



CLASSROOM LEARNING ENVIRONMENT AS PREDICTOR OF ACHIEVEMENT AMONG HIGHER SECONDARY STUDENTS OF COMMERCE STREAM

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Abstract

Education is a continuous process and makes a person well-versed with the latest information and knowledge. 'Commerce' includes two types of activities, viz., Trade and Auxiliaries to trade. 'Buying and Selling of goods' is termed as trade. But there are a lot of other activities that are required to facilitate the purchase and sale of goods. These are called services or auxiliaries/aid to trade viz.- transport, banking, insurance, communication, advertisement, packaging and warehousing. Commerce education is considered as the backbone of business and it should be in tune with the changing trends. Commerce education has to play a crucial role in our society comprising of various political affiliations, religious institutions, economic units where, expertise of knowledge related to the field of commerce is very much essential. The term 'Achievement' refers to the degree or the level of success attained in some specific school tasks especially scholastic performances and in this sense academic achievement means the attained ability by the students to perform scholastic tasks, which may be general or specific to a given subject area. 'Classroom Learning Environment' or 'Classroom Climate' may be defined as classroom conditions, processes and psychological stimuli which influence the educational achievements of the children. It refers to those forces in the environment of the learner which have the potentiality to contribute to academic development of the learner. It may contain psycho-social conditions that characterize the overall interpersonal feeling tones existing within it. They are capable enough to affect the learning of the students. The present study has been conducted to find out whether the perceived stimulation of classroom learning environment by higher secondary students of commerce stream can predict their commerce achievement? The sample for the present study consists of 600 students (male=300 and female=300) selected with the help of multi stage stratified random sampling method from various higher secondary schools situated in Allahabad district (affiliated to U. P. board, Allahabad). For the purpose of data collection 'Learning Environment Inventory (LEI)' developed by K. S. Misra has been used and to find out achievement in commerce, the 'Commerce Achievement Test (CAT)' constructed and standardized by the investigator was administered on the students. 'Step-wise Multiple Regression analysis' technique has been used to find out the predictions. Major findings of the study revealed that five dimensions of classroom learning environment can predict up to the extent of 13.1 % of the variance in commerce achievement and these dimensions of classroom learning environment in descending order are- apathy (6.8%), diversity (3.2%), encouragement (1.6%), democratic orientation (0.9%) and competition (0.6%) respectively.

Key-words: classroom learning environment, achievement, commerece-stream



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INTRODUCTION

Education is said to be a continuous process and it makes a person well-versed with the latest information and knowledge. Only, an educated person is capable enough to decide what is good or bad for him. Education helps a person to become a responsible citizen of a country. Education generally covers each and every aspect of knowledge and information required by human being. For society education is a basic tool to make it updated with the latest technology and professional development so as to make it part and parcel of mainstream educational structure and system and this would help the society to be self-sufficient. But the aim of societal development can be achieved only with the help of proper proliferation of educational services to each and every student, and it is the responsibility of government institutions that they have to work hard in this direction. In the present study investigator made a humble effort to find out whether the classroom learning environment can predict commerce achievement of higher secondary students belonging to Commerce stream. To achieve successful completion of any course of study, a student has to pass the relevant examinations and he or she has to prove his potentials by showing his or her academic achievement in the relevant field. But to make learning more fruitful the environment for it should be supportive and feasible.

Commerce includes two types of activities, namely- Trade and Auxiliaries to trade/Aid to trade. 'Buying and Selling of goods' is termed as trade. But there are a lot of other activities that may be required to facilitate the purchase and sale of goods. These are called as services or auxiliaries to trade, viz.- transport, banking, insurance, communication, advertisement, packaging and warehousing. 'Commerce education' is considered as the backbone of business and it should be in tune with the changing trends. Commerce education has to play a crucial role in our society comprising of various political affiliations, religious institutions, economic units where, expertise of knowledge related to the field of commerce is very much essential. The degrees in commerce are very much required and intended for acquiring a conceptual knowledge and managerial skills with reference to the wide spectrum of business and industry. Today's modern and highly developed industrial, commercial and business world requires highly qualified and smart commerce graduates. Commerce generally begins with functional aspects and then leads to liberal or ideological aspects.

The term 'Achievement' refers to the degree or the level of success obtained in some specific scholastic tasks especially scholastic performances and in this sense Academic Achievement means the attained ability to perform school tasks, which can be general or specific to a given subject matter (Joshi and Srivastava; 2009, p.34).

