during the recent decades. Watson applies the expression of social creativity to describe creative interaction in social areas [2]. Mouchiroud and Lubart defined social creativity as innovative and creative methods of the individuals' interaction with one another [3]. From the perspective of Ada (2008) social creativity has been defined as a social-cultural process in which new and appropriate products are created and it is not only seen in outstanding figures rather it is considered as a general talent and faculty that can be fostered in every individual [4]. In Gilford's idea creative behavior is needed anywhere there is a problem including interpersonal situations [3]. Also, social creativity construct is related to the Ribot's concept of ideal or ethical imagination in the field of creativity and it is also related to the inter-personal intelligence in the theory proposed by Gardner as multiple intelligence theory [5]. Because social creativity is a new construct which has been under the focus of the researchers and experts during the recent decades there are few researches respective to it. Alborzi (under publication) in his study showed that approaching creativity both directly and by the internal control nucleus intermediation is a positive and significant predictor of the social creativity in children's social creativity [6]. Also, Alborzi in another study indicated that the child's perception of his or her mother is the negative and significant

predictor of the external motivational beliefs and his or her perception of the father is the positive and significant predictor of the internal motivational beliefs in the child's friendly relationships. Also, it was found that self-independence motivational beliefs play a greater intermediary part in children's social creativity [7]. Chesnokova and Subbotsky also studied the 8 to 11 years of age children's social creativity in a conflict of interest situation. The results showed that the children are capable of inventing a credential code as a clever strategic via referring back to the previous experiences [8]. Moreover, Alborzi dealt with the survey of social creativity in preschool children in a study, the results of the study are indicative of a significant difference between girls' and boys' social creativity in total scores and the stream of consciousness dimension was in favor of the girls [9]. Hasanzadeh also in a study dealt with the relationship between the family relationship patterns and students' social creativity. The results indicated that the family conversations' orientation was a positive and significant predictor of the social creativity and the family conformity orientation is also a negative and significant predictor of social creativity [4]. Mouchiroud and Lubart also, in a study, evaluated the children's social creativity and the results were suggestive of a unique creative ability in social area for the small children and the appearance of more general and more comprehensive ability for the bigger children [3]. Besides, there was a solid relationship between the psychological health indices and innovation in the entire age groups and fields of study. Since education system is one of the most important institutions in upbringing the human beings and shapes their personality and teacher is considered as the main base of the education system, therefore the teacher's personality characteristics and the way the teacher interacts with the students plays a considerable role in their future. "Teacher-student interaction is the main element of the education presented to a class which is not present in other types of teaching and training such as the use of books and radio and so forth which lack the mutual interactions or bilateral relationships existing between a teacher and a student" [10]. "Acquiring the proper learning habits is shaped in early childhood and in the beginning years of education system and it is the responsibility of the education system to foster such a skill" [11]; among the various elements playing a role in the education system and effective on the students' behavioral-learning outcomes is the teacher and his or her styles and methods.

Samuelson in a study concerning the various methods of education and interaction with students found out that the teachers with a problem-solving approach exert a significant effect on the students' self-regulatory skills [12]. In his study there was made references to similar studies including Granstrom who also shows that the teachers who let the students take a leadership and cooperation role create greater opportunities for success and understanding [13]. Also, Opendekker and Van Damme indicated that good teaching in a class is an equivalent to the establishment of proper relationship with students. One of the various fields in which interaction by the teacher plays a significant role is creativity. Teachers' interactive role has been greatly emphasized in students' creativity in various studies [14]. Alborzi, in his PhD dissertation, emphasizes the role played by the teachers who set an environment for students' independent behavior and influence their internal motivation and creativity [15]. Jowkar, Alborzi and Khayyer, also in a similar study, indicated the teacher's interactive effect on the students' cognitive perceptions and creativity. "teachers are appropriate and convenient patterns for the children via free expression of their feelings, love, joy and curiosity, in fact they transfer creative spirit, feelings and emotions, affection and motivation to the students" [1, 16, 17]. In other words, "the teacher-student affective relationships also influences students' creative growth and makes them express their own ideas freely and easily" [18]. In sum, according to the lack of studies regarding social creativity and the absence of a study which has been performed in relation to the learning atmosphere and social creativity we dealt with this matter in the present study that is there a relationship between the learning atmosphere and social creativity in primary school boy students? Based on this, the present study deals with the survey of the following questions:

1. Is there a significant relationship between teacher-student interaction dimensions and students social creativity?
2. Which of the teacher-student interaction dimensions is a significant predictor of the social creativity?

