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EDUCATION

THE ROLE OF ACADEMIC LIBRARIES IN ENHANCING QUALITY OF EDUCATION IN RWANDA: A CASE OF RUHENGERI INSTUTUTE OF HIGH LEARNING EDUCATION

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ABSTRACT

Academic libraries serve an important function in facilitating teaching, learning, and research in higher learning institutions. This study examined the role of academic libraries in enhancing the quality of education in Rwanda, using INES-Ruhengeri as a case study. Specifically, the study assessed the availability of library resources, accessibility of library resources, and effectiveness of library services, as well as their contribution to academic performance and educational quality. The study targeted 300 respondents comprising students, lecturers, and librarians. A quantitative sample of 171 respondents was selected using stratified sampling techniques, consisting of 133 final-year students and 34 lecturers. In addition, 4 librarians were purposively selected as key informants to provide qualitative insights into library operations, resource management, and service delivery. The study employed a concurrent triangulation mixed-methods approach to integrate quantitative and qualitative data. Quantitative data were analyzed using SPSS through descriptive and inferential statistics, including frequencies, percentages, Chi-square tests, correlations, and regression analysis, while qualitative data were analyzed thematically. The findings revealed that academic libraries contribute significantly to improving educational quality through enhanced access to learning materials (29.2%), improved research skills (26.3%), and improved academic writing skills (23.4%). Furthermore, 64.3% of respondents reported improvement in research skills, while 73.1% agreed that library utilization contributed positively to their academic performance. However, challenges affecting effective library utilization included limited access to books and journals (26.3%), inadequate digital library resources (20.5%), insufficient study spaces (17.5%), and poor internet connectivity (14.6%). The study concludes that academic libraries play a critical role in supporting teaching, learning, and research processes at INES-Ruhengeri, although further improvements are required. The study recommends strengthening both print and digital library resources, improving internet connectivity and access to electronic databases, expanding study facilities, enhancing user training programmes, and increasing library-based research workshops.

Keywords: *Role of Academic, Libraries, Quality of Education, Rwanda, Ruhengeri Instutute, High Learning Education*

BACKGROUND OF THE STUDY

In today's learning environment, the academic library plays an important role in supporting the process of learning. Through offering access to diverse sources of information, the academic library promotes information literacy skills, creating an enabling learning environment for both personal and group-based learning activities. In the international context, the value of the academic library in enabling organizations achieve their missions and goals, such as success in learning, increased effectiveness of faculty members, and quality of education has recently gained increasing attention (Abdullayeva, 2024). According to the Association of College & Research Libraries (ACRL, 2018), a properly functioning library is highly correlated with better student retention rates, good academic achievement, and faculty research productivity.

In this era, as countries move towards knowledge-based economies, the quality of education plays an important role in ensuring sustainable growth and competitiveness. In such circumstances, academic libraries become instrumental in making available various sources that help students and researchers to succeed (Ullah & Usman, 2023). Various kinds of resources, such as textbooks, journals, e-sources, and institutional repositories, are among the main components of academic activities and research conducted at universities (Mutula, 2019). Moreover, academic libraries are instrumental in providing training for information skills necessary to find, evaluate, and utilize relevant information sources (Mishra et al., 2021). Although a considerable number of studies have emphasized the significance of academic libraries for the educational process, little attention has been paid to their role in educational institutions in many countries of the developing world. However, there is some evidence proving a positive impact of the academic libraries on academic success in some countries. Unfortunately, the same cannot be said about African countries like Rwanda (Evans, 2022; Soria, 2017).

In Rwanda, the government has come up with some reforms in higher education aimed at enhancing education accessibility and quality in the country. While these reforms have focused on ensuring that learners gain more access to learning facilities, there has not been much emphasis on developing better library and information literacy skills in students. According to researchers like Llewellyn (2019), lack of investment in terms of development of library skills and facilities is making it hard for learners to utilize the available resources. Other challenges include limited finances, lack of technological infrastructure and the need to address emerging user demands

(ACRL, 2023). Given the increasing prevalence of digital learning techniques among universities in the country, it has become critical for universities to adopt technologies and be able to cope with changing needs (Zhou & Lee, 2024).

