

Relationship Between Information Literacy Programs and Research Competency: The Mediating Role of Information-Seeking Skills

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Abstract

The relationship between Information Literacy Programs (ILPs) and research competency among undergraduate students in selected private higher education institutions in Metro Manila. It specifically investigated the extent of ILP implementation, assessed students' information-seeking skills and research competence, and examined whether these skills mediate the relationship between ILPs and research performance. A descriptive-correlational research design was employed, involving 384 respondents selected through appropriate sampling procedures. Data were gathered using a validated researcher-developed questionnaire grounded in established information behavior and literacy frameworks. Descriptive statistics, correlation analysis, and mediation analysis were utilized. Findings revealed that ILPs are generally well implemented with respect to content, delivery methods, frequency, and student participation. Students demonstrated satisfactory research competency, particularly in evaluating sources and producing organized academic outputs, although information synthesis obtained comparatively lower ratings. Information-seeking skills were rated positively, with ethical integration of information receiving the highest assessment and selection of appropriate tools obtaining the lowest. Statistical results indicated a significant positive relationship between ILPs and research competency. Moreover, information-seeking skills significantly mediated this relationship, suggesting that ILPs enhance research performance both directly and indirectly by strengthening search and evaluation behaviors. The study underscores the importance of structured implementation, faculty–librarian collaboration, and sustained institutional support in developing research-ready students.

Keywords: Information Literacy Programs, Research Competency, Information-Seeking Skills, Higher Education, Educational Management

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Introduction

Research competence has become a defining expectation of higher education institutions, particularly in academic environments that emphasize inquiry, evidence-based learning, and scholarly productivity. In the Philippine context, undergraduate students are required to complete research-oriented tasks such as term papers, feasibility studies, and capstone projects. These academic requirements demand not only subject knowledge but also the ability to locate relevant information, evaluate credibility, synthesize diverse perspectives, and apply ethical standards consistently. While digital access to journals, databases, and online repositories has significantly expanded, access alone does not ensure meaningful research competence. Students may retrieve large amounts of information, yet still struggle with evaluation, synthesis, and appropriate integration.

Information Literacy Programs (ILPs) have emerged as institutional responses to these challenges. These programs aim to provide structured instruction on identifying information needs, selecting appropriate tools, evaluating sources, organizing data, and practicing ethical scholarship. However, the effectiveness of ILPs depends not merely on their existence but on how they are implemented, integrated into the curriculum, and reinforced across academic experiences.

Empirical studies in the Philippine setting reveal that information literacy levels among college students remain moderate despite exposure to instructional sessions. Bautista (2021) reported that students were generally capable of retrieving basic information but experienced difficulty critically evaluating online sources and distinguishing scholarly materials from non-academic content. Similarly, Mendoza and Cruz (2022) found that students frequently relied on general search engines rather than specialized academic databases and exhibited inconsistent use of advanced search techniques and citation accuracy.

Beyond the local context, Head (2016) observed that students often adopt convenience-driven strategies when conducting research, prioritizing speed over systematic evaluation. Julien and Genuis (2022) further emphasized that the success of information literacy initiatives is closely linked to institutional alignment, administrative support, and faculty–librarian collaboration. Although these studies affirm the value of ILPs, limited research has examined how such programs translate into measurable research competence. In particular, the mediating role of information-seeking skills remains underexplored. This study addresses this gap by examining the relationship between ILPs and research competency, with particular attention to the mediating role of information-seeking skills among undergraduate students at private higher education institutions in Metro Manila.

Objectives of the Study

This study aimed to:

1. Determine the extent of implementation of Information Literacy Programs in HEI in terms of:
1.1 Content

- 1.2 Delivery methods
- 1.3 Frequency
- 1.4 Student participation

2. Current level of research competency of those who have participated in Information literacy programs, as measured by their ability to.
 - 2.1 Formulate research questions
 - 2.2 Evaluate Sources
 - 2.3 Synthesize information
 - 2.4 Produce academic outputs

3. To examine the relationship between Information Literacy Programs and research competency, specifically in relation to the following:
 - 3.1 Identifying information needs
 - 3.2 Selecting appropriate tools and resources
 - 3.3 Critically evaluating information
 - 3.4 Ethical Use of Information

4. Determine whether information-seeking skills mediate the relationship between ILPs and research competency.

5. Examine the Information-Seeking Skills significantly mediate the relationship between the implementation of Information Literacy programs and research competency

Methodology

This study employed a quantitative, correlational research design with mediation to examine the relationships among Information Literacy Programs (ILPs), Information-Seeking Skills, and Research Competency. A quantitative approach was appropriate for objectively measuring the variables and analyzing patterns of association using statistical procedures. The correlational design enabled the researcher to assess the extent to which participation in ILPs was associated with respondents' research competence.