Classroom Learning Environment or Classroom Climate may be defined as “classroom conditions, processes and psychological stimuli which influence the educational achievements of the child (Dave, 1963). It refers those forces in the environment of the learner which have the potentiality to contribute to academic development of the learner. It consists of psycho-social conditions that characterize the overall interpersonal feeling tones existing within it. They affect the learning of the students (Misra, 2001). Students observe more of teacher’s typical behaviour than is usually available to outside observer and they are directly involved in classroom activities. So student’s observations have been used to provide an accurate picture of classroom environment by many researchers (Amidon and Flanders, 1961; Cogan, 1964; Flanders, 1970; Steel, House and Kerins, 1971; Ehman, 1970). Mc Robbie and Tobin (1955) asked students to describe their science classroom in general terms, making reference to the roles of the teacher and students. Perceived school environment may differ from the actual one (Silbergeld, et al., 1975). Moos (1974) thought that perception is the primary determinant of manifest classroom behaviour.

Learning climate is influenced by teacher-student interaction in the classroom. There are 18 dimensions of learning environment of classrooms- like; cohesiveness diversity, formality, speed, facilitation, friction, goal-direction, favouritism, difficulty, apathy, democratic orientation, cliqueness, disorganization, competition, creative stimulation, encouragement, involvement, and conformity (Misra, 2001). Their operational definitions are as follows: -

1. *Cohesiveness*: It refers to tendency of class members to remain friendly to each other.
2. *Diversity*: It indicates existence of variety in the classroom.
3. *Formality*: It indicates paying attention to rules, forms, expectations and conventions.
4. *Speed*: It refers to students’ or teacher’s behavior to do things in a short time.
5. *Facilitation*: It points to existence of situations which make learning or doing things easy.
6. *Friction*: It points to occurrence of difference of opinion leading to argumentation and quarrelling.
7. *Goal direction*: It refers to understanding and acceptance of achievable and appropriate goals of the class and performance of goal-oriented behaviours.
8. *Favouritism*: it refers to practice of favouring persons unequally.
9. *Difficulty*: It refers to existence of things or ideas that are hard to understand or execute.
10. *Apathy*: It indicates absence of sympathy or interest and existence of indifference of persons involved in teaching-learning process towards each other.
11. *Democratic orientation*: It indicates that class members treat each other as equals.

12. *Cliqueness*: It indicates tendency of class members to form a clique i.e. a group of persons united by common interests, members of which support each other and shut out others from their company.
13. *Disorganization*: It points to upset working of the class.
14. *Competition*: It refers to occurrence of activities in which students compete.
15. *Creative stimulation*: It refers to teachers' activities to provide conditions and opportunities to stimulate creative thinking.
16. *Encouragement*: It implies teachers' behaviour to stimulate learning of students by encouraging their behaviours.
17. *Involvement*: It refers to teachers' behaviour to structure and monitor students' learning.
18. *Conformity*: It indicates students' actions which are in agreement with what is accepted or required by their teachers.

The following findings of the relevant studies if observed carefully may focus upon the relationship of classroom learning environment and achievement in particular.

Allen and Fraser (2007) conducted a study on 320 students of class IV and V. to find out the relationship between learning environment and achievement. Learning Environment Questionnaire and Stanford Achievement Test were used in this study and findings revealed that different dimensions of learning environment i.e., cohesiveness, teacher support, involvement, task orientation, equity and investigation were not related to achievement of the students.

Byrne, Hattie and Fraser (1986) made an attempt to study the effect of actual classroom environment on achievement and found that co-operation within the classroom promotes higher achievement.

Davood (2006) investigated into Academic Achievement among Iranian and Indian Adolescents in relation to Classroom Environment and on a sample of 800 adolescents from two nations. Classroom environment was measured with the help of What Is Happening In This Class Questionnaire (WIHIC) constructed by Fraser, Fisher and McRobbie and to measure academic achievement the percentage of the aggregate of total marks obtained by the students in final examination had been collected. The data were analyzed by using t-ratios, Pearson's coefficient of correlation and a series of path analyses were performed, and beta weights (P's) from multiple hierarchical regression analysis were used. Results showed that, Iranian girls perceived more teacher support, task orientation, involvement, cooperation and equity in classroom than boys while Indian, girls perceived more student cohesiveness, task orientation, cooperation and equity in classroom than boys. However, as compared to

girls, boys had more investigation in the classroom. All the seven-classroom environment dimensions namely- student cohesiveness, teacher support, task orientation, involvement, investigation, cooperation and equity had positive correlation with academic achievement among boys and girls belonging to Iranian sample. On the other hand, only six dimensions of classroom environment viz.- student cohesiveness, teacher support, task orientation, involvement, investigation and equity were found to be positively related with academic achievement among Indian girls while Indian boys had positive relationship between academic achievement and four dimensions of classroom environment viz.- student cohesiveness, teacher support, task orientation and cooperation.