Under these circumstances, the study sought to determine how academic libraries affect the improvement of educational standards. In this regard, the adequacy of its facilities, availability of its services and user satisfaction were among the issues assessed. It aimed to find out the connection between library utilization and academic success and research output in the institution. By finding out some of the challenges encountered and formulating appropriate recommendations based on factual analysis, the study intended to develop ideas that could be used in designing library services not only at INES-Ruhengeri but also throughout Rwanda's higher education institutions.

However, the higher education sector has undergone drastic change since the genocide witnessed in 1994 that caused a total collapse in all aspects of society including the economy and educational sector in Rwanda. In a realization that education is a means for reconstruction and growth, there have been numerous reforms focused on restructuring and enlarging the sector to enable accessibility and provision of quality higher education that meets the national socio-economic demands. In doing this, the government embarked on constructing new universities and also upgrading existing ones to be able to accommodate the increasing number of students while providing diversified subjects of study. In 2013, another major turning point in higher education was marked by the construction of University of Rwanda, which was established through merging some public universities with an intention of making management easier, improving the quality of education provided, and making higher education opportunities accessible (Ministry of education, 2020). The other private universities in Rwanda are INES-Ruhengeri, established in 2003, that provides education in various specializations, including science, technology, and business (Harerimana & Mtshali, 2018).

Academic libraries have been significant in contributing to institutional missions in this historical development. Traditionally, their roles were confined to being mere book depositories. However, in time, libraries have come to develop into learning and research centers. Currently, besides offering printed resources, they also promote literacy, foster research skills, and use technological innovations to facilitate the modern process of teaching and learning (Mutula, 2019). This change

can be associated with the development of libraries at some leading global institutions like Harvard University, the University of Oxford, and University College London. In these institutions, libraries have become technological hubs with electronic databases and other digital resources (Oakleaf, 2019).

International studies conducted in North America and Europe support the assertion that well-funded and technologically endowed libraries have a positive impact on student performance, retention, and faculty productivity (Evans, 2022). In accordance with this trend of international progress, Rwandan academic libraries, including INES-Ruhengeri library, are gradually embracing various technological means such as automation of records and cataloging and use of e-learning materials. This is not only consistent with national priorities but is also in sync with international best practices for improving the quality of higher education in Rwanda (Twiringiyimana & Chataway, 2021).

During the last two decades, the higher education system of Rwanda has experienced remarkable growth, with the contribution from both governmental and private educational institutions helping shape the socio-economic development of the nation. The expansion of the higher education system is directly connected to the development frameworks, including Vision 2050 and the NST1, which point out to the need for developing the knowledge-based economy through innovation, research and high-quality human capital (Ministry of Education Rwanda, 2020). In this regard, universities should provide global-standard education, which will be aimed at addressing the needs of the country in terms of development and advancement. INES-Ruhengeri, known for its specialization in applied sciences, is one of the most active participants in realizing this goal. Among the key resources in INES-Ruhengeri is the library, which provides students with textbooks, journal articles and electronic databases to aid the process of learning and research (INES-Ruhengeri Annual Report, 2023).

STATEMENT OF THE PROBLEM

Despite the importance of the strategic position held by the libraries, very few empirical studies have been conducted focusing on the impact of libraries on the performance of students in Rwanda (Uwamwezi, 2026). Empirical evidence gathered from other regions indicates that the effective usage of libraries is associated with the performance of students. For example, empirical evidence

collected from the US indicates that students who effectively use library materials end up achieving good grade point averages and also high retention levels (Ronald, 2025). Research conducted in Sub-Saharan Africa has also established that libraries offering digital platforms as well as information literacy increase student learning outcomes and research productivity of the faculty members (Mutula, 2020). Nevertheless, there are challenges facing libraries in Rwanda that inhibit them from performing optimally. Such challenges include lack of financial resources, unreliable internet connection, and inadequate digital infrastructure.

