

# Students Personal Learning Effort and Effective Learning Environment in Academic Performance



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## Abstract

This study examines the impact between student's personal learning efforts and institutional support systems in shaping academic performance. It aims to identify how self-regulated learning strategies interact with environmental factors to influence educational outcomes. A quantitative cross-sectional design was employed, and 229 final responses was used from undergraduate levels students. Data were collected using five point Likert-scale questionnaires. Correlation and regression analyses were conducted using SPSS version 20. Results revealed that proactive learning behaviors (goal-setting and time management) and supportive environments (structured curricula and faculty engagement) jointly enhance academic performance whereas motivation showed the strongest predictive power and library access had negligible impact without training. This concludes that academic success requires simultaneous development of student agency and institutional capacity. Findings advocate for integrating self-regulation training into curricula, faculty development programs for student-centered teaching and policy reforms addressing digital research literacy gaps. Institutions could balance resource provision with skill-building initiatives.

**Keywords** – Academic performance, Institutional support, Motivation, Nepalese education, Self-regulated learning

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## 1. Introduction

Academic performance in higher education is influenced by a complex interplay of cognitive, motivational, behavioral, and environmental factors (Chaudhary et al., 2025; Zimmerman, 2002). In Nepal's evolving but resource-limited higher education landscape, identifying and understanding these determinants has become increasingly vital. Although enrollment rates are rising, consistent disparities in academic achievement highlight deeper systemic challenges, particularly concerning students' learning approaches and the adequacy of institutional support mechanisms (UNESCO, 2023). Many students in Nepal continue to face barriers, such as limited access to educational resources, outdated instructional methodologies, and socio-economic inequalities, all of which hinder their academic success (Bista, 2020; Shrestha et al., 2021; Adhikari et al., 2025). Among the non-cognitive contributors to academic achievement, personal learning effort which includes self-regulatory behaviors, such as time management, goal setting, and reflective practices plays a particularly significant role (Chaudhary et al., 2024; Schunk & Zimmerman, 2012). These behaviors empower students to take responsibility for their learning and to adapt more effectively to academic demands. However, these strategies are often underdeveloped in Nepalese education, where didactic teaching and rote memorization still prevail (Chaudhary et al., 2024; Poudel & Subedi, 2020). As a consequence, students frequently struggle to establish consistent study routines, which can negatively impact their academic outcomes (Broadbent & Poon, 2015).

In parallel, the learning environment comprising classroom infrastructure, quality of instruction, faculty involvement, and peer collaboration substantially influences students' motivation, self-efficacy, and academic engagement (Bandura, 1986; Fraser, 1998; Hattie, 2009). A supportive educational setting enhances learning experiences and promotes better academic results. However, structural issues such as overcrowded classrooms, limited academic guidance, and outdated course content continue to pose serious challenges in many Nepali universities (Adhikari & Ghimire, 2020; Bhattarai, 2019).

Additionally, the expanding reliance on digital education has exposed a technological divide, further marginalizing students from rural or under-resourced areas. These students often lack consistent internet access, digital devices, and technological skills, all of which are increasingly essential for research-based and self-directed learning (Khanal & Paudel, 2022; Oli & Basyal, 2022). The lack of digital infrastructure not only limits students' engagement in modern educational practices but also constrains their ability to apply personal learning strategies effectively (Rana & Gautam, 2023). While previous research in Nepal has addressed behavioral or institutional factors individually, there remains a significant gap in studies that examine the interconnection between personal learning effort and environmental support (Koirala, 2022; Maharjan et al., 2024). Theoretical models like Zimmerman's Self-Regulated Learning Theory (2002) and Bandura's Social Cognitive Theory (1986) underscore the importance of this interaction, suggesting that academic performance is best understood as the result of reciprocal influences between the learner and their environment. However, the integrated application of these frameworks has seen limited use in the Nepalese academic context.

