



Relationship between Classroom Climate and Academic Vitality of Second-Grade Secondary School Students

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Abstract: Lack of vitality is one of the most serious and common educational problems of students. Students' perception of classroom environment or, to put it differently, the classroom climate is a variable which could possibly play a role in increasing students' vitality. In other words, the factors relevant to school and classroom are among the predictors of academic vitality. Therefore, the present research aims to investigate the relationship between the classroom climate and the academic vitality among the second-grade secondary school students in Savojbolagh during the academic year of 2018-2019. This is a descriptive survey in terms of method and it is a field study in terms of implementation. The research population was second-grade secondary school students of Savojbolagh region, during the academic year of 2018-2019; they were 8135 students. The simple random sampling method was used for sampling and using Cochran formula, the sample size was estimated to be 95 people. The research instruments used in this study were the questionnaires on classroom climate by Hardre, Crowson, Xie, and Ly (2006) and on academic vitality by Hossein Chari and Dehghanizadeh (2012). To analyze the data, Pearson correlation coefficient and multiple regression analysis through ENTER method were used. The research results showed that there is a direct relationship between the academic vitality and all the components of classroom climate (supportive classroom environment, student's perception of teacher-centered elements, classroom climate, teacher's beliefs and supportive behavior). Moreover, there is a correlation coefficient of 0.96 between the academic vitality and the components of classroom climate (supportive classroom environment, student's perception of teacher-centered elements, classroom climate, teacher's beliefs and supportive behavior); the components of classroom climate (supportive classroom environment, student's perception of teacher-centered elements, classroom climate, teacher's beliefs and supportive behavior) accounts for the variable of student's academic vitality by 92%. The results of regression analysis showed the satisfaction with the supportive classroom environment and the student's perception of teacher-centered elements are effective on the students' academic vitality by 0.54 and 0.42, respectively.

Keywords: Classroom Climate, Academic Vitality, Students

INTRODUCTION

The educational problems pose challenges in everyday life of the adolescents. Some students make adaptive and constructive responses in dealing with the challenges and obstacles that they experience in their

academic lives, and some others are not very successful in this regard (Dehghanizadeh and Hosein Chari, 2012, quoted by Bakhshaei, 2016). Therefore, academic life is one of the most important periods of a person's lifetime and affects one's effective and successful training, and the abilities are blossomed out and scientific advancements are obtained in this period. However, in their daily academic lives, students encounter a variety of challenges, obstacles and pressures specific to this period (including: poor grades, stress levels, threats to self-confidence as a result of poor performance, lack of motivation and interaction, and so on). Some students are successful in dealing with these obstacles and challenges, but some others are not successful in this regard (Dehghanizadeh and Hosein Chari, 2012). Academic vitality refers to the positive, constructive, and adaptive responses to all kinds of challenges and obstacles that are experienced in the ongoing course of education (Putwain et al., 2011). Hence, understanding the way of demonstrating adaptability on challenges in education should be taken seriously by the educational scholars. The academic vitality is considered as an empowerment in the educational adaptability of the learners (Mohammadi, 2017). Lack of academic vitality would result in the unpleasant personal experiences, e.g. poor academic performance and academic burnout, which are associated with the apparent behavioral problems such as sadness, aggression and depression; and a kind of inconsistency is seen between the educational aspirations and expectations. The following are obvious signs that show the loss of academic vitality: lack of interaction with teachers and friends; failure to complete homework; and poor grades. Lack of vitality is one of the most serious and common educational problems of students (Hawkley and Cacioppo, 2016, quoted by Mohammadi, 2017).

Students' perception of the classroom environment or, to put it differently, the classroom climate is a variable that could play a role in increasing students' vitality. In other words, the factors relevant to school and classroom are among the predictors of academic vitality. The classroom has long been considered as a critical space for students' academic achievement. Students spend the hours of school days mostly in classrooms. The quality of students' class attendance is an important determinant of their learning, which affects students' reactions and perceptions of school experiences. Students learn better when classroom and dominant climate is positive and appropriate (Dorman and Adams, 2004). Adelman and Taylor (2005) consider classroom climate as a perceived quality of the setting; it emerges in a somewhat fluid state from the complex transaction of many environmental factors such as physical, material, operational, organizational, and social variables. The evaluation of the psychosocial climate of the classroom and its positive effects has always been considered by teachers, managers and practitioners of education. The psychosocial climate of the classroom can provide useful feedback to teachers since it affects the quitting school, absence from classes, depression, student resistance, dissatisfaction, and lack of interest in learning. (Atoufi Salmani, Bahari, Goudarzi Malayeri, 2008).

