

Elucidating the Effect of School Environment on Academic Performance of Higher Secondary Students

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Abstract

Formulation and validation of the school environment scale on outcome measures relating to academic achievement was the main goal of the current study. A random selection of 119 students in the eleventh grade of an English-medium CBSE school was chosen to take part in the current study. To measure the students' perception of the school environment, a sizable number of questions based on modern theoretical models of the learning environment were developed. CGPA ratings and student performance satisfaction were used to evaluate academic success. The intellectual stimulation, encouragement, acceptance, rejection, and control factors were identified as evidenced by the principal components factor analysis that was done on items related to the educational environment. All six elements of the school environment were ineffective in predicting current academic success and performance satisfaction in relation to friends. On the other hand, it was discovered that cognitive encouragement was adversely connected with prior academic accomplishment in the past but favourably correlated with contentment with one's current performance. Students' satisfaction with their own performance was found to be positively correlated with the factor relating to teachers' acceptance of students in the classroom, whereas the factor relating to students' feelings of rejection in the classroom was found to be negatively correlated with students' satisfaction with their own performance. Finally, the student's current academic performance was considerably and negatively impacted by their impression of losing control. The findings of this study are discussed in relation to the student's academic goals, his dedication to attending full-time coaching sessions in order to compete in academic goals for careers, and his plans for growth after higher secondary school. The study's implications are examined.

Keywords: School Environment, Academic Performance, Intellectual Stimulation.

Introduction

Worldwide education has become highly competitive. In the developing countries like India high academic performance particularly at higher secondary level is needed for admission in better courses at the college level and eventually better jobs after the completion of education. The entire education system seems to revolve around enhancing the academic achievement of students. Academic achievement has become a yardstick of self-worth and success. Very often the outcome of education determines the quality of life, progress and job satisfaction of people (Mayuri & Devi, 2003). A large body of research has spelled out various reasons pertaining to low academic performance and high rates of failure which includes bad study habits, low IQ, faulty teaching methods, erroneous examination systems, social and economic disparities etc. The objective of the present pilot research is to explore the psycho-social factors embedded in the classroom setting which are related to academic performance of students who are in the eleventh standard.

A large number of educational researchers have conducted studies focusing on major psycho-social factors embedded in the classroom and school settings contributing to academic achievement, performance and success of students (Stevenson, & Lee, 1990., Falsario, Muyong, & Nuevaespana, 2014., Aknabi, 2014, Usaini & Abu Bakar 2015). Because of increased competition quality of performance has become the main goal of educational institutions. Increased expectation and attitudes of teachers, parents and institutions are found to be continuously creating a lot of pressure on students in particular and on the total education system itself in general. A number of factors are said to have contributed to the students poor academic achievement in school (Ajewole & Okebukola 2000). In recent years a large number of schools are devoting lot of time and energy by adapting different strategies to help the students to achieve better in their scholastic performance.

A large number of studies conducted on school climate have revealed that factors related with safe and orderly classroom environment, school facilities were significantly related to student's academic performance (Persaud & Turner 2008., Marsden 2005., Glassman 1994). Evidence exist that poor classroom facilities inhibit the students' ability to learn and creates a stressful set of working conditions for teachers. Physical, social and psychological factors embedded in the school environment like quality of classroom, libraries, laboratories, teachers' quality, attitude of the school management, teaching methodology are having close linkages with the students' academic performance and achievement (Ajayi, 2001., Oluchukwu, 2000). The physical factors characteristics of the school like poor lighting, noise, high levels of carbon dioxide in Classrooms and inconsistent temperatures adversely affect the teaching learning process

and make teaching and learning difficult. Poor maintenance and ineffective ventilation systems lead to poor health among students as well as teachers, which leads to poor performance and higher absentee rates (Frazier, 2002 Lyons, 2001; & Ostendorf, 2001). In contrast when students perceive their school environment to be supportive and caring they are more likely to develop positive attitudes toward themselves and pro-social attitudes and behaviors toward others (Schaps, Battistich, & Solomon 1997). Much of the available research shows that supportive schools foster positive outcomes including and promoting the students' sense of connectedness and belongingness or community (Resnick et al. 1997., Baumeister & Leary 1995., Schaps, Battistich, & Solomon 1997).

Freiberg (1998) argues that various aspects of school social climate like trust, respect, mutual obligation and concern for others welfare can have powerful effects on educators and learners' interpersonal relationships as well as academic achievement and overall school progress. Based on the recent study Wynne (1980) has pointed out linkage between that the value of good relationships and non-academic curricular events involving both teachers and students contribute to school coherence. In the school interaction among one group of students with other group members will influence his or her performance (Inyang-Abia 2001). Evidence exists that students who succeed in social relationships with their co-students have been found to be successful in their school work (Brembeeks, 1980). Duke and Perry (1978) also noted that good student- teacher relationships in alternative schools were associated with both a degree of informality and good behavior. A safe, caring, participatory and responsive school climate tends to foster great attachment to school as well as providing the optional foundation for social, emotional and academic learning (Blum et al., 2002. Berkowitz & Bier, 2005; Catalano et al., 2002; Greenberg et al. 2003).