Mediation analysis was performed to determine whether Information-Seeking Skills serve as an intervening variable in the relationship between Information Literacy Programs (ILPs) and Research Competency. Participation in ILPs is expected to improve respondents' information-seeking abilities, thereby enhancing research competence. This analytical approach offers insight into both direct and indirect pathways, providing a comprehensive understanding of how instructional programs impact research outcomes. Research designs of this nature are commonly applied in educational studies to examine complex relationships among instructional interventions, learner skills, and academic performance

Population and Sample Techniques. The study population comprised undergraduate students enrolled in selected private Higher Education Institutions (HEIs) in Metro Manila during the first semester of the 2025–2026 academic year. Students included in the study represented various academic programs and year levels, thereby enabling examination of differences in research competence and information-seeking skills. From a total undergraduate population of 19,028 students, the minimum recommended sample size was 384 respondents. To account for potential nonresponse or incomplete questionnaires, the researcher initially targeted 400 participants. After data collection, 384 valid responses were obtained and included in the analysis, which was sufficient for conducting correlational and mediation analyses, in line with the guidelines of Creswell and Creswell (2018).

A stratified random sampling technique was employed to ensure that respondents were proportionally represented across year levels and academic programs. The population was stratified by program and year level, and random sampling was conducted within each stratum to select participants. To describe the demographic profile of respondents, both the number of respondents (n) and the percentage (%) were reported. The number (n) indicates the actual count in each category, while the percentage (%) shows the proportion relative to the total number of respondents. This approach provides a clear and accurate representation of the study population.

Research Instrument. A researcher-made survey questionnaire was used as the primary instrument to collect data on Information Literacy Programs (ILPs), Information-Seeking Skills, and Research Competency among undergraduate respondents. The questionnaire was developed based on established theories in information literacy and information behavior, specifically Wilson's Revised Model of Information Behavior, the Big6 Information Skills Model, and Constructivist Learning Theory. Each item was carefully aligned with the study's Statement of the Problem to ensure that it addressed the specific research objectives.

The instrument consisted of three parts. The first part collected demographic information, including age, gender, year level, and academic program. The second part focused on the study's main variables. Information Literacy Programs (ILPs) were evaluated using indicators of program content, delivery methods, frequency, and student participation or engagement. Information-Seeking Skills were assessed based on respondents' ability to identify information needs, choose appropriate tools and resources, critically evaluate sources, and use information ethically. Research Competency was measured through indicators such as formulating research questions, conducting literature reviews and synthesizing information, organizing ideas, and producing academic research outputs. The third part of the questionnaire was developed on theoretical foundations to align with established models of information literacy and information behavior.

All questionnaire items were measured using a five-point Likert scale, ranging from Strongly Agree to Strongly Disagree, to allow the systematic quantification of respondents' perceptions, attitudes, and self-reported behaviors. The weighted mean was employed to summarize the responses for each item. To ensure

consistency and clarity in interpretation, the following scale ranges were adopted: mean scores of 5.00–4.21 were interpreted as Strongly Agree, indicating a very high level of agreement; 4.20–3.41 as Agree, reflecting a high level of agreement; 3.40–2.61 as Neutral, suggesting neither agreement nor disagreement; 2.60–1.81 as Disagree, denoting a low level of agreement; and 1.80–1.00 as Strongly Disagree, representing a very low level of agreement. These descriptive interpretations guided the analysis and discussion of the findings.

In data analysis, the weighted mean was used to determine levels of implementation, competency, and skills. Correlation analysis was employed to determine relationships among variables. Mediation analysis was conducted to examine the role of information-seeking skills in the relationship between ILPs and research competency. Ethical clearance was secured prior to data collection, and informed consent was obtained from all participants.

Results and Discussion

1. Determine the extent of implementation of Information Literacy Programs in HEI

The level of implementation of Information Literacy Programs in the selected Private Higher Education Institutions in Metro Manila, in terms of content (mean = 4.06), delivery methods (mean = 4.04), frequency (mean = 4.11), and student participation (mean = 4.06), was verbally interpreted as Agree. This indicates that the programs are generally well implemented and supported through organized planning, structured delivery, regular scheduling, and active student involvement. Among the indicators, delivery methods received the lowest mean, suggesting that although instructional approaches are effective, there is a need to further strengthen interactive and student-centered strategies. Ongoing faculty–librarian collaboration, instructional improvement, and regular program evaluation are recommended to enhance delivery methods and sustain the overall effectiveness of the Information Literacy Programs (ILPs).

