

# AN EMPIRICAL INVESTIGATION OF STUDENT ACHIEVEMENT IN DIFFERENT LEARNING ENVIRONMENTS

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**Abstract** - The purpose of the study was to investigate the effects of learning environments on students' achievement. A sample of 121 undergraduate students was randomly selected from a population of Pokhara University students. Data analysis was done using descriptive statistics, Pearson correlation, regression analysis, Structural equation modeling (SEM), and Multicollinearity. The result revealed that five components i.e. curriculum activities (5 items), extra activities (5 items), learning style (6 items), curriculum aspects (4), management (5 items) and faculty (6 items) factors have significant impact on students' achievement. The result showed that there is positive relationship between students' achievement and curriculum activities, extra activities, learning style, curriculum aspects, management and faculty. The findings are discussed with a view to improve the quality of the learning environment and students' achievement.

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**Keywords** - Students' Achievement, Curriculum A, Learning Environment, Management and Faculty.

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## I. INTRODUCTION

The learning environment includes interactions with teachers, students, principals, and learning activities. Many factors affect teaching learning activities include teachers' qualification, experiences, availability of teaching learning resources, physical facilities, students' own cognitive, and other abilities, and their socio economic environment.

Learning environment research encompasses a broad range of disciplines, from the architectural design of institutions to the psychological and social climates that exist within individual classrooms (DeYoung, 1977; Fraser, 1986; Moos, 1979; Vahala & Winston, 1994). The majority of research on classroom environments has been conducted in elementary and secondary school settings (DeYoung, 1977; Fraser, 1986; Vahala & Winston, 1994). Prior to the late 1970's, few studies attempted to analyze the impact of the learning environment in higher education classrooms. In these studies, researchers emphasized the quality of the instructor rather than the social, psychological and intellectual development of students (DeYoung, 1977).

Over the past twenty years, researchers have begun directing their focus towards the college classroom learning environment and its influence on students' learning, social development, satisfaction and personal growth. Most researchers study students' perceptions of psychosocial dimensions of the classroom environment based upon Moos' conceptual framework (Fraser, 1986; Myint, 2001; Moos, 1979; Vahala & Winston, 1994; Walker, 2003). Fraser (2002) offered further explanation, "Classroom environment dimensions have been used as criterion variables in research aimed at identifying how the classroom environment varies with such factors as teacher personality, class size, grade level, subject

matter, the nature of the school-level environment and the type of school".

### 1.2 Objectives of the study

The **main objective** of the study:

- To investigate students' achievement in different learning environment

### Review of Literature and Theoretical Framework

Classroom environment research has a varied and diverse history. Much of the research in this field has been conducted on the role of the learning environment in meeting student learning outcomes in the classroom, throughout the curriculum, and at the institutional level (Fraser, 1986; Fraser, 1998). Fraser (2002) stated, "The strongest tradition in past classroom environment research has involved investigation of associations between students' cognitive and affective learning outcomes and their perceptions of psychosocial characteristics of their classrooms".

Fraser (1986) emphasized that future research is needed designing "experimental studies in which the environment is deliberately changed in specific ways in order to establish more clearly the causal effects of these changes on students' outcomes". Research findings thus far indicate the need to continue focusing on the impacts of various types of learning environments in an effort to improve student learning outcomes (Fraser, 2002). Learning environment research remains vibrant and active within the education literature; however, much remains to be done in higher education settings. Future research is needed using multiple methods including experimental designs, qualitative and quantitative research designs, and the combination of external observers and student perceived observations (Aldridge, Fraser, & Huang, 1999; Fraser, 1986; Fraser 2002).

Kemp, Morrison and Ross (1998) identified that it is important for the effectiveness of teaching environments to take account of group or individual learners' characteristics, competence and experiences (pre-learning) throughout the process of planning learning environments. Though all human beings have common bio-psychological and social characteristics in learning process, individual preferences concerning the ways of giving meaning and acquiring information may vary. Even identical twins who share the same environment may give meaning in different ways the phenomena and events which have common characteristics. All information which becomes the subjective life of an individual after giving meaning process may have individual-specific differences in ensuring permanence of learning and remembering. One of these individual-specific differences is the learning style which is the topic of this study.

### Research Methodology

Exploratory, descriptive designs as well as survey research design have been used to establish the empirical data on learning environment on students' achievement in Pokhara University. A survey research design has been used to investigate, assess opinions and preferences in educational issues and problems. This research design is considered the most appropriate methods to measure attitudes, beliefs or personality structures in a natural setting through tests

or attitudes scales or questionnaires (Leedy, 1993). The research is descriptive because it explains the status of college position in the market.

Pokhara University has been selected as a sample to know learning environment and students' outcome as skills, knowledge and attitude. Primary data has been used under this study. Primary survey based data has been collected to examine the impact of learning environment on students' achievement. In the initial screening procedure in constructing the learning environment and students' achievement in Nepalese business school, a number of factors were taken into consideration. These included five learning environment and their associated traits, cues and explanation. Studies conducted by researchers like Dunn (1983) are closely attended to. Five point rating scale has been used to measure classroom teaching and learning processes, classroom assessment, principals' administrative,, instructional role, coordination, external exposure, parental relationship, physical facilities of the class room, infrastructure, career counseling and placement and community (outreach program). Fifty items at 5 point rating scale (Likert Scale) ranging from "1" strongly disagree to "5" indicating strongly agree has been constructed to measure the impact of learning environment on students' achievement in Nepalese business school.