Within this backdrop the present study was planned to examine the links between student perception of school environment and their academic performance. One of the main purposes of this study was to construct a brief school environment questionnaire and thereafter is to examine the relationship between components of school environment with student academic performance.

Method

SUBJECTS

One hundred and nineteen students from a co-ed English medium school who have passed high school from the CBSE board were randomly selected to participate in the present study. Survey questionnaire were distributed to 68 males and 51 females belonging to Science and Commerce stream of a senior secondary school. The students were comparable across major demographical variables like age and socio-economic status.

Measures:

A brief survey instrument was prepared. In the first section of the survey the respondents were required to furnish their demographical information like age, sex, socio economic status and so forth. In the second section the items on school environment were prepared while the last section was devoted to record the student's objective performance and performance satisfaction. A brief description of the measures is given below:

Demographic Information: Items in this section were related to understand the background information about the respondents. Some of the items were related to age, gender, degree of choice in selection of subjects in the standard eleventh and so forth.

Assessment of school environment: To assess the perceived school environment the researcher consulted a number of related standard scales (Mishra, 2012, Moos & Insel, 1974). Based on the contemporary theoretical models a large number of items on different component of school environment were prepared. The items were focused on assessing the academic and creative stimulation, patterns of interaction between teachers and students, maintenance of discipline in the classroom, encouragement given by the teachers and so forth.

Assessment of Academic Performance: To assess the objective and subjective performance the respondents were required to report their CGPA in their tenth and eleventh standard. The students were also asked to rate their level of satisfaction with their own performance and performance satisfaction relative to their friends.

Procedures:

A brief survey instrument was distributed in the classroom setting. The students from biology, mathematics and commerce stream were selected at random and were asked to assemble in their respective classes. The researcher read the instructions loudly and thereafter explained the details regarding the manner in which responses were to be recorded. For instance, the respondents were told to read the items presented in section 2 one by one and carefully record their responses on a five-point scale. The participants were assured that their responses will be completely confidential and anonymous and that no individual questionnaire would be shown to school authorities.

Result

Factor analysis

The participant's responses on the seventy items of the school environment inventory were subjected to a principal component factor analysis using Keiser's criterion of factor extraction. The rotated factor loading indicated evidence of five factors having an Eigen value more than one. In the order of extraction, the factors were labeled as intellectual stimulation, encouragement, acceptance, permissiveness, rejection, and control. A brief description of these component scales are given below:

- 1- **Intellectual stimulation:** The items which showed high loading on the first factor were summed together to give this five-item subscale. Items pertaining to intellectual stimulation were characterized by the teachers' multiple ways to explaining the subject matter to students, asking questions, enhancing motivational levels of students and so forth. The scores on this scale ranged from 5 to 25 where high scores indicate the high intellectual stimulation.
- 2- **Encouragement:** This three-item subscale implies good atmosphere for study in the school and get the motivation to work hard. This factor measures teacher praise the students with higher educational ability. Range of this score is 5 to 15. High score in this item scale represents a high degree of encouragement.
- 3- **Acceptance-** This subscale consists of one item which ranges 5 shows teachers' participation with students in different co-curricular activities.
- 4- **Permissiveness -**This subscale consists of one item with range of 5. It measures that students can do anything prior to the permission of the teacher.
- 5- **Rejection-** This subscale consists of six items. It measures the teacher gives physical punishment and if they not complete their work, not allow sitting in class, teacher is not worried about poor marks of the students, they are not pay attention when they do not want the answer the question, relationship between teacher and student is not good. Teachers give physical punishment. The score on this scale range 5 to 30 where high scores indicate rejection of the students.
- 6- **Control:** This component of school environment is comprised of single item which-this factor consist that while preparing the rules of institution the opinion of the students should be considered. Range of this score is 5.

