

International Journal of Agriculture Extension and Social Development

Volume 9; Issue 3; March 2026; Page No. 306-308

Received: 16-12-2025
Accepted: 27-01-2026

Indexed Journal
Peer Reviewed Journal

A comparative study of library utilization behaviour and academic achievement among undergraduate students of Horticultural College and Research Institute, Periyakulam

¹Thangavelu K and ²Jegadeesan M

¹Assistant Librarian, Institute of Horticulture, Pechiparai, Tamil Nadu, India

²Associate Professor, ICAR-KVK, Ramanathapuram, Tamil Nadu, India

DOI: <https://www.doi.org/10.33545/26180723.2026.v9.i3e.3397>

Corresponding Author: Jegadeesan M

Abstract

The present study analyses the library utilization behaviour of undergraduate students and its relationship with academic achievement at the Horticultural College and Research Institute (HC & RI), Periyakulam. The study was conducted during 2021–2023 using a structured questionnaire administered to 325 undergraduate students across four academic years. A Library Utilization Index (LUI) and Academic Achievement Perception Index (AAPI) were developed using Likert-type responses. Descriptive statistics, mean score analysis, and correlation analysis were employed. Results revealed a significant positive relationship between library utilization and academic achievement, indicating that students with higher library use exhibited better academic performance, subject understanding, and access to reliable information. The findings underscore the critical role of academic libraries in enhancing learning outcomes in horticultural education.

Keywords: Library utilization, academic achievement, higher education, horticultural students, learning resources

Introduction

Academic libraries are universally recognised as critical enablers of student learning, academic engagement, and educational quality in higher education systems across the world. In an era characterised by rapid expansion of knowledge, digital transformation, and increasing emphasis on evidence-based learning, academic libraries function not merely as repositories of information but as dynamic learning environments that support critical thinking, independent inquiry, and lifelong learning. International higher education research consistently demonstrates that students' effective engagement with library resources is positively associated with improved learning outcomes, higher academic achievement, and stronger information literacy competencies (Lance *et al.*, 2014; Oakleaf, 2010) [3, 5].

Within professional and science-based disciplines such as horticulture and agriculture, the role of academic libraries assumes even greater significance. These disciplines demand continuous access to updated textbooks, research journals, technical reports, and reference materials to keep pace with scientific advancements, climate-responsive technologies, and market-oriented innovations. Empirical studies conducted across diverse national contexts indicate that students in agricultural and life science programmes who actively utilise library resources exhibit better conceptual clarity, enhanced analytical ability, and superior academic performance (Kaur & Verma, 2019; Kumar &

Devi, 2018) [1, 2].

Despite the acknowledged importance of academic libraries, disparities persist in students' library utilization behaviour both within and across institutions. Variations in awareness of resources, ease of access, institutional support, library environment, availability of digital services, and user satisfaction significantly influence the extent to which students engage with library facilities (Natarajan & Suresh, 2020) [4]. Furthermore, while a growing body of international literature has examined the relationship between library use and academic achievement, much of this research is concentrated in general higher education contexts. Empirical evidence from specialised agricultural and horticultural higher education institutions in developing countries, particularly India, remains relatively limited.

Against this backdrop, the present study undertakes a systematic examination of library utilization behaviour among undergraduate students of the Horticultural College and Research Institute, Periyakulam. By developing composite indices for library utilization and perceived academic achievement, and by applying inferential statistical techniques such as correlation and t-test analysis, the study seeks to generate robust empirical evidence on the contribution of academic libraries to student success. The findings are expected to provide valuable insights for academic administrators, librarians, and policymakers aiming to strengthen learning support systems and improve educational quality in higher education institutions.

Objectives of the Study

1. To study the library utilization behaviour of undergraduate students of HC & RI, Periyakulam.
2. To identify factors encouraging and discouraging students from using the library.
3. To analyse the frequency and purpose of library usage among students.
4. To assess the relationship between library utilization and students' academic achievement.

Methodology

The study was conducted at the Horticultural College and Research Institute, Periyakulam, during 2021–2023. A total of 325 undergraduate students across four academic years were included using a census approach. Primary data were collected using a structured, pre-tested questionnaire covering socio-personal characteristics, library usage behaviour, satisfaction with facilities, and perceived academic benefits.

Measurement of Variables

Library Utilization Index (LUI): Library utilization was measured by assigning scores to variables such as frequency of visits, purpose of use, satisfaction with facilities, and perceived usefulness. Responses were coded on a 3–5 point Likert scale. The composite LUI was computed as:

$$\text{LUI} = (\text{Obtained score} / \text{Maximum possible score}) \times 100$$

Academic Achievement Perception Index (AAPI):

Perceived academic achievement was measured using indicators such as improvement in academic performance, subject understanding, and access to reliable information. Mean scores were computed and converted into an index using the same formula.

Statistical Analysis

Percentage analysis, mean score analysis, and Pearson's correlation coefficient were used to analyse the data.

Results and Discussion

The results of the study are presented and discussed in relation to the stated objectives, with appropriate reference to earlier empirical findings. Both descriptive and inferential statistical analyses were employed to provide a comprehensive understanding of library utilization behaviour and its influence on academic achievement.