In response to this research gap, the current study explores the combined effects of personal learning effort, effective learning environment, library and research access, and academic motivation and support on student academic performance. By using several factors and collecting data from students at different levels of education, the study aims to provide practical insights that fit Nepal's education system.

## **2. Literature Review and Development of Hypotheses**

### ***Self-Regulated Learning Theory***

Zimmerman (2002) emphasizes that students who engage in metacognitive monitoring, goal setting, and adaptive planning achieve stronger academic performance. This theory directly shaped the variable personal learning effort, as it highlights the role of self-regulated strategies in determining learning success. In the Nepalese context, where rote memorization is common, the theory provides a rationale for focusing on proactive and self-directed study behaviors.

### ***Social Cognitive Theory***

Bandura's (1986) concept of reciprocal determinism explains that environmental supports (faculty guidance, structured syllabi, peer collaboration) enhance self-efficacy and learning outcomes. Fraser (1998, 2012) further supports that structured and supportive classrooms boost student engagement and motivation. These theoretical insights justified including an effective learning environment as a core predictor of performance.

### **Variables Used in the Study**

#### ***Personal Learning Effort***

It refers to self-regulated learning behaviors such as goal-setting, time management, and metacognitive reflection. Grounded in Zimmerman's Self-Regulated Learning Theory (2002), which emphasizes proactive control of learning and adaptation to academic demands.

#### ***Effective Learning Environment***

Effective learning environment encompasses structural and social supports for learning, including faculty guidance, classroom interaction, peer collaboration, and resource availability. Supported by Bandura's Social Cognitive Theory (1986) and Fraser's classroom research (1998, 2012), which stress how environmental scaffolds enhance self-efficacy and motivation.

#### ***Motivation and Academic Support***

Motivation and academic support represents the internal drive to succeed and external support such as mentoring, counseling, and constructive feedback. Based on Deci & Ryan's Self-Determination Theory (1985) and Astin's Theory of Student Involvement (1984), which highlight the role of autonomy, competence, and institutional involvement in academic success.

#### ***Library and Study***

Library and study refers to access and use of academic resources, including libraries, study materials, and digital research tools. Informed by UNESCO's Global Education Report (2023), which emphasizes resource accessibility, and self-efficacy theory, which explains that effectiveness depends on students' skills and confidence in using these resources.

### **Relationship between Variables**

#### ***Personal Learning Effort and Academic Performance***

Proactive learners who employ SRL strategies (e.g., metacognitive monitoring, adaptive planning) demonstrate higher academic achievement (Zimmerman, 2002; Shrestha et al., 2021).

A meta-analysis by Dent & Koenka (2023) confirmed moderate effect sizes for SRL interventions. In Nepal, the SRL-performance link weakens in environments lacking mentorship or digital infrastructure (Koirala, 2022). Excessive self-regulation may also lead to cognitive overload (Núñez et al., 2023).

*Hypothesis (H1): The interaction between student's personal learning behaviors and a supportive academic environment significantly predicts academic performance.*

### ***Effective Learning Environment and Academic Performance***

Structured environments with clear instruction, feedback, and peer collaboration enhance motivation and self-efficacy (Fraser, 2012; Hattie, 2009). Bandura's (1986) reciprocal determinism underscores how environmental scaffolds (e.g., accessible syllabi, faculty guidance) amplify student outcomes. Overly rigid environments may suppress creativity (Reeve & Cheon, 2023), while under-resourced settings (e.g., overcrowded classrooms) negate potential benefits (Adhikari & Ghimire, 2020).

*Hypothesis (H2): Effective learning environments significantly predict academic performance, particularly when aligned with student autonomy.*

### ***Library and Study Research***

The relationship between library resources and academic achievement presents a complex picture that varies significantly across educational contexts. While global research demonstrates that access to well-equipped libraries and digital databases enhances research engagement and critical thinking skills (Khan et al., 2022; UNESCO, 2023), the Nepalese context reveals important limitations that moderate this relationship.