Dubey (2011) carried out a study of academic achievement in relation to learning environment among undergraduate students of University of Allahabad. Sample consisted of 90 students (B.A. =45 and B.Sc. =45) studying in second year. Learning Environment Scale developed by K. S. Misra was used as tool for the study. Marks secured by the students in their previous class were used as an Index of achievement. High and low groups of learning environment were created on the basis of Mean + 1 S. D., for the analysis of the data, product moment coefficients of correlation and t-ratio were computed. Findings showed that, learning environment is positively related to academic achievement as well as students perceiving high stimulation in learning environment have high achievement as compared to their counterparts perceiving low stimulation in learning environment. Hence, it can be concluded that favourable classroom learning environment is supportive for academic achievement.

Dwivedi (2011) made an attempt to study the effect of classroom climate on achievement of secondary school students and found that academic achievement of students of enriched climate classrooms was better than that of their counterparts in poor climate classrooms.

Ladson-Billings (1994) argued that achievement of students is increased significantly when inequality in student treatment is minimized in a classroom environment.

Padhi (1991) conducted a study to determine the relationship between classroom environment and academic achievement of the students. The sample comprised of 636 students studying in class IX. The Individualised Classroom Environment Questionnaire (ICEQ), long form developed by Rentoul and Fraser, and marks obtained in school were considered as the academic achievement in different school subjects. The finding of the study indicated that, the correlation between the classroom environment and academic achievement was not significant.

Patra and Mech (2011) tried to study differences in mathematics achievement among school students in Bongaigaon district of Assam. The researchers conducted a comparative study

between the groups of students divided on basis of different school environment variables in order to study the variation of achievement in mathematics. Stratified random sampling was followed and data came from 580 (male=318 and female= 262) secondary school students in Bongaigaon district. Results showed that the school environment did have an impact on mathematics achievement among students.

Pillai (2014) attempted to study school environment and achievement of Scheduled Caste Students. The study was conducted in the form of descriptive survey and a sample of 209 students was selected from the residential schools situated in the seven divisional headquarters of the state of Madhya Pradesh. School Environment Inventory (SEI) developed by K. S. Misra was used and total marks obtained by the students in their 12th standard board examination (i.e., Board of Secondary School Examination, Madhya Pradesh, Bhopal) was taken as the index of achievement. Data was analysed by frequency, percentage analysis and ANOVA. It was found that achievement of learners is independent of school environment of learners of Residential Schools.

Samad (2013) inquired into the effect of Academic Climate on students' academic Achievement studying in Provincialized Secondary Schools of Darrang District, Assam. Descriptive survey method of study was followed and the sample consisted of 240 students (60 male and 60 female students each had been chosen from both the types of residential areas viz.- Urban=120 as well as Rural= 120 students) with help of stratified random sampling method. Academic Climate Description Questionnaire (ACDQ) developed by M. L. Shah and Amita Shah was used and Academic achievement data sheet had been prepared by the researcher to collect academic achievement scores of students from the office records of the school containing marks obtained by students in annual examination of previous class. Results revealed that, there is a positive relationship between academic climate and academic achievement of students thus, it can be inferred that high scores on academic climate lead to high scores on academic achievement. The findings of the study also proved a significant difference between male and female students with reference to academic achievement, the academic achievement of male students was higher than female students.

After analysing the above findings it can be concluded that relationship between classroom climate and academic achievement is not unidirectional in all the cases that is why investigator is curious to know the predictive effect of classroom learning environment on achievement of higher secondary students of commerce stream as well. Thus, the present study aims at to find out the extent to which classroom learning environment can predict the commerce achievement among students of higher secondary class of commerce stream.

OBJECTIVE OF THE STUDY

Objective of the present study stands as follows-

1. To find out the extent to which the perception of stimulation in classroom learning environment can predict the commerce achievement among higher secondary students.

HYPOTHESIS OF THE STUDY

To achieve the above objective of this study the following Null hypothesis has been formulated-

1. Perception of stimulation in classroom learning environment does not significantly contribute to prediction of commerce achievement among higher secondary students.