Study methodology

The present study is a correlation research. To perform the statistical analysis in the present study firstly the study variables descriptive information including (mean, standard deviation, minimum and maximum scores) were determined by taking advantage of descriptive statistics indices. Then, to find answers for the study questions the Pierson correlation coefficient statistical methods and multiple regression analysis were simultaneously applied.

Study population and participants

The study population is comprised of all of the primary school sixth grade boy students who were studying in the duration of the years from 2013 to 2014 in Shiraz city. To select the study sample volume we made use of multistage clustering sampling. And it was in this way that from among the four educational districts in Shiraz County two districts were selected randomly and from every district two boy primary schools (in sum 4 schools, 114 boy students) were selected randomly and from sixth grades classes of every school one grade was randomly selected and the questionnaire was administered to them.

Study instruments

In the present study two instruments were applied:

Teacher-student interaction questionnaire (QTI):

This questionnaire was designed by Webles, Crayton, Levi and Hewi Mayers based on the Lierie Model regarding the teacher's behavior in class [19, 20]. The above-mentioned instrument introduces an image of the students' perceptions of the teacher's behaviors in the classroom. The questionnaire's original form is consisted of 77 items and the answers are scored according to the Likert's 5-point scale. Teacher-student interaction questionnaire was translated and used by Khayyer and Alborzi (2005) in Iran and its reliability and validity has been calculated [20]. This questionnaire is comprised of two forms containing 48- and 77 items and in the present study the short form containing 48 items was used. The mentioned questionnaire incorporates 8 dimensions of managerial behavior (for instance: "my teacher tries to attract my attention to the lessons"), friendly, contributive behavior (for example: "my teacher trusts me"), responsibility, freedom granting behavior (for example "my teacher lets me stay out of the class for a long period of time"), lack of confidence behavior (for instance, "my teacher seems uncertain"), non-satisfaction behavior ("my teacher thinks I am a cheater"), admonishing behavioring behavior ("my teacher uses sarcastic words for addressing me") and harsh behavior ("my teacher takes it hard on me"). The scoring method for the teacher-student interaction questionnaire is in a way that the answer to each item is evaluated based on a 5-point spectrum from "completely agree" to completely disagree"; therefore, the score for each of the items ranges from 1 to 5. The questionnaire validity has been calculated by Webles and Levi, Fisher et al (1997) and Brooke et al (2006) based on the construct validity method by making use of the factor analysis method and the correlation existing between each item and its total score of each dimension and discriminant validity (top and bottom groups) [18, 21]. The questionnaire validity has also been evaluated as appropriate by Latifian and Khoshbakht by taking advantage of Cronbach's alpha in Iran [22]. Moreover, Gholami obtained the Cronbach's alpha for the dimension of teacher's support and guidance as equal to 0.91 and for the teacher's uncertainty dimension it was obtained as equal to 0.74 and for the dimension of teacher's control and leadership direction it was obtained 0.63 [23]. in the current study, Cronbach's alpha was also applied for the evaluation of reliability and this coefficient value for aspects of leadership influence and power, the level of contribution and assistance, understanding and comprehension, responsibility and freedom, uncertainty, dissatisfied , admonishing behavior and strict behavior was obtained as 0.65, 0.61, 0.62, 0.38, 0.58, 0.72, 0.68, 0.60 respectively; and for the evaluation of the validity there was made use of the items correlation with aspects (the obtained values ranged from 0.44 to 0.77 all of which were significant in 0.01 significance level).