*Hypothesis (H3): There is no significant relationship between library and study research and academic performance.*

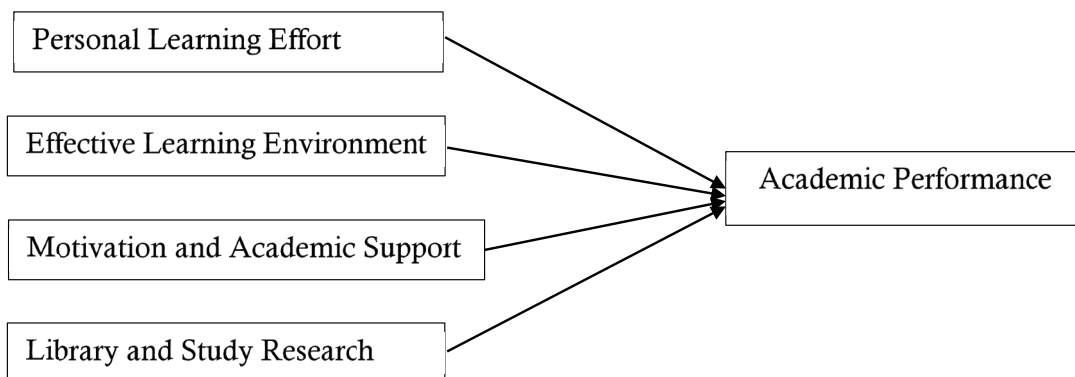
### ***Motivation and Academic Support, and Academic Performance***

Students who receive adequate motivational support (mentoring, counseling, and constructive feedback) will demonstrate stronger academic performance, particularly when combined with personal learning effort (Deci & Ryan, 2017; Tella, 2007). This relationship is moderated by institutional capacity, as evidenced by Nepalese students reporting low satisfaction with existing support systems despite recognizing their importance (Rana & Gautam, 2023). The motivational gap highlights the need for better-aligned support structures in developing educational contexts.

*Hypothesis (H4): There is a significant relationship between motivation and academic support, and academic performance.*

## Figure 1

### Conceptual Framework



Source: (Zimmerman 2002; Tinto, 1993; Adhikari & Ghimire, 2020)

### 3. Research Method

This research followed cross-sectional quantitative approach. The research designs adopted were descriptive and causal. The population of this study consisted of the students studying in under graduate business courses under Tribhuvan University within the Kathmandu Valley of Nepal. The rationale of selecting the respondents in the Kathmandu Valley was because it is the educational center of Nepal with the students from different parts of the country and has the diverse academic backgrounds (Bista, 2020). We entered 229 responses as the sample for the study. As the total population of the study was unknown, Cochran's formula (1977) was applied to determine an appropriate sample size. At a 95% confidence level with a 5% margin of error, the minimum recommended sample size is approximately 200 respondents. Accordingly, a total of 229 respondents were selected, which is considered sufficient to ensure representativeness, statistical reliability, and the feasibility of data collection. The sample was derived through a non-probability sampling technique to represent different levels of education. The data collection method used in this research is a questionnaire survey method with 5 point Likert scale ranged from 1 as 'strongly agree' to 5 as 'strongly disagree'. The collected data were analyzed using Microsoft Excel and SPSS Version 20.

#### Measurement

A structured questionnaire survey was used to collect data, a common method in social science research (Bryman, 2016; Creswell, 2014). Responses were measured on a five-point Likert scale from (1 = Strongly agree) to (5 = Strongly disagree). Data were analyzed using Microsoft Excel and SPSS Version 20 for statistical reliability (Pallant, 2020). In this study, 25 questionnaire items were adapted from well-established theories and recent studies to ensure relevance and accuracy. Items for personal learning effort were based on Zimmerman's Self-Regulated Learning Theory (Zimmerman, 2022), while effective learning environment items were drawn from Fraser's classroom environment research and Bandura's Social Cognitive Theory (Fraser, 2020; Bandura, 2021). Library and research items referenced UNESCO's 2023 Global Education Report and Khanal and Paudel's (2022) work on digital access in Nepal. Motivation and academic support items were informed by Deci and Ryan's Self-Determination Theory and findings from Rana and Gautam (2023). Academic performance items were based on Entwistle and Ramsden's updated model (2021).