### Results

Table 1.1: Correlation Matrix between Dependent and Independent Variables

	CA	EA	FA	LP	MAN	SA
CA	1.000000					
EA	0.459382	1.000000				
FA	0.381971	0.410967	1.000000			
LP	0.506304	0.414941	0.616373	1.000000		
MAN	0.320441	0.605127	0.480271	0.513858	1.000000	
SA	0.467767	0.551053	0.424936	0.567336	0.644900	1.000000

Table 1.1 describes about correlation matrix between variables under investigation. It shows that there is positive correlation

between student achievement and curriculum aspects, extra activities, faculty, learning process and management.

Table 1.2 Reliability Test

Variable	AVE	Composite Reliability	VIF	Cronbachs Alpha	Communality
CA	0.7669	0.8680	1.5427	0.6985	0.7669
EA	0.6301	0.8922	1.2678	0.8447	0.6301
FA	0.6558	0.9038	1.8762	0.8649	0.6558
LP	0.6108	0.8604	1.9725	0.7893	0.6108
MAN	0.5971	0.8785	1.4601	0.8224	0.5971
SA	0.6671	0.9223	1.5435	0.8970	0.6671

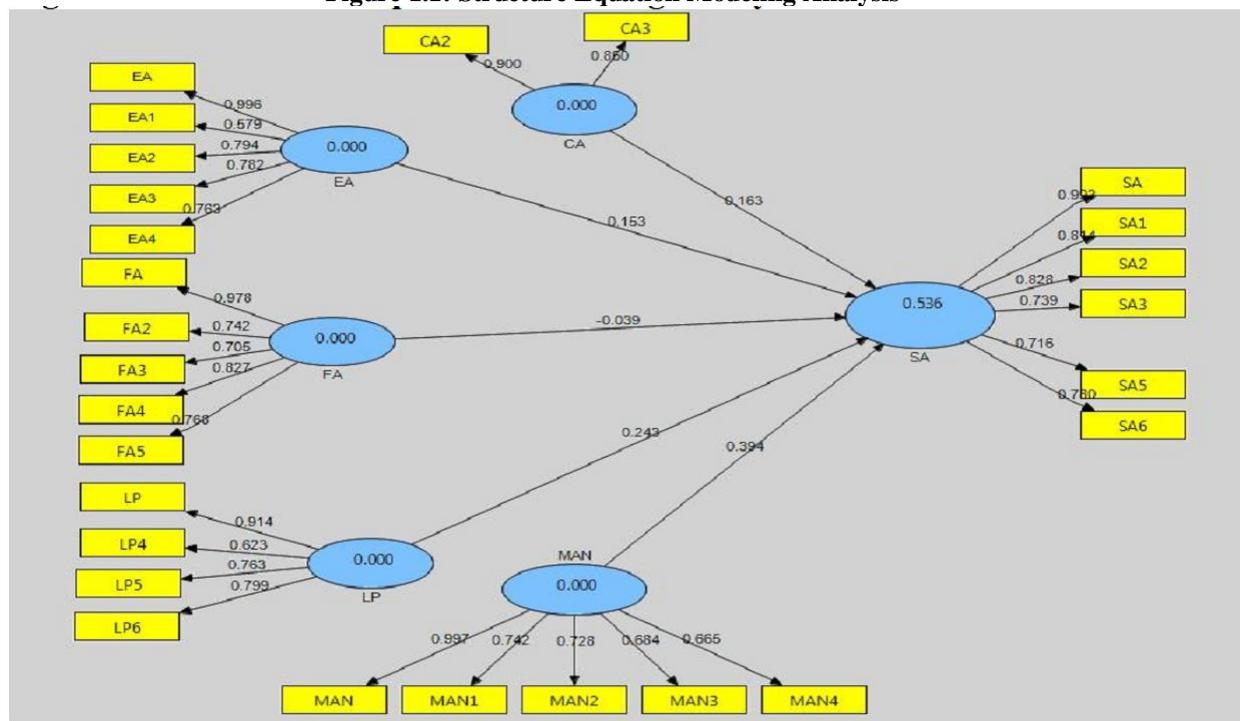
Table 1.2 reveals the reliability test. VIF factors have been identified to be less than 1 which means there is

no multicollinearity among independent variables. The values of cronbachs alpha also seemed to be

greater than 0.6 which resembles that the data is reliable. Likewise, communality and AVE have been found to be greater than 0.5 which is good for the

research. Thus, it can be concluded that the data is reliable for the purpose of under taking research.

**Figure 1.1: Structure Equation Modeling Analysis**



The model has been formed from factor loading greater than 0.5. The variables below factor loadings 0.5 have been discarded and not included in the model as shown in Figure 1.1. The variables management, learning process, extra activities, curriculum aspects and faculty have significant positive effect on students achievement.

## CONCLUSIONS

Curriculum aspects have its significant impact on students' achievement which supports the findings of curriculum (Hattie (2009). Faculty characteristics have significant impact on students' achievement which

supports the findings of (Hattie, 2000; & Elliott, 2007; and Capraro (2001).

Learning process has significant impact on students' achievement which is in the line of (Dunn, 1983 and Felder, 1995). Extra activities have its significant effect on students' achievement in which is supported by the previous result (Stockhard and Mayberry, 1992). College management has significant impact on students' achievement which supports previous findings (Holtz Frank, 2004).

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