Education is one of the most celebrated drivers of national development in Rwanda. This has been evidenced by the critical involvement of academic libraries in promoting teaching, learning, and research processes within higher education institutions (MINEDUC, 2020). From the library annual report 2025, the library has made tremendous efforts in the provision of various information sources through offering printed materials, e-library services, and computer learning laboratories to facilitate the learning and teaching process in the institution. The intention behind these activities is to ensure that information becomes more accessible for purposes of facilitating research, fostering information literacy and enhancing the quality of education. Nevertheless, although the library has provided many academic services and resources, there have been challenges regarding the adequacy of those resources, accessibility, usage rates, and efficacy of the available resources (Uwamwezi & Michnik, 2026).

Despite the empirical studies conducted internationally showing that properly funded and well-managed libraries play an essential role in improving learning experiences, there is no sufficient research conducted in Rwanda, especially in the case of INES-Ruhengeri College, indicating this association. There has been no evaluation of the contribution of available library facilities to learning experiences in general (Library report, 2025). In the absence of such research, it becomes quite challenging to establish whether the library contributes to improving learning experiences. Hence, this study aims to conduct a research in order to understand the contribution of academic libraries to the quality of education in Rwanda taking into account the example of INES-Ruhengeri.

OBJECTIVES OF THE STUDY

General Objective

The primary aim of this study was to assess the role of academic libraries in enhancing education quality in Rwandan higher learning institutions, a case of INES-Ruhengeri.

Specific Objectives

The study was guided by the following specific objectives:

i. To assess the availability of library resources and services in supporting educational quality.
ii. To evaluate the accessibility of library resources and services in supporting educational quality.
iii. To analyze the relationship between use of library materials and academic performance of INES-Ruhengeri library users.

LITERATURE REVIEW

THEORETICAL REVIEW

This study is based on two theoretical frameworks that help comprehend the importance of academic libraries in higher education both from the perspectives of learning and strategy: Information Literacy Theory and the Resource-Based View. According to Information Literacy Theory, formulated by Christine Bruce and Alan Bundy, among other foundational researchers, people have to be capable of identifying their need for information and building competencies necessary for locating, evaluating, and using the information effectively. At present, information literacy is an indispensable skill because of the fast development of digital information space, issues related to misinformation, and the prevalence of technology-enhanced learning environments in higher education institutions. Academic libraries support this theory with information literacy classes, users' education, teaching research skills in the digital environment, and accessing scholarly resources (Association of College & Research Libraries, 2020; Smith & Niyonsenga, 2022; Mutula, 2020).

Sub-Saharan Africa and other contexts globally show that structured information literacy programs spearheaded by libraries are important for increasing students' academic performance, confidence, and problem-solving skills (Oakleaf, 2019; Mutula, 2020). As opposed to the mentioned educational approach, RBV introduced by Jay Barney and further elaborated in modern strategic management theories claims that companies develop sustainable competitive advantages by

utilizing valuable, rare, and organized resources (Grant, 2019; Barney, 2018). In academic settings, such strategic resources are represented by academic libraries with their collections of print and electronic materials, qualified personnel, institutional repositories, and technologies. If managed correctly, such resources will positively impact research efficiency, the quality of teaching provided in universities, and will increase the institutional standing and rankings (Smith & Niyonsenga, 2022; Association of College & Research Libraries, 2020). By linking Information Literacy Theory and RBV concepts, this study develops an appropriate theoretical framework which will allow exploring not only ways academic libraries facilitate the process of learning for students but also will help understand why such resources are considered to be strategically important.

EMPIRICAL REVIEW

Availability of Library Resources and Quality of Education

The availability of library resources has been widely recognized as a fundamental determinant of quality education in higher education institutions because it provides students and lecturers with the information necessary for teaching, learning, and research. Academic library resources include printed books, journals, electronic databases, institutional repositories, reference materials, theses, and multimedia resources that facilitate knowledge acquisition and innovation. Empirical evidence generally agrees that adequate and current library resources positively influence students' academic achievement and institutional educational quality. For example, Yusuf et al. (2022) found that Nigerian universities with adequate collections of print and electronic resources recorded better student academic performance and higher research productivity than institutions with limited collections.