**4. Results**

*Demographic Information*

**Table 1**

*Demographic Profile of Respondents*

	Frequency	Percentage
<b>Age</b>		
15-20	92	39.10%
21-25	134	59.60%
26-30	3	1.30%
<b>Gender</b>		
Male	104	46.80%
Female	125	53.20%
<b>Field of Study</b>		
BBA	102	43.40%
BBM	76	30.00%
BBS	51	26.60%

A total of 229 responses were considered for analysis. The gender demographics of the data consisted of 46.80% male and 53.20% female. The majority of the respondents were from the age group of 21 – 25 years, which is 59.60% of the total sample.

*Reliability Testing*

**Table 2**

*Reliability Analysis*

Cronbach’s Alpha	No. of items
.875	25

Cronbach’s alpha coefficients were calculated to ensure the internal consistency for each construct. As shown in Table 2, the overall Cronbach’s alpha for the instrument was 0.875, which is a good internal consistency. Most constructs demonstrated acceptable to excellent internal consistency, with alpha values exceeding the widely accepted threshold of 0.70 (Nunnally & Bernstein, 1994). Pallant (2001) and Hair et al. (2010) suggest that Cronbach’s alpha values above 0.60 are deemed sufficient for preliminary or exploratory studies, particularly when dealing with complex human behaviors and attitudinal constructs. Taken together, these results affirm that the measurement scales used in this study demonstrate a high degree of internal reliability, allowing for confidence in the consistency of the responses. Therefore, the instruments are considered robust and appropriate for further statistical procedures, including descriptive statistics, correlation, regression analysis.

## Descriptive Analysis

**Table 3**

Descriptive statistics

Construct	Mean value	Standard Deviation
PLE	2.262	0.8636
ELE	2.218	0.8358
LSR	2.351	0.8934
MAS	2.162	0.852
AP	2.311	0.8302

Note: PLE= Personal Learning Effort, EFE= Effective Learning Environment, LSR= Library and Study Research, MAS= Motivation and Academic Support and AP= Academic Performance.

The study employed a 5-point Likert scale ranging from Strongly Agree (1) to Strongly Disagree (5) to assess student perceptions across five key variables. The mean scores ranged between 2.162 and 2.351, indicating that respondents generally leaned toward agreement with the positive statements. The lowest mean was observed in motivation and academic support (M = 2.162), suggesting students held relatively favorable views regarding the support and encouragement they received. This was followed closely by effective learning environment (M = 2.218) and personal learning effort (M = 2.262), reflecting a moderately positive perception of classroom settings and individual study behaviors. Academic performance (M = 2.311) was similarly rated, indicating a fair self-assessment by students, while library and study research (M = 2.351) had the highest mean, implying more neutral or slightly less favorable views of resource accessibility and utilization. The standard deviations ranged from 0.8302 to 0.8934, indicating moderate variability in responses. The greatest variation was found in library and study research (SD = 0.8934), suggesting students had diverse experiences with academic resources. Conversely, academic performance (SD = 0.8302) showed the least variability, indicating relatively consistent self-perceptions among participants. Overall, the descriptive statistics suggest a generally positive, yet varied, experience among students regarding their effort, environment, and academic support.