The above hypothesis has been tested with reference to eighteen dimensions of classroom learning environment namely- cohesiveness, diversity, formality, speed, facilitation, friction, goal direction, favouritism, difficulty, apathy, democratic orientation, cliqueness, disorganization, competition, creative stimulation, encouragement, involvement and conformity.

METHODOLOGY

Sample: The sample for the present study has been selected with the help of ‘multi-stage stratified random sampling’ and it consisted of 600 (i.e., 300 Male students and 300 Female students of class-XII belonging to commerce stream) students from different U.P. board schools situated in Allahabad city.

Tools used: To collect the data from above sample two tools have been used; first was ‘Learning Environment Inventory (LEI)’ constructed by K. S. Misra. This tool LEI was used to measure the Classroom Learning Environment as perceived by the students. It measures 18 dimensions of learning environment of classroom viz.- cohesiveness, diversity, formality, speed, facilitation, friction, goal direction, favouritism, difficulty, apathy, democratic orientation, cliqueness, disorganization, competition, creative stimulation, encouragement, involvement and conformity. This Inventory consists of 126 statements. The respondents had to express out the degree of their agreement with the statement by choosing one of the five alternate responses namely – (i) Strongly Disagree, (ii) Disagree, (iii) Undecided, (iv) Agree and (v) Strongly Agree. A score of 1,2,3,4 and 5 is given for these responses respectively. It gives eighteen scores for eighteen dimensions of learning environment in a classroom. Test-retest reliability of the LEI was established and co-efficients of correlation ranged from 0.69 - 0.84 (N=87). Second was ‘Commerce Achievement Test (CAT)’ constructed and standardized by the investigator himself. TAC contains 70 objective type items (multiple

choice having four options) related to Commerce subject and based on syllabus prescribed by U.P. board, Allahabad, for Higher Secondary Level. A score of ‘One’ is given for every correct response and ‘Zero’ is given for wrong response. Split-half and Kudar-Richardson Reliability of CAT have been found to be 0.93 and 0.86 respectively (N=100). Face Validity has been established with the help of consultations from ten subject-experts. Concurrent validity has been established against marks in Pre – Board Examination. It was 0.63 (N=100).

Statistics used: For the purpose of data analysis ‘Step-wise multiple regression’ technique has been used with the help of SPSS 17 software.

RESULTS AND DISCUSSION

It was hypothesized that classroom learning environment do not significantly contribute to prediction of achievement in Commerce. This hypothesis has been tested with reference to eighteen dimensions of classroom learning environment viz.- (i) cohesiveness, (ii) diversity, (iii) formality, (iv) speed, (v) facilitation, (vi) friction, (vii) goal direction, (viii) favouritism, (ix) difficulty, (x) apathy, (xi) democratic orientation, (xii) cliqueness, (xiii) disorganization, (xiv) competition, (xv) creative stimulation (xvi) encouragement, (xvii) involvement and (xviii) conformity). Step-wise multiple regression analysis has been used for testing this hypothesis. Hence, eighteen dimensions of classroom learning environment were used as independent variables for prediction of achievement in Commerce. Results have been presented in Table 1 and 2.

Table 1: Multiple correlations showing the best classroom learning environment predictors of achievement in commerce among students

Step No.	Independent Variables	R	R square	R square change	F	df	Level of Significance
1	Apathy	0.260	0.068	0.068	43.442	1, 598	0.000
2	Diversity	0.316	0.100	0.032	33.166	2, 597	0.000
3	Democratic orientation	0.331	0.109	0.009	24.392	3, 596	0.000
4	Encouragement	0.354	0.125	0.016	21.345	4, 595	0.000
5	Competition	0.363	0.131	0.006	17.988	5, 594	0.000

Table 1 depicts that five dimensions (independent variables) of classroom learning environment namely- apathy, diversity, democratic orientation, encouragement and competition emerged as the best predictors of achievement in Commerce among higher secondary students. The value of ‘R’ is 0.363 (F= 17.988, df= 5, 594). The value of ‘R square’ for all the five variables taken together is 0.131 which proves that five variables joined together may contribute to 13.10 % of the variance in achievement in Commerce among students and the remaining 86.90 % of the variance in achievement in Commerce

among students could not be explained. The perusal of Table 1 also reveals that R square change values for five independent variables viz.- apathy, diversity, democratic orientation, encouragement and competition are 0.068, 0.032, 0.009, 0.016 and 0.006 respectively. It means that apathy, diversity, democratic orientation, encouragement and competition may