Similarly, Mutshewa and Moyo (2023) established that well-resourced academic libraries in African universities enhanced independent learning, information literacy, and research competence among students. Supporting these findings, Aina and Mooko (2023) argued that libraries with updated collections significantly improve teaching effectiveness and curriculum delivery. However, some scholars present a contrasting perspective. Atiso and Boateng (2024) argued that merely increasing the volume of library collections does not necessarily improve educational quality unless the resources are current, relevant to academic programmes, and aligned

with users' information needs. Likewise, Ncube and Mutsvangwa (2021) observed that several universities possessed large collections that were underutilized because many materials were outdated or poorly matched to students' learning requirements. Comparing these findings reveals a general consensus that library resources are essential for educational quality, while the disagreement lies in whether quantity alone is sufficient to enhance learning outcomes. Critically, previous studies have largely concentrated on measuring the size of library collections rather than evaluating their relevance and adequacy from users' perspectives.

Further empirical evidence from Rwanda and other developing countries indicates that institutional investment in library resources continues to shape educational quality, although contextual differences remain evident. Uwiringiyimana and Nshimiyimana (2022) reported that Rwandan higher education institutions that invested in digital library resources experienced improvements in teaching effectiveness and students' access to scholarly information. Comparable findings were reported by Dadzie (2021) in Ghana, who found that universities with adequate electronic resources recorded greater student satisfaction and stronger research culture. Conversely, Ocholla and Bothma (2022) observed that many African universities continue to face shortages of current academic materials because of financial constraints, limiting their contribution to quality education. Although these studies provide important evidence, several gaps remain. Conceptually, most studies examined library resources generally without specifically linking their availability to quality education.

Methodologically, previous researchers predominantly employed descriptive survey designs and focused mainly on students while giving limited attention to academic staff. Contextually and geographically, empirical evidence on private higher learning institutions in Rwanda remains scarce, particularly at Ruhengeri Institute of Higher Education (RIHE). Consequently, the present study seeks to address these gaps by examining how the availability of library resources contributes to enhancing the quality of education at RIHE using evidence collected from both students and academic staff. This study is therefore expected to contribute context-specific evidence that can guide library resource development and educational policy within Rwandan higher education institutions.

Accessibility of Library Resources and Quality of Education

Accessibility of library resources is another critical factor influencing the quality of education because it determines the extent to which students and academic staff can conveniently locate, retrieve, and utilize information resources for learning, teaching, and research. Accessibility encompasses physical access to library facilities, availability of online catalogues, remote access to electronic databases, internet connectivity, opening hours, and services for users with diverse needs. Empirical studies generally agree that improved accessibility enhances learning outcomes and academic performance. For instance, Boateng et al. (2023) found that students in Ghanaian universities who had unrestricted access to digital libraries and electronic databases demonstrated higher levels of academic engagement and research productivity than those with limited access. Similarly, Thanuskodi (2021) reported that easy access to library resources significantly improved students' independent learning, critical thinking, and information-seeking behaviour in higher education institutions.

Issa and Dauda (2022) concluded that accessible library resources increase the frequency of library utilization, thereby strengthening teaching and learning processes. Nevertheless, some researchers challenge the assumption that accessibility alone guarantees educational quality. For example, Moyo and Ngulube (2023) argued that although universities have invested heavily in digital library systems, inadequate digital literacy and poor internet infrastructure continue to prevent many users from benefiting fully from available resources. Likewise, Iwhiwhu and Okorodudu (2021) observed that students often underutilize accessible library resources because of insufficient information literacy skills and limited awareness of available services. These contrasting findings suggest that accessibility should not merely be viewed as physical or technological availability but should also include users' capacity to effectively access and utilize information resources. From the researcher's perspective, educational quality is likely to improve only when accessibility is supported by adequate user training, reliable technological infrastructure, and continuous awareness programmes.

Further empirical evidence indicates that accessibility challenges remain prevalent in many developing countries despite considerable investment in academic libraries. In Rwanda, Uwiringiyimana and Nshimiyimana (2022) reported that the adoption of digital library platforms in higher education institutions expanded access to scholarly materials and supported blended learning, particularly following increased integration of educational technologies. Comparable

findings were reported by Chisita and Raju (2022), who found that improved internet connectivity and remote access services enhanced students' academic performance in several African universities. Conversely, Aina and Mooko (2023) observed that many institutions continue to experience inadequate ICT infrastructure, unstable internet services, and limited subscription to electronic databases, thereby restricting effective access to scholarly information.

