

A Comparative Analysis of the Student Preferences for Digital and Physical Books in Library Usage

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ABSTRACT

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The study investigates student preferences for digital and physical library resources at San Sebastian College-Recoletos de Cavite, Philippines, amidst the evolving landscape of educational technology integration. Through a comprehensive analysis of survey data collected from Senior High School and College students, the research identifies significant trends in resource utilization patterns and their impact on academic achievement. Results indicate a preference for digital resources, although some students still value physical materials. Statistical analyses reveal discipline-specific variations in resource utilization and a positive correlation between the frequency of accessing digital resources and academic performance. The study underscores the importance of aligning library services with student preferences to optimize learning outcomes and foster digital literacy. Recommendations are made for tailored interventions to enhance resource provision and promote equitable access across academic disciplines.



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INTRODUCTION

In the ever-evolving landscape of education, the ubiquitous shift towards digital resources has become a hallmark of contemporary learning environments. The global phenomenon of integrating technology into education is profoundly influenced by the increasing accessibility of digital content. This transition holds significant implications for libraries, which have traditionally been regarded as bastions of physical information repositories. Understanding the dynamic preferences of students in library usage, specifically in their choice between digital and physical resources, becomes imperative for educational institutions to adapt to the evolving needs of learners (Johnson, 2016; McCulloch, 2016; Secker & Coonan, 2012).

According to Soria et al. (2017) library resources significantly contribute to students' learning outcomes, with Anderson and García (2020) further noting that frequent use of these resources correlates with higher cumulative GPAs. However, library instruction alone may not impact GPA. Biktimirov and Klassen (2005) supported this stance by highlighting that access to specific files is linked to improved student performance. Conversely, Alcober (2022) emphasized various factors influencing resource utilization, such as updated materials, fast internet, e-books, conducive reading spaces, competent staff, and availability of relevant information, including theses and dissertations, all contributing to effective library utilization.

Furthermore, Cumaoglu et al. (2013) found that a significant portion of university students, approximately 68%, read one book per week, with 62% identifying as e-book readers. They highlighted a correlation between the social environment and students' reading habits, noting that 81% predominantly read e-books for research purposes. In contrast, Cummings et al. (2015) observed that students across disciplines prioritize convenience and accessibility, regardless of whether materials are in print or electronic format. Majid et al. (2019) supported this diversity in preferences, reporting that while a majority (73.7%) preferred print books for academic studies, around 52% favored e-books for research and leisure reading. Notable advantages of e-books included their storage capacity on personal devices and convenience, though concerns such as eye strain, poor quality scans, and small screen size were noted. Additionally, data analysis suggested that for many students, e-books were chosen due to a lack of alternative options.

Internationally, educational institutions are grappling with the challenge of reconciling traditional library resources with the growing prevalence of digital alternatives. Countries are aligning their education policies with the Sustainable Development Goals (SDGs) outlined by the United Nations. The relevance of this study is particularly tied to SDG 4 (Quality Education), emphasizing equitable access to quality education, and SDG 9 (Industry, Innovation, and Infrastructure), underscoring the importance of technological advancement in

education.

In the Philippines, as in many countries, educational institutions are navigating this transition. The focus on digital literacy is gaining momentum, aligning with the national commitment to SDG 4. The Filipino education system is dynamically evolving to incorporate technology, creating an environment where physical and digital resources coexist.

San Sebastian College - Recoletos de Cavite reflects this global and national trend. Despite an extensive collection of physical books and subscriptions to physical journals and online resources, the observed pattern indicates a significant preference for digital mediums among students. The underutilization of physical books and subscribed online resources suggests a potential discrepancy between resource availability and student engagement.

The prevalent use of digital platforms for novel reading, internet research, and information gathering through social media signifies a shift in student behavior towards more dynamic and interactive forms of learning. This scenario underscores the need to examine how educational institutions can align their resources with student preferences to optimize learning outcomes.

Previous research on library student preferences for digital and physical resources has produced varied outcomes. Studies have identified convenience, accessibility, and interactive features as key drivers for adopting digital resources. However, empirical evidence also indicates that many students still value the tangible experience of reading physical books and journals.

Despite existing body of research, this study aims to address notable gaps. These include the lack of specific insights into the utilization patterns of library resources in institutions like San Sebastian College - Recoletos de Cavite. The identified discrepancy between resource availability and student engagement serves as a focal point for closer examination. Additionally, there is limited understanding of how digital platforms outside formal educational settings impact student learning preferences.