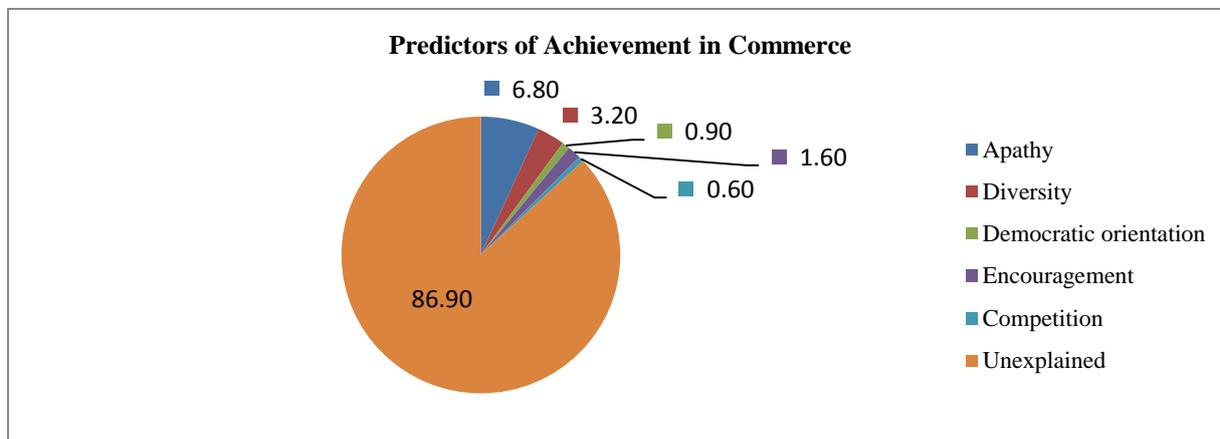


Figure 1- Pie chart showing percentage-wise contribution of apathy, diversity, democratic orientation, encouragement and competition to variance in achievement in Commerce

contribute to the prediction of 6.80, 3.20, 0.90, 1.60 and 0.60 % of the variance in commerce achievement among higher secondary students as represented by Figure 1.

Table 2 Results of stepwise multiple regression analysis showing the best classroom learning environment predictors of achievement in commerce among students

Step No.	Predictor Variable	B	standard error	t-ratio	Level of significance
1	Apathy	-0.411	0.057	7.220	0.000
2	Diversity	0.206	0.090	2.288	0.022
3	Democratic orientation	-0.286	0.067	4.272	0.000
4	Encouragement	0.173	0.074	2.333	0.020
5	Competition	0.175	0.086	2.027	0.043
constant = 48.120					

Observation of Table 2 shows that the Beta (B) values for five predictor variables; apathy, diversity, democratic orientation, encouragement and competition are -0.411, 0.206, -0.286, 0.173 and 0.175 respectively while the value of constant is 48.120. So, the regression equation can be written as follows –

$$\text{Achievement in Commerce} = 48.120 - 0.411\text{apathy} + 0.206 \text{ diversity} - 0.286 \text{ democratic orientation} + 0.173 \text{ encouragement} + 0.175\text{competition}$$

With the help of above equation we can conclude that apathy and democratic orientation have a negative impact and diversity, encouragement and competition have a positive impact on commerce achievement among students which contradicts the findings of (Byrne, Hattie and

Fraser, 1986) who found that cooperation not the competition in actual classroom environment have a positive impact on achievement but the results of the study draw support from the findings of (Singhal, 1991) who found positive relationship between academic achievement and classroom climate variables: affiliation, teacher-support, competition, and innovation on the other hand academic achievement was found to be negatively correlated with teacher control, and the findings of (Haertel, Walberg and Haertel, 1981; Dwivedi, 2011; Davood, 2006) support the results of the study as they have found that there exists strong association between student learning outcomes and psychosocial characteristics of their classrooms as opposed by other findings that equity in classroom is not related to students' academic achievement (Allen and Fraser, 2007). But Ladson-Billings (1994) argued that achievement of students is increased significantly when inequality in student treatment is minimized in a classroom learning environment. It was also observed that there exists no relationship between classroom environment and academic achievement of the students (Patra and Mech , 2011; Pillai, 2014).

It is the duty of the teachers and counsellors to provide positive and supportive classroom learning environment to promote learning of students and should create diversity, encouragement and desired level of competition in classrooms and on the other hand inhibitive classroom environment for example- apathy, loosely structured democratic orientation should be avoided and taken care of by the concerned authorities.

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