These studies reveal both progress and persistent barriers in ensuring equitable access to library resources. However, important research gaps remain. Conceptually, previous studies have frequently examined accessibility as an element of library service delivery without directly relating it to quality education. Methodologically, most studies relied primarily on quantitative surveys and focused predominantly on students while excluding academic staff who are equally important library users. Contextually and geographically, empirical evidence regarding accessibility of library resources in private higher learning institutions in Rwanda, particularly Ruhengeri Institute of Higher Education (RIHE), remains limited. Therefore, the present study seeks to bridge these gaps by examining how accessibility of library resources influences the quality of education at RIHE, thereby providing empirical evidence that can support institutional decision-making and improve library accessibility strategies.

Effectiveness of Library Services and Quality of Education

The effectiveness of library services plays a significant role in enhancing the quality of education by ensuring that library users receive adequate support in accessing, evaluating, and utilizing information resources. Effective library services include reference and information services, user education programmes, information literacy training, circulation services, current awareness services, digital reference services, and professional assistance provided by qualified librarians. Empirical studies consistently demonstrate that effective library services improve students' learning experiences and academic success. For instance, Ahmed and Nwalo (2022) found that universities providing responsive reference services, user orientation programmes, and information literacy training recorded higher student satisfaction and better academic performance than institutions with limited service provision. Similarly, Rafiq et al. (2023) established that proactive library services enhanced students' research skills, critical thinking abilities, and overall educational outcomes.

In agreement, Aina and Mooko (2023) argued that effective library services strengthen collaboration between librarians, lecturers, and students, thereby improving teaching quality and research productivity. However, some researchers present differing viewpoints. For example, Mutshewa and Moyo (2023) argued that the effectiveness of library services depends not only on librarians' competencies but also on institutional support, technological infrastructure, and users' willingness to utilize available services. Likewise, Oke and Adebayo (2021) observed that some universities offer comprehensive library services that remain underutilized because students lack awareness of the services or perceive libraries as spaces intended only for borrowing books. These differing findings indicate that effective service delivery alone may not improve educational quality unless accompanied by active user engagement and institutional commitment. From the researcher's perspective, the effectiveness of library services should therefore be evaluated not only by the range of services provided but also by users' satisfaction, awareness, and actual utilization.

Additional empirical evidence suggests that higher education institutions increasingly recognize library services as strategic contributors to educational quality through technology-enhanced learning and user-centred service delivery. In Rwanda, Uwiringiyimana and Nshimiyimana (2022) found that academic libraries introducing digital reference services, online user support, and information literacy programmes experienced improvements in students' research competencies and teaching effectiveness. Similar findings were reported by Chisita and Raju (2022), who observed that African universities investing in professional development for librarians and digital service delivery achieved higher levels of user satisfaction and educational effectiveness. Nevertheless, Dadzie (2021) argued that inadequate staffing, insufficient professional training, and limited financial resources continue to undermine the effectiveness of library services in many higher education institutions.

Although these studies provide valuable evidence, important gaps remain. Conceptually, previous research has often examined library services independently without comprehensively linking service effectiveness to educational quality. Methodologically, most studies have emphasized descriptive assessments of user satisfaction while giving limited attention to the broader educational outcomes associated with effective library services. Contextually, very few studies have focused on private higher learning institutions in Rwanda, and no known empirical study has

specifically examined the effectiveness of library services at Ruhengeri Institute of Higher Education (RIHE). Consequently, the present study seeks to fill these conceptual, methodological, contextual, and geographical gaps by investigating how the effectiveness of library services contributes to enhancing the quality of education at RIHE. The findings are expected to provide evidence that supports continuous improvement of academic library services in Rwandan higher education institutions.

CONCEPTUAL FRAMEWORK

Conceptual framework for this study depicted the association between the independent variable and the dependent variable, which enabled accomplishment of research objectives set out earlier.