Significance of this study lies in its potential to inform policy and program interventions at San Sebastian College - Recoletos de Cavite and similar institutions. The findings can guide the development of teaching modules and the integration of relevant content into course syllabi. By comprehending the patterns of resource utilization, the study contributes to the dissemination of research findings through social media, fostering a culture of evidence-based decision-making. Moreover, the study lays the groundwork for future research directions in the context of evolving library usage patterns and digital literacy.

FRAMEWORK

In Asia, the study draws upon the Confucian Heritage Culture (CHC) theory, emphasizing the influence of cultural values on learning preferences. CHC suggests that students from Confucian-influenced cultures tend to lean towards

traditional learning methods. This theory aids in interpreting the observed preferences for physical books despite the digital trend, guiding strategies for bridging the gap between traditional and digital learning in the context of San Sebastian College - Recoletos de Cavite.

From a Western perspective, the study incorporates the Technology Acceptance Model (TAM). TAM posits that perceived usefulness and ease of use are critical factors influencing the acceptance and usage of technology. Applying TAM to this study sheds light on the factors influencing students' engagement with digital resources compared to physical ones.

OBJECTIVES OF THE STUDY

The study aimed to (1) determine the extent to which the type of library resource (digital vs. physical) influences student utilization, (2) analyze the correlation between the frequency of accessing online resources and overall academic performance, and (3) compare the resource utilization patterns between different academic disciplines to identify significant differences.

LIMITATIONS OF THE STUDY

Generalizability. Findings from this study may not be entirely generalizable to other institutions or diverse cultural contexts. The cultural and institutional uniqueness of San Sebastian College - Recoletos de Cavite could impact the transferability of results.

Time Frame. The study is conducted during the second semester of the academic year 2023-2024. Therefore, the findings might not capture long-term trends or account for potential changes in students' behaviors over an extended period.

Sample Size. The study's findings are based on the responses of a participants across academic discipline, from Senior High School to College at San Sebastian College - Recoletos de Cavite. While efforts are made to ensure representativeness, the sample size may limit the ability to draw universally applicable conclusions.

Resource Utilization Metrics. The study primarily relies on self-reported data and may face limitations related to the accuracy of participants' recall and reporting. Additionally, the study might not capture indirect or non-traditional forms of resource utilization.

External Factors. The study acknowledges that external factors, such as changes in the educational landscape, technological advancements, or socio-economic conditions, may influence library resource utilization beyond the scope of this research.

Cross-Cultural Considerations. While the study recognizes cultural influences through the CHC theory, it does not delve deeply into the nuances of diverse cultural backgrounds within the student population. Cultural variations

may play a more intricate role than this study explicitly addresses.

Technology Access. The study assumes a certain level of technology access among participants. Variations in device availability or internet accessibility could impact the results.

Despite these limitations, the study aims to provide valuable insights into the preferences and behaviors of students regarding library resources, contributing to the broader discourse on adapting library services to meet the evolving needs of learners.

METHODOLOGY

Research Design

The research method utilized in this study involved a comprehensive analysis of survey data collected from students at San Sebastian College - Recoletos de Cavite, focusing on their preferences for digital and physical library resources. A customized survey questionnaire was developed to assess various aspects, including resource utilization, satisfaction levels, and the perceived impact on academic performance, while also capturing demographic information such as gender and academic discipline.

Research Site

San Sebastian College - Recoletos de Cavite (SSC-R de Cavite), located in Cavite City, Philippines, is the study's research site. The institution was established in 1966 to address the needs of the community as a local community college. Since then, it has increased the range of programs it offers to include both senior high school and college courses. The college has a reputation for being dedicated to offering high-quality instruction and for creating a broad curriculum that meets the needs of students with different academic interests. In addition to 15 undergraduate programs in a variety of subjects, including mass communication, nursing, psychology, and various engineering specialties, it offers three academic tracks for Senior High School: accounting, business and management (ABM), humanities and social sciences (HUMSS), and science, technology, engineering, and mathematics (STEM).

SSC-R de Cavite is housed in Cavite City, founded in 1571 and is one of the oldest towns in the Philippines. The city is mainly made up of immigrants from neighboring provinces as well as descendants of Spanish and American pioneers, giving it a rich historical background and diverse economic environment. A middle-class, working-class populace characterizes the city's socioeconomic backdrop, and this has an impact on the college student body. This diversity, which represents the distinct cultural and economic elements that determine students' educational needs and access to technology, is essential to understanding students' preferences and experiences surrounding the use of library resources.