Table 1: Principal Component Factor analysis indicating loadings on the school environment items

s.no.	Items no.	Components of School Environment					
		1	2	3	4	5	6

1.	Teachers give physical punishment to students.	.09	-.29	-.06	-.09	.48	.02
2.	Students can freely express their point of which is different from teachers.	.15	.02	-.03	.09	.51	.08
3.	Often the Teachers explain the major concepts by citing relevant examples.	.43	.24	.12	.35	-.27-	-.13
4.	Students can do anything prior to the permission from teachers.	-.28	.08	.04	.47	.19	.11
5.	While imposing the major rules of the school the opinion and suggestions of students are considered.	.15	-.01	.25	-.19	.18	.62
6.	The academic atmosphere of the school is encouraging.	.19	.69	.11	.15	-.14	-.08
7.	Teachers while teaching give several examples related to the life situations.	.46	.21	.39	.17	-.08	-.30
8.	Teacher taught relationship is not friendly.	-.12	-.16	.15	-.04	.46	-.02
9.	Teachers inspire the students to work hard.	.31	.58	.12	.28	-.22	-.09
10.	Teachers participate with students in different co-curricular activities.	.08	.12	.63	.12	.07	.003
11.	Teachers do not generate interest in their students.	-.23	-.18	-.15	-.01	.40	-.01
12.	When teachers do not wish to the answer the questions of student, then they do not pay attention to the opinion of students.	-.02	-.12	-.16	.10	.61	.002
13.	Teachers encourage the students to write their answers themselves.	.49	.20	.19	.17	.14	.11
14.	Teachers ask method to solve the important problems.	.57	-.01	.12	.35	.03	.03
15.	Teachers praise the students with higher educational ability.	.26	.51	.08	.08	.08	.34
16.	Teachers ask several questions to students while teaching.	.50	.05	.08	.20	.006	.17
17.	When students get poor marks in one subject then teacher do not worry about it.	-.29	.01	-.05	-.16	.47	.07
		5	3	1	1	6	1

Table 2: Correlation analysis depicting relationship between components of school environment with Academic Performance

	Components of school Environment					
	Intellectual	Encouragement	Acceptance	Permissiveness	Rejection	control

	stimulation					
Present academic performance	-.067	-.144	-.046	-.123	-.072	-.145
Past academic performance	-.090	-.196*	-.169	-.146	.079	-.13
Influence of choice	.163	.091	.061	.189*	-.188*	-.057
Satisfaction with one's self	.130	.214*	.193*	.011	-.185*	.030
Satisfaction level while comparing with others	-.027	-.091	-.037	-.127	-.041	-.077

*.01 significant

Correlation analysis

In order to predict the relationship of school environment with academic performance a correlation analysis was performed. The result of correlation analysis presented in table 2 revealed that of all the five components of school environment intellectual stimulation and Encouragement and rejection were found good predictor of components of academic performance. In contrast acceptance and control failed to predict academic performance. The result further revealed that cognitive encouragement component of school environment predicted the past academic performance satisfaction with performance relative to one's self. In other words, students exhibiting high cognitive encouragement and permissiveness reported better performance. All the six components of school environment failed to predict present academic performance and satisfaction level of performance relative to friends. On the other side cognitive encouragement was found to be positively correlated with satisfaction with one's present performance but was negatively correlated with past academic performance. The factor related to acceptance of student in the classroom setting was found to be positively correlated with students' satisfaction with their own performance while rejection experienced by the students in the classroom setting was negatively correlated with students satisfaction with own' performance. Finally, student's perception of loss of control significantly and adversely affected the student's present academic performance.

Discussion and Conclusion

One major objective of the present study was to develop school environment scale. The factor analysis results indicate evidence of five

underlying dimensions labeled as: intellectual stimulation, encouragement, permissiveness, rejection and control. Indeed several recent studies investigating variables relating to school social variables have found significant associations with performance (Brookover et al., 1979; Rutter, Maughan, & Mortimore, Ouston & Smith, 1979). These effects have revealed significant, consistent relationship with variables defining teacher performance (Brophy, 1979; Centra & Potter, 1980; Glasman & biniaminov, 1981; Good, 1979; Purkey & Smith, 1983; Stockard & Maybery, 1985). Our result is contradictory with these researches, a large number of students are attending coaching classes in 11 standards because they make their minds for competitive exams and the level of studies in coaching is much higher than school. And they are not willing to go to school. But they are forced to come to school with few reasons, (attendance, and practical.) and teachers are not encouraging the students for their academic so they perceive rejection. Overall, what we found that psycho- social environment of school is not good. There exists significant positive of correlation between achievement in chemistry and overall school environment of higher secondary students. (Beulahbel Bency, P. B. & Krishna Prasad (2013). But this finding contradicts with the study of Arul Lawrence, A. S. & Vimala, A. (2012). it is important to note that when healthy teacher-taught relationship exists in school. In this study we found level of rejection is significant which shows teacher taught relationship is not good which goes a long way in the promotion of learning among students and this enables them to share knowledge and experience that will enhance the better school environment (Sunday, A.A 2012). several researches are supported this study. Some of researchers revealed that the school environment has a significant influence on academic performance (Laurence & et.al., Danial et.al. 2014, Orlu, c2013, Eric, C. 2005, Owarye, J.S. 2011 Antaka 2013.) . Result shows that there is correlation between encouragements with satisfaction level of performance of the person. The results of this study are explained within the framework of student's academic aspirations to compete in entrance competitive examination after completion higher secondary examination.

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