Therefore, it seems that classroom climate can be useful in cultivating able and interested individuals with a great vitality that will take full advantage of opportunities and will deal with the challenges or adaptation. Since the education of children is a major necessity, and given the fact that students spend most of their lifetime studying at school, the present study aims to investigate the relationship between the classroom climate and the academic vitality among second-grade secondary school students in Savojbolagh region during the academic year 2018-2019.

Methodology

The present research was conducted to investigate the relationship between classroom climate and academic vitality among the second-grade secondary school students. This is a descriptive survey in terms of the research method. In a survey study, the current condition is measured and in light of it, we clarify the current issues; and a questionnaire is used for data collection. The generalizability of the results is one of the main features of this type of study (Saei Arsi, 2013). This is a field study in terms of research implementation. The research community was 8135 second-grade secondary school students in Savojbolagh region during the

academic year of 2018-2019. The simple random sampling method was used for sampling, at first some secondary schools were randomly selected and then in proportion to the students' population, 95 people as study samples were entered into the study using the Cochran formula. The Cochran formula and calculation method for estimating sample size are as follows:

$$\alpha = 0.05$$

$$t = 1.96$$

$$p = 0.5$$

$$d = 0.05$$

$$N = 8135$$

$$n = \frac{N t^2 pq}{N d^2 + t^2 pq} = \frac{(8135)(1.96)^2(0.5)(0.5)}{(8135)(0.05) + (1.96)^2(0.5)(0.5)} = 95$$

In the present research, we used library studies and the two questionnaires of classroom climate by Hardre, Crowson, Xie, and Ly (2006) and academic vitality by Hosein Chari and Dehghanizadeh (2012). The questionnaire of classroom climate by Hardre and Crowson (2006) has 19 items that measure the supportive classroom environment. The supportive classroom environment includes student's perception of teacher-centered elements, classroom climate, teacher's beliefs and supportive behavior. The questionnaire items are based on a 7-point Likert scale with the neutral, positive, and negative options for each item. The questionnaire of academic vitality by Hossein Chari and Dehghanizadeh (2012) was used to measure academic vitality; it had 9 items and modeled the scale of academic vitality used by Martin and Marsh (2006). Responses are scored based on a 7-point Likert scale (from totally disagree 1 to totally agree 7). The face and content validity of the questionnaires was confirmed by the supervisors and advisors and the reliability of the questionnaires was calculated using Cronbach's alpha coefficient as 0.95 for classroom climate and 0.97 for academic vitality. Data analysis was performed using SPSS19 through the Pearson correlation coefficient analysis and multiple regressions with ENTER method.

Findings

The present study results for the frequency distribution of the students' age showed 57 people; (60%) is 17 years old; 27 people (28.4%) are 16 years old; 9 people (9.5%) are 18 years old; and 2 people (2.1%) are 15 years old. Given the students' majors, 53 people (55.8%) were studying Natural Sciences; 26 people (27.4%) were studying Mathematics; and 16 people (16.8%) were studying Human Sciences. In a large sample size, according to the central limit theorem, the distribution of observations must be tested. The Kolmogorov-Smirnov test is an example of a test on the normal distribution of observations. Since the significance level for all variables was assumed greater than the error value of 0.05, and given that in the present study the value was computed to be 0.05, the normality condition is met.

The major hypothesis: There is a relationship between the classroom climate and the academic vitality among the second-grade secondary school students.

The results obtained from Pearson correlation coefficient showed that the hypothesis is approved. The results in Table 1 show that there is a significant relationship between the academic vitality and the classroom climate, (Table 1).

Table 1: Results of Pearson Correlation Coefficient between the Academic Vitality and the Classroom Climate

		Classroom climate
Academic vitality	Correlation coefficient	0.36*
	Significance	0.0001
	N	95

*α=0.01

Minor Hypotheses:

1. There is a relationship between the classroom climate and its components (supportive classroom environment, student’s perception of teacher-centered elements, classroom climate, teacher’s beliefs and supportive behavior) and the academic vitality among second-grade secondary school students.