Respondents

The population of the study consists of students enrolled at San Sebastian College - Recoletos de Cavite in Cavite City, Cavite, Philippines. They are students from the Senior High School and College enrolled in the second semester of the academic year 2023-2024.

Instrumentation

The researcher customized a survey questionnaire that allowed to gather data on student preferences for digital and physical books in library usage, satisfaction with using these resources, its impact on their academic discipline and frequency of access. The survey also includes questions that capture demographic information, like gender, academic tracks and grade level for senior high school, and academic program and year level for college.

The researcher utilized convenience sampling. Participants were selected based on their accessibility and willingness to participate in the study. The questionnaire was administered online through the Google form. It includes a letter to the respondents clearly stating the nature and purpose of the research. To ensure confidentiality and anonymity of the participants, names were not asked. All the data asked from the respondents are significant for the research.

Data Analysis

Data was analyzed through ANOVA, a statistical method used to compare the means of three or more groups to determine whether they have statistically significant differences. It tests the null hypothesis that the means of the groups are equal against the alternative hypothesis that at least one group mean is different from the others.

Data was be treated in the following manner: (1) Data was categorized according to gender, academic track and grade level for senior high school, academic program and year level for college, frequency of utilization, preference of resources (digital or physical resources), satisfaction of utilization and impact to their academic achievement. (2) Group means were calculated giving an average score for each group. (2) ANOVA test was used to analyze whether the groups had statistically significant differences in preference scores. It compared the variation between group means to the variation within groups. If the variation between groups is significantly larger than the variation within groups, it suggests significant differences in preference scores between at least some of the groups. Post-hoc tests can be conducted to verify the test.

RESULTS AND DISCUSSION

Participants were pooled randomly from the senior high school and college students. A Google form was sent to the College Dean, the program chairs and the Senior High School Principal. It was posted on the respected group chats, and 153 students responded to the form; 100 were female, and 53 were males. There

were 54 students from the senior high school and 99 from college. Of the 54 students, 31 are in grade 11, and 23 are in grade 12. There are 13 students from the Accountancy, Business and Management tracks, nine are from Humanities and the Social Sciences, and 32 are from Science, Technology, Engineering and Mathematics. The 99 college students from the different program offerings appears in the table below:

Table 1
College Students from Different Program Offerings

No.	Number of Participants	Programs
1	16	Bachelor of Science in Nursing
2	24	Bachelor of Science in Psychology
3	4	Bachelor of Science in Criminology
4	2	Bachelor of Science in Business Administration Major in Financial Management
5	4	Bachelor of Science in Business Administration Major in Marketing Management
6	1	Bachelor of Science in Hospitality Management
7	4	Bachelor of Science in Tourism Management
8	5	Bachelor of Science in Computer Engineering
9	5	Bachelor of Science in Electronics and Communication Engineering
10	2	Bachelor of Science in Industrial Engineering
11	19	Bachelor in Information Technology

Table 2 presents summary statistics for two variables, “frqphysical” or frequency of access to physical resources and “frqdig” or frequency of access to digital resources. The data indicates that respondents frequently access digital resources, an affirmation of the study made by Anyim in 2021. Students access e-resources regularly for its accessibility and provision of timely and comprehensive information.

Table 2
Frequency of access of resources

	frqphysical	Frqdig
Mean	2.8392	3.0353
N	153	153
Std. Deviation	.55396	.52522

Further analysis indicates the comparison of the means and variability of frequent access to physical resources and frequent access to digital resources across different programs. Only the students from the Bachelor of Science in Criminology frequently access the physical resources, while students in other programs tend to access digital resources.

Table 3 presents the correlation analysis results between two variables, “frqdig” or frequency of access to digital resources and “impdig” or impact on academic achievement of students. The results indicate a strong positive linear relationship between variables.

Table 3
Correlation Analysis Results between Two Variables

		frqdig	impdig
frqdig	Pearson Correlation	1	.707**
	Sig. (2-tailed)		.000
	N	153	153
impdig	Pearson Correlation	.707**	1
	Sig. (2-tailed)	.000	
	N	153	153

Pearson Correlation was used to analyze the relationship between “frqdig” and “impdig,” and the coefficient is approximately 0.707 suggesting a strong positive linear relationship. The significance level for all correlations is 0.000, which means the observed correlations are statistically significant at conventional levels, which is usually 0.05, further suggesting that the observed correlations are unlikely to have occurred by chance. This result resonates with the study of Ogunbodede and Oribhabor (2022), who found that using digital resources positively impacts the academic performance of undergraduate students at a university in Nigeria. It said further that the more students use digital resources, the more they perform academically. Moreover, the findings of Estrada et al. (2023) showed that frequent access to library resources ushered them to the dean’s list and led to success in licensure exams.