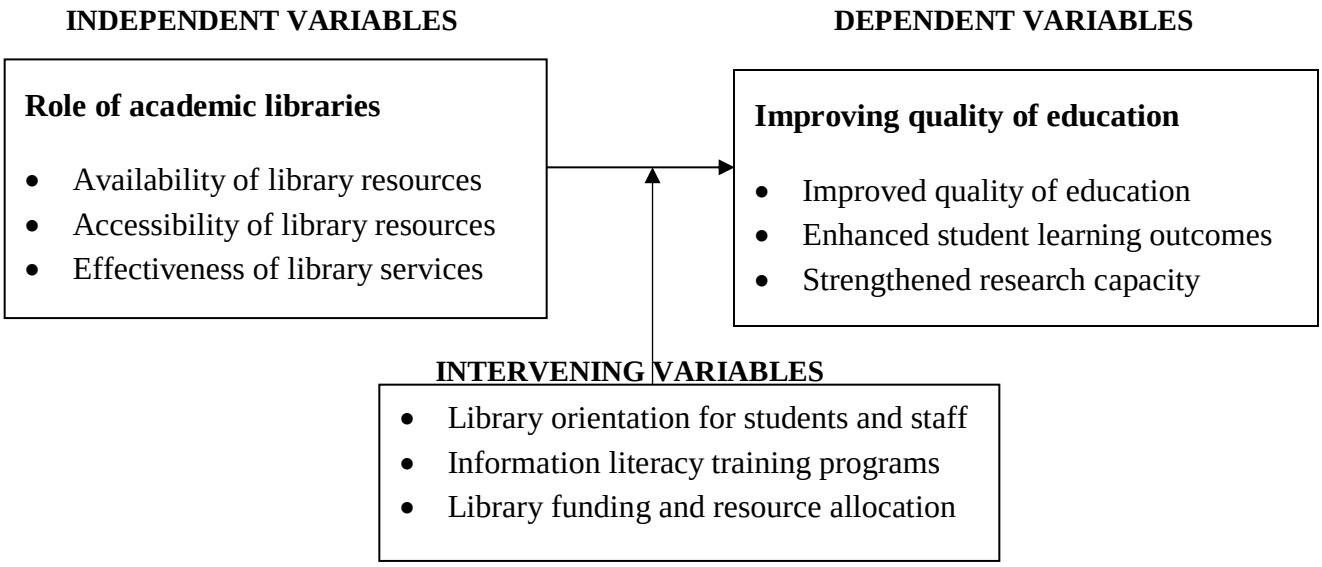


Figure 1:Conceptual Framework

RESEARCH METHODOLOGY

The study was conducted at INES-Ruhengeri located in Musanze District, Rwanda. The target population comprised 300 respondents, including final-year students, teaching staff, and librarians. Using Slovin's formula, a quantitative sample size of 171 respondents was determined. The quantitative participants consisted of final-year students and lecturers who were selected through stratified random sampling to ensure adequate representation of different categories of library users. In addition to the quantitative respondents, a qualitative component was included involving 4 librarians who were purposively selected as key informants because of their professional

knowledge and direct involvement in managing library resources and delivering library services. The inclusion of librarians provided deeper insights into library operations, challenges, resource management, and strategies for improving academic library contributions to quality education.

Data were collected using structured questionnaires administered to the 171 quantitative respondents and semi-structured interviews conducted with the 4 librarians. Additional information was obtained through observation and document review to complement data collected from respondents. The use of both quantitative and qualitative approaches enabled the researcher to obtain statistical evidence from library users while also capturing detailed explanations from library personnel regarding the availability, accessibility, and effectiveness of library services.

The research instruments were subjected to validity assessment through expert review to determine their relevance, clarity, and suitability for addressing the study objectives. Reliability of the questionnaire was tested using Cronbach's Alpha coefficient to establish the internal consistency of measurement items and ensure the credibility of quantitative findings.

RESEARCH FINDINGS AND DISCUSSION

This section presents, analyzes, and discusses the findings on the role of the academic library in enhancing the quality of education at INES-Ruhengeri. The findings are presented according to the study objectives, namely: (i) availability of library resources, (ii) accessibility of library resources, and (iii) effectiveness of library services in enhancing quality education. Data from 171 respondents were analyzed using descriptive statistics (frequencies and percentages) and inferential statistics (Chi-square tests) to determine the statistical significance of the observed relationships. Only the major findings are presented to provide a concise and coherent presentation suitable for publication.