The Pearson correlation coefficient was used to answer this question. According to Table 2, the Pearson Correlation Coefficient shows that there is a direct relationship between academic vitality and all components of classroom climate (supportive classroom environment, student’s perception of teacher-centered elements, classroom climate, teacher’s beliefs and supportive behavior), (Table 2).

Table 2: Results of Pearson Correlation Coefficient between the Academic Vitality and all Components of the Classroom Climate

		Supportive classroom climate	student’s perception of teacher-centered elements	Classroom climate	teacher’s beliefs and supportive behavior
Academic vitality	Correlation coefficient	0.95**	0.94**	0.34**	0.35**
	Significance	0.0001	0.0001	0.0001	0.0001
	N	95	95	95	95

* $\alpha=0.05$ and ** $\alpha=0.01$

2. The components of classroom climate (supportive classroom environment, student’s perception of teacher-centered elements, classroom climate, teacher’s beliefs and supportive behavior) predict the academic vitality of the second-grade secondary school students.

Multiple linear regressions are used to answer this hypothesis. First, the default assumptions of normality and independence of errors (Durbin-Watson) were examined and they were confirmed. The results in Table 3 show that there is a correlation between the academic vitality and the components of the classroom climate (supportive classroom environment, student’s perception of teacher-centered elements, classroom climate, teacher’s beliefs and supportive behavior); and the components of the classroom climate (supportive classroom environment, student’s perception of teacher-centered elements, classroom climate, teacher’s beliefs and supportive behavior) account for the student’s academic vitality by 92%. The Durbin-Watson statistics fall in the range of 1.5 to 2.5, therefore, the assumption of independence of errors is confirmed (Table 3).

Table 3: A Summary of Regression Model between the Academic Vitality and Components of the Classroom Climate

Model	Correlation coefficient	R-squared	Adjusted r-squared	SEM	Durbin-Watson
1	0.96	0.92	0.09	0.32	2.26

The variance analysis (ANOVA) also shows regarding the significance level of 0.001, this regression is significant at 99% confidence level (Table 4).

Table 4: Variance Analysis

Model	Mean square	Degree of freedom	Total sum of squares	F	Significance level
Regression	122.29	4	30.57	290.43	0.0001
	9.47	90	0.10		
sum	131.77	94			

The variable entered in the regression equation is the core of the regression analysis, as represented in Table 5. The regression equation is calculated using the unstandardized coefficients column as follows:

$$y = 0.63x_1 + 0.45x_2$$

In the regression equation represented above, y is the dependent variable (academic vitality), x1 is the predictor variable (general satisfaction with supportive classroom environment), x2 is the predictor variable (student’s perception of teacher-centered elements). In other words:

(Student’s perception of teacher-centered elements) 0.45 + (general satisfaction with supportive classroom environment) 0.63 = Academic vitality

That is, the academic vitality increases per unit change of standard deviation in general satisfaction with the supportive classroom environment, 0.63, and in student’s perceptions of teacher-centered elements, 0.45. In other words, the general satisfaction with the supportive classroom environment and the student’s perception of the teacher-centered elements affect the student’s academic vitality by 0.54 and 0.42, respectively.

Table 5: Regression Coefficients of Academic Vitality and Components of Classroom Climate

Model	Unstandardized coefficients		Standardized coefficients	t	Significance level
	B	Standard error	β		
Constant	-0.07	0.18	---	-0.37	0.70
general satisfaction with supportive classroom environment	0.63	0.10	0.54	6.08	0.0001
student’s perception of teacher-centered elements	0.45	0.09	0.42	4.77	0.0001
Classroom climate	-0.08	0.10	-0.07	-0.88	0.38
teacher’s beliefs and supportive behavior	0.11	0.09	0.09	1.61	0.24

Discussion and Conclusion

Given the major hypothesis of the study, the results of Pearson correlation coefficient showed that there is a significant relationship between the academic vitality and the classroom climate. The present study results are consistent with the study results by Batyar (2017). The study results by Batyar (2017) showed that there is a positive relationship between the school climate and the academic vitality. In classroom climate, a somewhat fluid state from the complex transaction of many environmental factors such as physical, material, operational, organizational, and social variables emerges. The evaluation of psychosocial climate of the classroom and its positive effects has always been considered by teachers, managers and practitioners of education. The psychosocial climate of the classroom can provide useful feedback to teachers since it has an effect on quitting school, absence from classes, depression, student resistance, dissatisfaction, and the lack of interest in learning. The following are obvious signs that show the loss of academic vitality: lack of interaction with teachers and friends; failure to complete homework; and poor grades. The lack of vitality is one of the most serious and common educational problems of students.