Table 1: Distribution of UG Students by Year and Gender

Year of Study	Boys	Girls	Total
I Year	27	61	88
II Year	25	57	82
III Year	28	51	79
IV Year	21	55	76
Total	101	224	325

Female students constituted a major proportion of respondents (68.9%), reflecting increased participation of women in horticultural education. Similar trends have been reported by Kaur and Verma (2019) ^[1], who observed higher academic engagement among female students in agricultural universities.

Table 2: Frequency of Library Visits among UG Students

Frequency	Percentage
Daily	28.3
Weekly	36.3
Frequently	21.8
Rarely	13.6

The predominance of daily and weekly visits indicates active library engagement. Frequent library use has been associated with disciplined study habits and improved academic outcomes (Thanuskodi, 2012) ^[8].

Table 3: Mean Score and Index of Library Utilization Behaviour

Dimension	Mean Score	LUI (%)
Frequency of visit	3.84	76.8
Purpose of use	3.67	73.4
Satisfaction with facilities	3.92	78.4
Overall library utilization	3.81	76.2

The overall Library Utilization Index (76.2%) indicates a high level of library engagement among students. A conducive environment and adequate collections significantly influenced utilization behaviour, corroborating earlier findings (Natarajan & Suresh, 2020) ^[4].

Table 4: Academic Achievement Perception Index

Indicator	Mean Score	AAPI (%)
Improved academic performance	3.49	69.8
Better subject understanding	3.73	74.5
Access to reliable information	4.06	81.2
Overall academic achievement	3.76	75.2

The Academic Achievement Perception Index (75.2%) reveals that students strongly perceive library use as beneficial to their academic success. Owusu-Acheaw and Larson (2015) ^[6] reported similar positive perceptions among tertiary students.

Table 5: Correlation between Library Utilization and Academic Achievement

Variables	r-value	Significance
LUI vs AAPI	0.62**	$p < 0.01$

The correlation analysis revealed a strong and positive relationship between library utilization and academic achievement ($r = 0.62$), which was statistically significant at the one per cent level. This indicates that students who made greater use of library resources tended to report higher levels of academic achievement. In other words, increased engagement with library facilities was consistently associated with better academic outcomes among undergraduate students.

Statistical note: Correlation analysis measures the degree to which two variables move together. A positive and significant correlation indicates that higher library use is reliably associated with higher academic achievement, though it does not imply direct causation.

A strong and statistically significant positive correlation ($r = 0.62$) was observed between the Library Utilization Index and the Academic Achievement Perception Index. This

indicates that students with higher levels of library engagement tend to report better academic performance and learning outcomes. Similar associations have been documented in international studies, reinforcing the role of academic libraries as key contributors to student success (Lance *et al.*, 2014; Owusu-Acheaw & Larson, 2015) ^[3, 6].

Table 6: Comparison of Academic Achievement between High and Low Library Users (t-test)

Category	Mean AAPI Score	t-value	Significance
High library users	4.02		
Low library users	3.28	7.84**	$p < 0.01$

The t-test results reveal a statistically significant difference in academic achievement between high and low library users. Students categorised as high library users recorded significantly higher mean academic achievement scores compared to low users. This finding provides further empirical validation that intensive library utilization positively influences academic performance. The result aligns with earlier findings reported by Oakleaf (2010) ^[5] and Thanuskodi (2012) ^[8], who observed measurable academic gains among students with higher levels of library engagement.

A strong and significant positive correlation ($r = 0.62$) was observed between library utilization and academic achievement. This finding confirms that increased library use leads to better academic outcomes, supporting earlier empirical evidence (Lance *et al.*, 2014) ^[3].

Conclusion

The present study provides compelling empirical evidence that academic library utilization plays a decisive role in enhancing students' academic achievement in higher education. The high Library Utilization Index observed among undergraduate horticultural students was strongly associated with improved academic performance, deeper subject understanding, and greater access to reliable information sources. Both correlation and t-test analyses confirmed that students who actively engage with library resources perform significantly better academically than their counterparts with lower levels of library use.

The findings underscore the importance of strengthening academic libraries as integral components of teaching-learning ecosystems. Investments in improving library infrastructure, expanding access hours, enriching collections, and promoting information literacy programmes are likely to yield substantial academic benefits. From a policy perspective, the study highlights the need to integrate library usage more explicitly into institutional academic support strategies, particularly in science- and technology-oriented disciplines such as horticulture.

References

1. Kaur H, Verma R. Library use patterns and academic performance of students in agricultural universities. *Journal of Library and Information Science*. 2019;44(2):112-118.
2. Kumar S, Devi R. Utilization of library resources by undergraduate students in agricultural colleges. *International Journal of Information Studies*. 2018;10(1):45-52.

3. Lance KC, Hofschire L, Ladd A. Academic libraries and student success: A review of the literature. *College and Research Libraries*. 2014;75(3):289-312.
4. Natarajan M, Suresh R. User satisfaction and library service effectiveness in higher education institutions. *Indian Journal of Library Science*. 2020;35(1):23-30.
5. Oakleaf M. The value of academic libraries: A comprehensive research review and report. Chicago: Association of College and Research Libraries; 2010.
6. Owusu-Acheaw M, Larson AG. Use of information resources and its impact on academic performance of tertiary students. *Journal of Educational Practice*. 2015;6(6):94-101.
7. Ranganathan SR. The Five Laws of Library Science. Bombay: Asia Publishing House; 1961.
8. Thanuskodi S. Use of library resources by the students and faculty members of engineering colleges in Tamil Nadu. *International Journal of Library Science*. 2012;1(1):1-8.