Summary of Major Findings

The study achieved a 100% response rate (Table 2), with all the 171 questionnaires distributed to respondents successfully completed and returned. This excellent response rate enhanced the credibility and representativeness of the findings and provided a reliable basis for subsequent statistical analysis.

Table 1. Respondent Characteristics and Library Utilization

Indicator	Finding
Response rate	100%
Library visits	Weekly (42.1%)
Time spent	2–5 hours/week (42.1%)
Purpose	Studying (55.6%); Research (35.1%)

The findings indicate that respondents were active users of the academic library. The majority visited the library weekly (42.1%) and spent between two and five hours per week utilizing library resources. Furthermore, studying (55.6%) and research (35.1%) were identified as the primary reasons for library use, demonstrating that the library remains a central academic facility supporting teaching, learning, and scholarly research.

Table 2: Availability of Library Resources

Indicator	Finding
Good/Excellent resources	64.4%
Partially sufficient	49.7%
Insufficient	14.6%
Chi-square	χ^2=38.68, p<0.0001

The first objective sought to determine the influence of the availability of library resources on the quality of education. The findings reveal that nearly two-thirds (64.4%) of respondents rated the availability of library resources as either good or excellent, indicating that INES-Ruhengeri has invested substantially in providing learning materials that support academic programmes. However, almost half of the respondents (49.7%) reported that the available resources were only partially sufficient to meet their academic and research needs, while 14.6% considered them insufficient. The Chi-square test ($\chi^2 = 38.68$, $p < 0.0001$) confirmed statistically significant differences in respondents' perceptions of library resources. These findings suggest that although library collections adequately support learning, continuous acquisition of current textbooks,

scholarly journals, and electronic resources is necessary to satisfy the increasing information needs of students and lecturers.

The quantitative findings are supported by the qualitative data obtained from interviews with librarians and academic staff. Participants generally agreed that the library possesses a reasonable collection of textbooks and reference materials that support teaching and learning. However, several interviewees emphasized that subscriptions to current electronic journals and discipline-specific databases remain inadequate, particularly for postgraduate research. One librarian stated, "Although our print collection is fairly adequate, we still need more subscriptions to international databases to support advanced research." These qualitative findings reinforce the quantitative results, which showed that while most respondents rated library resources as good, nearly half considered them only partially sufficient.

Table 3. Accessibility of Library Resources

Indicator	Finding
Physical books	46.8%
Online databases	23.4%
E-books	14.6%
Staff guidance sometimes	46.8%
Challenges	Limited books, digital resources, poor internet

The second objective examined the accessibility of library resources. The findings indicate that physical books remained the principal source of academic information (46.8%), although respondents increasingly relied on online databases (23.4%) and e-books (14.6%). Despite this positive trend, accessibility challenges were reported. Nearly half of the respondents (46.8%) indicated that they only sometimes received adequate guidance from library staff, while inadequate digital resources, unstable internet connectivity, and limited access to current books and journals were identified as the principal barriers affecting effective utilization of library resources. These findings imply that improving ICT infrastructure, expanding electronic collections, and strengthening user support services would significantly improve accessibility and maximize library utilization.

Interview participants explained that although the library is physically accessible, students often experience difficulties accessing some electronic resources because of slow internet connectivity and limited awareness of available databases. Academic staff also indicated that user orientation programmes should be strengthened to improve effective utilization of library services. These views explain the quantitative findings showing that many respondents only sometimes received adequate assistance from library staff.

Table 4. Effectiveness of Library Services

Indicator	Finding
Improved academic performance	73.1% Agree/Strongly Agree
Chi-square	χ^2=92.49, p<0.0001
Research skills	Majority improved
Online resources	Highly useful

The third objective investigated the effectiveness of library services in enhancing the quality of education. The findings demonstrate that library services made a substantial contribution to students' academic success. More than seven out of ten respondents (73.1%) agreed that library services had improved their academic performance. The corresponding Chi-square test ($\chi^2 = 92.49$, $p < 0.0001$) confirmed that this relationship was statistically significant. Respondents further acknowledged that library services enhanced their research skills, facilitated academic writing, improved access to scholarly information, and enriched their overall learning experience. Similarly, online library resources were rated as highly useful for supporting coursework and research activities, reflecting the growing importance of digital library services in higher education.