## Correlation Matrix

**Table 4**

Correlation Analysis

Variables	PLE	ELE	LSR	MAS	AP
PLE	1	.546**	.452**	.534**	.456**
ELE		1	.422**	.542**	.395**
LSR			1	.306**	.358**
MAS				1	.497**
AP					1

Note: PLE= Personal Learning Effort, EFE= Effective Learning Environment, LSR= Library and Study Research,

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 4 shows the correlation matrix of the independent variables PLE, ELE, LSR and MAS with consideration of the dependent variable Academic Performance. Pearson correlation analysis was conducted to examine the bivariate relationships among these academic factors.

ELE was strongly correlated with AP ( $r = .546, p < .01$ ), while Motivation also showed a strong positive association with AP ( $r = .534, p < .01$ ). Learning Behavior demonstrated a moderate but significant correlation with AP ( $r = .452, p < .01$ ). Academic Achievement was positively related to all independent variables, with the strongest relationship observed with Motivation ( $r = .497, p < .01$ ). These results indicate that effort, motivation, and learning behavior all contribute positively to students' performance and academic achievement.

### Regression Analysis

**Table 5**

#### Regression Analysis

Metric	Value
R	0.568
R-squared (R <sup>2</sup> )	0.322
Adjusted R-squared	0.31
Standard Error of Estimate	2.22829
F-value	26.167
Significance (p-value)	0

The regression model shows a moderate relationship ( $R = 0.568$ ) between predictors and academic performance, explaining 32.2% of the variance ( $R^2 = 0.322$ ). The Adjusted  $R^2$  (0.31) confirms a fair level of explanatory power. The significant F-value (26.167,  $p < 0.001$ ) indicates the model is statistically valid. The standard error of estimate (2.22829) suggests the predictions are reasonably accurate, though other unmeasured factors may also influence performance.

### Coefficient Table

**Table 5**

#### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.789	.154		5.118	.000
	PLE	.154	.066	.172	2.345	.020
	ELE	.040	.071	.041	.569	.570
	LSR	.135	.052	.165	2.564	.011
	MAS	.352	.074	.337	4.783	.000

a. Dependent Variable: AP



Note: PLE= Personal Learning Effort, EFE= Effective Learning Environment, LSR= Library and Study Research, MAS= Motivation and Academic Support and AP= Academic Performance.

The regression results show that PLE ( $\beta = 0.172$ ,  $p = 0.020$ ), LSR ( $\beta = 0.165$ ,  $p = 0.011$ ), and MAS ( $\beta = 0.337$ ,  $p < 0.001$ ) have significant positive effects on academic performance (AP). This means higher levels of these factors are associated with better academic outcomes. In contrast, ELE ( $\beta = 0.041$ ,  $p = 0.570$ ) is not statistically significant, indicating it does not meaningfully influence academic performance in this model. The constant (0.789) represents the baseline level of AP when all predictors are zero.

## 5. Discussion

This study demonstrates that academic performance is shaped by the dynamic interplay between students' personal learning efforts and institutional support systems. Consistent with Self-Regulated Learning Theory (Zimmerman, 2002), students who actively employ time management, goal-setting, and metacognitive strategies achieve better outcomes. However, these benefits are moderated by environmental factors, as Social Cognitive Theory (Bandura, 1986) suggests structured syllabi, faculty accessibility, and collaborative learning environments amplify the impact of personal effort (Chaudhary et al, 2023; Hattie, 2009; Fraser, 2012).

Notably, while access to libraries and research materials was positively linked to learning behaviors, its direct effect on performance was negligible, underscoring that resource availability alone is insufficient without proper training and motivation (Chaudhary et al, 2024; Boekaerts, 1997). The strongest predictor, motivation, paradoxically scored lowest in student perceptions, revealing a critical institutional gap in mentorship and support (Deci & Ryan, 1985; Rana & Gautam, 2023). These findings advocate for integrated educational policies that combine SRL training with environmental enhancements, particularly in resource-constrained settings like Nepal. Future research should explore cultural and socioeconomic moderators to refine context-specific interventions.