Social creativity task

To assess the social creativity level there was made use of Mouchiroud's and Lubart's social creativity problem-solving task. In these tasks, the participants were asked to write their own creative solutions in response to three social problems which were different according to the individual's nature or the individuals' engagement level with one another. Besides the social creativity total score, the individual's score was also evaluated on two dimensions of stream of consciousness and innovation [3]. In the dimension of stream of consciousness the number of valid and creative responses introduced by the child was also taken into consideration. Higher scores were interpreted as more valid responses. For obtaining the individual score in the dimension of innovation, firstly the total number of similar responses in the overall questionnaire and their frequency were determined. Then, each class was averaged. The averaged score was deducted from unity and in this way the score of that class was computed. For each of the individual's questionnaire, the total score of his or her responses in each question was considered as that question's score and the total scores of three questions were regarded as the score for the dimension of innovation. The total score of the social creativity was also obtained from the total scores of the dimension of stream of consciousness and innovation. Mouchiroud and Lubart used social creativity questionnaire correlation evaluation with various intelligence tests [the unusual use of the box test [3, 23], words fluency and narration tasks to obtain convergent validity. The correlation amount between social creativity questionnaire and box test was ($p=0.01$, $r=0.52$) with word fluency it was ($P=0.01$, $r=0.52$) and with storytelling task this amount found to be ($P=0.01$, $r=0.52$), and the results were indicative of the social creativity questionnaire convergent validity. Also, Mouchiroud and Lubart reported reliability coefficient of the questionnaire as 0.87 by making use of the Cronbach's Alpha. In Iran, Alborzi obtained the instrument validity based on its content (the teaching and training experts' notions) and the reliability was obtained as 0.90 based on Cronbach's alpha method [3, 9]. Also, Hasanzadeh used Cronbach's alpha method to determine the questionnaire's reliability the amount of which for the two dimensions of innovation and stream of consciousness was obtained as 0.64 and 0.75 respectively and the overall questionnaire reliability was 0.90 which is an indicator of a favorable reliability [4]. Moreover, to determine the validity, convergent validity (the relationship between social creativity and self-esteem) and divergent validity (the relationship between social creativity with age and aggression) were applied. In the current study, to determine the social creativity questionnaire's reliability the Cronbach's alpha method was used the value of which for the dimension of stream of consciousness and innovations were 0.81 and 0.64 respectively, and for the overall questionnaire it was equal to 0.86. Also, to survey the validity of the questionnaire it was made use of the correlation between the dimensions and the total score (stream of consciousness, 0.97 and innovation 0.93) which were statistically significant in 0.01 level.

Findings

Table 1 illustrates the study variables descriptive findings including mean, standard deviation, minimum and maximum and the total score.

Table 1. Study variables descriptive findings

Variables	Scale	Indicators		Mean	Standard deviation
		Min.score	Max.score		
Teacher-student interaction aspects	Leadership ability	25.78	4.01	13	30
	Helping and friendly behavior level	21.82	4.92	6	30
	Understanding and comprehension	24.68	4.91	8	30
	Responsibility and freedom	5.38	2.39	1	15
	Uncertainty	5.64	2.65	2	13
	Dissatisfied	57.64	4.45	51	71
	Admonishing behavior	31.75	3.62	26	39
	Strict behavior	57.19	4.92	8	30
Social creativity dimensions	Stream of consciousness	7.37	3.67	3	21
	Innovation	5.53	1.95	2.94	11.67
	Total score	12.91	5.45	5.94	32.67

Study first question: is there a significant relationship between teacher-student interaction dimensions and students' social creativity? In the following section, the correlation matrix between the study variables is presented in table 2 to evaluate the first question posed here which is also a prerequisite to perform regression analysis for the next question and also to offer a more straightforward image of the relationship between the study variables, the correlation existing between them is to be calculated.

Table 2: study variables correlation matrix

Variables	1	2	3	4	5	6	7	8	9
1. Leadership influence	1								
2. Helping and friendly behavior	0.49**	1							
3. Understanding and comprehension	0.75**	0.45**							
4. Responsibility and freedom	-0.26**	0.002	-0.15	1					
5. Uncertainty	-0.40**	-0.27**	-0.36**	0.22*	1				
6. Dissatisfied	-0.50**	-0.36**	-0.43**	0.44**	0.44**	1			
7. Admonishing behavior	-0.49**	-0.36**	-0.59**	0.10	0.46**	0.45**	1		
8. Strict behavior	0.03	-0.04	-0.02	-0.02	0.16	0.31**	0.31**	1	
9. Social creativity	0.02	-0.12	-0.06	-0.24*	-0.02	-0.03	-0.06	-0.03	1

**P<0.05, **P<0.01*

As it is indicated by the findings in table 2, the dimension of responsibility and freedom has a negative significant relationship with the social creativity total score ($P<0.05$, $r= -0.24$).

Study second question: the survey of the social creativity regression on the teacher-student interaction aspects: to assess the question we made use of the multiple regression method in a simultaneous style (table 3).

Table 3. Social creativity prediction based on the teacher-student interaction aspects

Predictive variables	Criterion variable	F	R	R^2	β	t	P<
Leadership power	Social creativity	1.36	0.325	0.105	0.09	0.60	N.S
Helping and friendly behavior					-0.16	-1.29	N.S
Understanding and comprehension					-0.22	-1.46	N.S
Responsibility and freedom					-0.35	-2.26	0.05
Uncertainty					0.02	0.18	N.S
Dissatisfied					0.07	0.52	N.S
Admonishing behavior					-0.19	01.46	N.S
Strict behavior					0.03	0.33	N.S

The results of the regression analysis (table 3) indicate that the dimension of responsibility and freedom ($\beta= -0.35$, $P<0.05$) is a negative and significant predictor of the social creativity. Moreover, the dimensions of leadership, helping and friendly behavior, understanding and comprehension, uncertainty, dissatisfied, admonishing behavior, and strict behavior have not been able to be statistically significant predictors of social creativity.