The qualitative findings further demonstrated that respondents perceived librarians as supportive and knowledgeable. Students indicated that information literacy training, research support, and reference services had significantly improved their academic work. However, librarians noted that staff shortages and financial limitations sometimes affected the timely delivery of services. These findings complement the quantitative results showing high levels of satisfaction with library services and significant improvements in academic performance.

DISCUSSION OF FINDINGS

The findings of this study demonstrate that academic libraries play a significant role in enhancing the quality of education through the availability of library resources, accessibility of information resources, and the effectiveness of library services. Quantitative findings revealed that respondents generally perceived library resources as available and useful for supporting teaching, learning, and research, although many indicated that the available resources were only partially sufficient. Similarly, respondents acknowledged that library services significantly improved their academic performance and research skills, while qualitative findings reinforced that library resources, professional librarian support, and information literacy programmes enhanced independent learning and research competence. These findings are consistent with those of Yusuf et al. (2022), Mutshewa and Moyo (2023), and Aina and Mooko (2023), who reported that well-resourced academic libraries contribute positively to students' academic achievement, research productivity, and institutional educational quality. However, the findings also support the observations of Atiso and Boateng (2024), who argued that the availability of resources alone is insufficient unless they are current, relevant, and easily accessible to users.

Challenges identified by participants, including limited electronic resources, inadequate internet connectivity, and insufficient user support, similarly agree with the findings of Chisita and Raju (2022), who emphasized that technological infrastructure and digital access remain major determinants of effective library utilization in African higher education institutions. These findings are further explained by the Information Literacy Theory, which posits that educational success depends not only on access to information but also on learners' ability to identify, access, evaluate, and effectively utilize information resources. The positive influence of library orientation, librarian assistance, and information literacy training observed in this study therefore supports the theory's proposition that information literacy competencies are fundamental to improving learning outcomes and educational quality.

The findings also align with the Resource-Based View (RBV), which considers organizational resources and capabilities as strategic assets that create value and enhance institutional performance. From the RBV perspective, academic library resources, digital information systems, qualified librarians, and effective library services constitute valuable institutional resources that strengthen teaching, research, innovation, and overall educational quality. The significant

relationships observed between effective library services and academic performance, together with respondents' high levels of satisfaction, suggest that academic libraries represent a strategic capability that contributes to institutional competitiveness and academic excellence. These findings are consistent with Dadzie (2021) and Ahmed and Nwalo (2022), who concluded that institutions investing in quality library resources, modern technologies, and professional library services achieve better educational outcomes than those with inadequate library support. Nevertheless, the study identified continuing challenges related to resource adequacy, digital infrastructure, and internet connectivity, indicating that the strategic value of academic libraries can only be fully realized through continuous investment in current print and electronic collections, ICT infrastructure, information literacy programmes, and professional staff development.

CONCLUSION

The study concludes that academic libraries play a significant role in enhancing the quality of education at INES-Ruhengeri through supporting teaching, learning, and research activities. The availability of library resources, accessibility of information materials, and effectiveness of library services positively contribute to students' academic performance, research skills, and learning experiences. However, challenges such as inadequate digital resources, limited access to current materials, poor internet connectivity, and insufficient study facilities continue to affect effective library utilization. Therefore, continuous improvement and investment in library resources, technology, and user support services are necessary to maximize the contribution of academic libraries to quality education.

RECOMMENDATIONS

i. Improve library resources: Increase acquisition of updated textbooks, journals, e-books, and electronic databases.
ii. Strengthen digital library services: Expand access to online databases and improve digital platforms for remote access to learning materials.
iii. Improve ICT infrastructure: Enhance internet connectivity and provide adequate computer facilities to support digital learning.
iv. Strengthen information literacy training: Organize regular library orientation, research skills training, and user education programmes.

v. Enhance library services: Increase professional support from librarians and improve reference and research assistance services.

vi. Increase study facilities: Provide adequate reading spaces and improve the learning environment within the library.

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