Moreover, the Pearson correlation coefficient obtained in this research shows that there is a direct relationship between the academic vitality and all components of the classroom climate (supportive classroom environment, student’s perception of teacher-centered elements, classroom climate, teacher’s beliefs and supportive behavior). The results of the present research were consistent with the results of other researchers such as Batyar (2017); Saiyadi et al. (2016); Bakhshaei (2016); Yavari et al. (2014); Butler-Barnes et al. (2015); Gunuc and Kuzu (2015). Batyar (2017) showed that there is a positive relationship between school climate and academic vitality. The study by Saiyadi et al. (2016) also reported that there was a positive

significant relationship between the psychosocial climate of the classroom and the academic vitality. Bakhshaei (2016) showed the perception of the school climate has a positive and significant effect on the academic vitality via the positive youth development. In another study by Yavari et al. (2014), the identification and development of conceptual models, and in particular, the formulation and development of an empirical model of educational performance based on the cognitive characteristics, helped to improve the psychosocial climate of the classroom and ultimately, the academic achievement of the students. Butler-Barnes et al. (2015) also concluded the school attachment was a kind of support for students. In another study by Gunuc and Kuzu (2015), they concluded the school environment and its technological possibilities affected the academic engagement. Lubbers (2006) also reported that if the assessment system creates an emotional atmosphere with high social relationships, students will have better academic achievement. They will be successful in their academic careers and in dealing with academic challenges. To explain the findings of the present research we can state the social-human environment and the quality of the dominant relationships and events in the organizations can generate favorable or unfavorable climate. In fact, the school climate is manifested in students, teachers, and the staffs' emotions and attitudes towards the school, and it reflects the feeling that students have in their daily experience at school. This feeling can affect students' learning and motivation. In children education, it is necessary to pay attention to students' educational lives and to discover the effective variables on successful learning and education such as students' perceptions of the school climate that can improve academic vitality in the school environment and make the abilities blossom out.

The results of the Summary Table of regression model in this research show that there is a correlation of 0.96 between the academic vitality and the components of the classroom climate (supportive classroom environment, student's perception of teacher-centered elements, classroom climate, teacher's beliefs and supportive behavior) and the components of classroom climate (supportive classroom environment, student's perception of teacher-centered elements, classroom climate, teacher's beliefs and supportive behavior) accounts for the variable of student's academic vitality by 92%. The results of the regression analysis showed that the academic vitality increases per unit change of standard deviation in general satisfaction with the supportive classroom environment, 0.63, and in student's perceptions of the teacher-centered elements, 0.45. In other words, the general satisfaction with the supportive classroom environment and the student's perception of the teacher-centered elements affect the student's academic vitality by 0.54 and 0.42, respectively. The results of the present research are consistent with the results of other researchers as Batyar (2017); Saiyadi et al. (2016); Bakhshaei (2016). Batyar (2017) showed that the school climate predicts 61% of the variance of the academic vitality. Saiyadi et al. (2016) also found that 49% of the academic vitality changes were predicted by the psychosocial climate of the classroom and its components. Bakhshaei (2016) also found that the perception of the school climate accounts for 43% of academic vitality changes. To explain the findings of the present research we can state the classroom climate refers to a unique classroom environment experienced by all individuals or students in the classroom. The classroom learning environment or classroom climate is a platform that academic and social learning takes place for children and adolescents and teachers play a key role in the students' successfulness but not in the organizing the school. Of course, not all teachers are effective in the same way, because they have not received the same training and they do not apply the same teaching method. Given that most adolescents encounter educational problems during their education, the identification of effective factors such as classroom climate and examining their effects on students' vitality can help them deal with these problems and eliminate these abnormalities.

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