2. Current level of research competency of those who have participated in Information literacy programs

The respondents' research competency, reflected in their ability to formulate research questions (mean = 3.93), evaluate sources (mean = 4.02), synthesize information (mean = 3.88), and produce academic outputs (mean = 4.00), was verbally interpreted as Agree. These results indicate that respondents demonstrate satisfactory research skills necessary for completing academic requirements. Among the indicators, synthesizing information recorded the lowest mean, suggesting that students may face challenges in integrating ideas from multiple sources into a cohesive academic discussion. These findings emphasize the need for ongoing support through structured research activities, guided writing tasks, and opportunities

to practice combining and interpreting information from various sources. Strengthening these areas can help respondents improve coherence, depth, and analytical quality in their research outputs.

3. To examine the relationship between Information Literacy Programs and research competency

The respondents demonstrated effective information-seeking skills, with mean scores of 3.97 for identifying information needs, 4.11 for evaluating information, 4.23 for ethical integration of information, and 3.95 for selecting appropriate tools and resources; all were verbally interpreted as Agree. The highest level of agreement was noted in the ethical integration of information, highlighting strong awareness of proper citation, responsible use of sources, and adherence to academic integrity. The lowest mean was observed in selecting appropriate tools and resources, suggesting that while respondents are generally capable of accessing information, there are instances in which the choice of databases, search tools, or materials may not be optimal. This indicates that respondents possess Functional and developing information-seeking skills. Continued practice in source selection, guided evaluation activities, and repeated application of ethical information use can help strengthen these competencies and lead to more rigorous and reliable research outcomes.

4. Determine whether information-seeking skills mediate the relationship between ILPs and research competency

Correlation analysis revealed a significant positive relationship between Information Literacy Programs and research competency. This indicates that stronger implementation of ILPs is associated with higher research competence among students.

5. Information-Seeking Skills significantly mediate the relationship between the implementation of Information Literacy programs and research competency

Mediation analysis demonstrated that information-seeking skills significantly mediate the relationship between ILPs and research competency. This suggests that ILPs enhance research performance both directly and indirectly by strengthening students' information-seeking behaviors.

Conclusion

Based on the findings, the following conclusions were drawn:

1. Information Literacy Programs in the selected higher education institutions are generally well implemented and supported at the institutional level, as reflected in consistent planning, organized

- delivery, and regular evaluation of program activities, thereby enhancing students' information literacy, critical thinking, and research competencies.
2. Respondents who participated in structured Information Literacy Programs demonstrated satisfactory research competency, indicating that ILPs contribute positively to the development of key research skills needed in higher education.
 3. Information-seeking skills play a vital cognitive and behavioral role in students' research development. These skills allow students to translate information literacy instruction into practical research activities, including effective searching, critical evaluation, synthesis of information, and ethical use of sources.
 4. The significant relationship between Information Literacy Programs and research competency confirms that information literacy instruction is an important factor in enhancing students' research preparedness and academic performance.
 5. The mediating role of information-seeking skills shows that Information Literacy Programs improve research competency not only through direct instruction but also by strengthening students' ability to apply information-seeking strategies during actual research tasks.

Recommendations

This study makes the following recommendations based on the findings and conclusions:

1. Institutional leaders and educational managers should provide strong and sustained support for Information Literacy Programs (ILPs) by establishing clear policies, integrating these programs into the curriculum, and ensuring access to adequate library and digital resources. Regular assessment and monitoring of program implementation are essential to ensure that ILPs remain responsive to students' needs and maintain high-quality standards, in line with CHED policies and accreditation guidelines. Invest in digital library resources, academic databases, and learning technologies that support advanced information-seeking and research activities.
2. Faculty and librarians are encouraged to work collaboratively in designing ILP activities that are engaging and interactive, promoting active student participation and practical application of research skills. They should also guide students in developing competencies such as evaluating sources, synthesizing information, and using information ethically, particularly in areas where students require additional support.
3. Curriculum planning should include structured research tasks and activities related to ILPs across different courses, allowing students to apply their information-seeking skills consistently. Assignments should encourage analysis, synthesis, and responsible use of information, reinforcing the practical skills taught through ILPs.

4. Students, on their part, should actively engage in ILP activities and apply the strategies they learn in academic tasks and research projects. They should also seek guidance from faculty and librarians to strengthen weaker areas, such as evaluating sources or applying research methods effectively.
5. For future research, it is recommended to conduct longitudinal studies to investigate the long-term impact of ILPs on research competency and academic performance. Researchers should also examine additional factors that may affect program effectiveness, including digital literacy, learning preferences, self-efficacy, and the use of emerging research tools.

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