Discussions and conclusions

The objective of the present study was to survey the relationship between learning atmosphere and social creativity in primary school boy students. The results showed that the dimension of responsibility and freedom is a negative and significant predictor of the social creativity and the other predictive variables have not been able to significantly

predict social creativity in primary school boy students. Regarding the negative and significant relationship between the dimension of responsibility and freedom with social creativity the results are consistent with the results obtained by Mashayekh and Barzideh [18]. Mashayekh and Barzideh dealt with the survey of the teacher's leadership behavior style effect on cognitive creativity of the primary school students. Their study findings indicated that the students of the teachers who had a blending style in comparison to the students of the teachers who had a task-oriented or relation-oriented leadership enjoyed greater creativity. Amabeli also believes that the leader's behavior influences the subordinates' perception of the leader's support and enhances their creativity [16]. In other words, every leader can influence employees and subordinates creativity through direct help in performing the projects, increasing the subordinates' exercises and practices, enhancing the employees' internal motivation, planning and determining proper objectives, work group support in the organization, having a good relationship and interaction with the work group, giving value to the individual interests and desires at work, providing for constructive feedback, exhibiting trust to the work group and showing acceptability for new ideas. In elaborating such findings it can be said that the environment in which the children work, play and live can accelerate or suppress creativity growth in them [24].

Teachers can develop children's creativity via creation of the appropriate atmosphere and necessary conditions or in otherwise destroy their self-confidence by improper behaviors and hinder their creativity growth [25]. The teachers can develop the learners' creativity by asking answer-inciting open-ended questions, being patient and tolerating ambiguity, offering creative thinking behavior, rewarding students who give unexpected answers [26]. Also, they can give importance to learning via learning and make the creative thinking grow in the students by teaching the students and enhancing their learning spirit in accepting effective and new ideas and thoughts and encouraging learners to use regular self-evaluation and explaining concepts to their classmates [27]. In fact, the establishment of a healthy and positive environment in the classroom helps the teachers and students work with a high level of commitment and accordingly this will make students' creativity grow in the classroom [28]. While creativity goes down in classes where the teacher is exhibiting a controlling and despot behavior, acts very strictly in timely constraints, indifferent to the students' emotional needs and very bound to organizing information [25]. Besides, it can be said that in classes where the teachers create an unduly free atmosphere the students cannot find an opportunity for the introduction of new ideas and problem solving. For instance, in such classes the students go out of the classroom whenever they want and such a class atmosphere deprives the students from presenting new ideas for satisfying the teacher to let them get out of the class and/or if the calss atmosphere is very restricted and strict and task-oriented the students won't dare to express their new ideas if any therefore the creativity growth chance is reduced in them. On the other hand, it can be deduced this way that giving too much freedom of action to the students in classroom makes them somewhat snobbish in their social life inside and outside school and they lose their capability of receiving negative answers in confrontation with their friends and problems regarding different areas and fields and in lieu of offering solution to resolve their problems in establishing relationship with the others they edge towards aggression, therefore social creativity is reduced in their relations and their ability to solve problems is reduced as well. Conversely, the opposite of such an event can happen when the teachers control their class with a responsibility-oriented approach and such an approach to the students makes the student to become over excessively responsible and accountable in his life in and out of the school and the result of such an approach would be the students who ignore the other individuals' perspectives and ideas in confrontation with the others and problems, so they will enjoy a lower level of accomplishment and success in their school and real life. Accordingly, the teachers who come up with a blending approach of responsibility and freedom in controlling their classes pave the way for the students' growth and development and the students would have a high capability and competency of establishing social relationships and they would be able to solve their problems on their own in the society, therefore it is recommended that the teachers should adopt a blending responsibility and freedom approach towards establishing relationship with the students and crating class atmosphere in order to provide for the social creativity growth and social relationships skills learning in students.

Among the constraints and limitations existing in the present study was the lack of study background regarding social creativity and also the lack of a study on the relationship between the teacher-student interaction and social creativity. In the end according to the results obtained it is suggested that there is a need for these areas of study to be further progressed via performing various studies and surveying the role of the other variables regarding their relationship with social creativity.

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