Table 4*Analysis of variance (ANOVA) for two variables, “frqphysical” and “frqdig”*

		Sum of Squares	df	Mean Square	F	Sig.
frqphysical	Between Groups	6.667	11	.606	2.124	.022
	Within Groups	39.952	140	.285		
	Total	46.619	151			
frqdig	Between Groups	5.914	11	.538	2.090	.025
	Within Groups	36.015	140	.257		
	Total	41.928	151			

To identify significant differences between groups in terms of resource utilization patterns, ANOVA was used. Results show significant differences between group means, as indicated by the p-values, 0.022 and 0.025 respectively suggesting that at least one group mean is significantly different from the others for both variables.

To know which group mean is significantly different from the others for both variables a Post Hoc test was employed. The result displays that the three groups are significantly different from the others in the frequency of access to physical resources, while the two groups signify differences in the frequency of access to digital resources. The three groups signifying difference in utilizing physical resources are Bachelor of Science in Psychology, Bachelor of Science in Business Administration major in Marketing Management and Bachelor of Science in Electronics and Communication Engineering, while those with differences in utilizing digital resources from the Bachelor of Science in Psychology and Bachelor of Science in Information Technology.

CONCLUSIONS

In conclusion, the comparative analysis of student preferences for digital and physical books in library usage at San Sebastian College - Recoletos de Cavite reveals a significant trend towards digital mediums among students, despite the availability of extensive physical resources. While convenience, accessibility, and interactive features drive the adoption of digital resources, a substantial proportion of students still value the tangible experience of reading physical materials. The study underscores the need for educational institutions to tailor their resources to align with student preferences, thereby optimizing learning outcomes. Through statistical methods such as ANOVA and correlation analysis, the research highlights significant differences in resource utilization patterns across academic disciplines and the positive correlation between the frequency of accessing digital resources and academic achievement. Despite limitations such

as sample size constraints and the specificity of the study locale, the findings offer valuable insights for informing policy interventions and program development aimed at enhancing library services and promoting digital literacy in educational settings.

RECOMMENDATION

Based on the findings of the study on student preferences for digital and physical books at San Sebastian College - Recoletos de Cavite, it is recommended that the institution adopt a multifaceted approach to library resource provision. This approach should include bolstering digital resource accessibility and promoting digital literacy initiatives while maintaining and enhancing physical materials' availability to cater to diverse learning preferences. Assuming that instructional design significantly impacts library usage (Ferrater-Gimena & Doming, 2014), a strategic collaboration between educators and library services may improve students' intentional engagement with resources. Moreover, students typically use digital sources to gain an overview of research topics, complete assignments, and gather related literature (Atanoza & Camasura, 2012); therefore, by ensuring accessible, discipline-specific resources that meet these needs, the institution can support equitable and effective resource utilization across academic programs. Additionally, students recognize and utilize available information sources (Yap et al., 2022), suggesting that further promoting available library resources would encourage consistent engagement. Aligning library services with students' preferences and needs will ultimately support student learning outcomes and foster a culture of academic success.

TRANSLATIONAL RESEARCH

The San Sebastian College - Recoletos de Cavite study on student preferences for digital and physical library resources can result in a number of useful translational research projects, such as the development of focused digital literacy programs, the creation of a hybrid model that combines digital and physical materials, and routine evaluations of resource utilization patterns. Furthermore, specialized library services can be created for particular academic fields, and ongoing feedback systems can be set up to get feedback from students on the resources available at the libraries. Research collaborations with academic departments can delve deeper into the effects of library resources on student performance. At the same time, awareness campaigns can highlight the advantages of both kinds of resources, thereby improving the learning environment and bolstering academic success.

CONFLICTS OF INTEREST AND FUNDING

The authors declare that they have no conflicts of interest, financial or otherwise, that could influence or bias the content of this article. This study was conducted independently without any external funding from organizations or individuals that could have a vested interest in the findings.

The data supporting the findings of this study are available upon request to ensure transparency and facilitate independent verification of the results. AI was utilized ethically solely to enhance readability, with due diligence and mindfulness applied to ensure that it did not contribute to the analysis or interpretation of the content.

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