## 6. Conclusion

This study demonstrates that academic achievement in Nepal stems from the dynamic interaction between students' self-regulated learning strategies and institutional support systems. Research confirms that proactive behaviors like goal-setting, class participation, and systematic revision significantly improve outcomes, particularly when supported by quality resources and engaged faculty. However, persistent challenges including traditional pedagogy, limited research infrastructure, and digital disparities continue to constrain optimal learning environments. The findings reveal a mutually reinforcing relationship where institutional support enhances student motivation, while motivated learners utilize resources more effectively.

For Nepal's education system to progress, the study emphasizes the need for dual interventions: developing students' metacognitive skills, while simultaneously upgrading institutional capacity. Critical gaps in research training and digital literacy need to be addressed to transform resource availability into actual learning gains. By fostering this synergy between personal agency and institutional support, Nepal can create an equitable, student-centered education system that meets both local needs and global standards, ultimately unlocking the nation's academic potential.

## 7. Implication

### *Theoretical Implication*

The research reinforces and extends key learning theories, demonstrating that academic success depends on the interaction between personal motivation and institutional support. It validates Self-Determination Theory by confirming that autonomy, competence, and relatedness drive student motivation. The study also supports Self-Regulated Learning Theory (Zimmerman, 2002), showing that students who employ goal-setting and metacognitive strategies perform better when institutions provide structured support. Additionally, the findings align with Social Cognitive Theory (Bandura, 1986), emphasizing how observational learning and self-efficacy are strengthened in interactive environments. The study further reinforces Bloom's Taxonomy (Anderson & Krathwohl, 2001), illustrating that higher-order thinking skills (analysis, synthesis, evaluation) thrive in settings that promote clarity and autonomy. Finally, the research affirms Astin's Theory of Student Involvement (1984), highlighting that engagement is shaped not just by student behavior but also by institutional policies and teaching methods.

### *Managerial Implication*

For educators and academic leaders, the study suggests actionable strategies to improve learning outcomes. Institutions should cultivate supportive environments by ensuring clear course structures, accessible resources (libraries, online databases), and strong faculty-student interaction. Students benefit from training in self-regulation strategies such as time management, goal-setting, and metacognitive reflection, which can be facilitated through workshops, peer mentoring, and orientation programs. Faculty development should focus on student-centered pedagogies that enhance motivation and critical thinking. Additionally, digital infrastructure must be strengthened to support blended and hybrid learning models, ensuring students are both motivated and digitally literate. At a systemic level, the research calls for policies that bridge gaps between academic expectations and student support systems. Motivation should be treated as a policy concern rather than just an individual issue, with curricula integrating motivational design, learner autonomy, and inclusivity. Policymakers must prioritize equitable learning opportunities, ensuring all students regardless of background have access to supportive environments. Continuous evaluation and adaptation of learning systems based on student feedback and performance data are essential to maintaining dynamic and effective education models.

## 8. Limitations and Direction for the Future Research

While this study provides valuable insights into the interplay between personal learning effort and institutional support in Nepal's higher education context, several limitations should be acknowledged. First, the cross-sectional design precludes causal inferences, and longitudinal studies are needed to examine how these relationships evolve over time. Second, the reliance on self-reported measures may introduce response biases, suggesting the need for future research incorporating objective performance metrics and observational data. Third, the sample was limited to Kathmandu Valley, which may not fully represent Nepal's diverse educational landscape, particularly rural institutions facing more severe resource constraints.

Future research should address these limitations while exploring three key directions: investigating cultural and socioeconomic moderators of the effort-environment-performance relationship, developing and testing interventions that simultaneously target student self-regulation skills and institutional support systems, and examining how emerging technologies

can bridge resource gaps in low-income educational contexts. Such studies would benefit from mixed-methods approaches to capture both quantitative outcomes and qualitative experiences, ultimately informing more nuanced, context-sensitive educational policies and practices.

## Conflict of Interest

Authors declare no conflict of interest while preparing this article.

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