ASSESSMENT OF LIBRARY SERVICE QUALITY AND QUALITY INFORMATION LITERACY SESSIONS: IMPLICATION ON STUDENT'S ENGAGEMENT

Laurinz B. Paway[1] and Melody R. Agcito[2]

[1] Deped - Esperanza, Agusan del Sur, Philippines
[2] Lourdes College, Cagayan de Oro City, Philippines

ABSTRACT

Library services and information literacy sessions play a crucial role in student engagement. This study aimed to investigate the students' assessment of library service quality and information literacy sessions and their engagement in the library. This study used the descriptive-correlational research design and analyzed the gathered data using descriptive and inferential statistics. The participants were five hundred six (506) third year and fourth year students in higher education institution in Bayugan City, Agusan del, and the Caraga region. Modified survey questionnaire served as the instrument to collect data for this research. Findings reveal that the participants' assessment of the library services in terms of resources, responsiveness, demeanor, and tangibles, are generally high. The participants' assessment of the quality of information literacy sessions is also generally high as well as their engagement in terms of affective, cognitive, and behavioral dimensions. The study confirms that participants who have a higher assessment of library services and the quality of information literacy sessions also tend to engage more highly in library services. More satisfied patrons of libraries are more likely to continue using them. It is recommended that libraries prioritize efforts to diversify their book collections to better reflect the varied interests and academic needs of users, and library staff receive training and professional development opportunities to enhance their skills in customer service, information literacy instruction, and collection development.

Keywords: Service Quality, Quality Information Literacy Sessions, Students Engagement

INTRODUCTION

The principle in higher education emphasizes the importance of excellent library services in enhancing the learning environment and fostering customer loyalty (Quaye et al., 2019). Substantial scholarly literature has diligently explored the intricate interplay between these aspects (Feng, 2018). However, within the expansive body of academic research, an evident surface concerning the locale of the study remained relatively underrepresented in the scholarly discourse despite the wealth of international research.

According to Soltani and Nikou (2020), library service quality and information literacy sessions are crucial to student engagement and academic achievement (Sparks et al., 2019). Information literacy, the discrete abilities required to find, assess, use, and share information, is particularly important for students, especially those studying in foreign countries. These students often face challenges in finding and using library services due to language and cultural barriers. Information literacy sessions aim to equip students with the skills to efficiently find relevant and authoritative information for academic purposes. However, measuring the impact of these sessions on student research behavior and achievement is complex and often overlooked. Despite this, studies have shown a significant improvement in the scholarly nature of references in student assignments following such interventions (Sparks et al., 2019). To support students' academic success and improve their learning experiences, it is imperative that these issues be resolved quickly. Finding workable solutions that can significantly impact students' education is the goal of this study.

Addressing challenges associated with library service quality and information literacy sessions is crucial for enhancing student engagement. International students, in particular, may need more information literacy skills, impacting their ability to find, assess, and utilize library services. Language and cultural barriers further compound these challenges, hindering adequate access and utilization of library resources. The methodology employed in information literacy instruction sessions can be demotivating for some students, leading to frustration and diminished performance.

Moreover, the lack of library involvement in service-learning courses, despite research assignments being a form of assessment, limits the effectiveness of information literacy sessions and negatively affects student engagement (Kennedy & Gruber, 2020). To mitigate these issues, Courses on research techniques and library services ought to be offered by academic libraries. tailored to students abroad, considering language and cultural barriers. Librarians must also adopt effective instructional methodologies to prevent information overload (Harrison et al., 2021). Taking care of these issues promptly is crucial for students' academic success and learning. By focusing on these challenges, the study can offer practical solutions to improve the overall educational experience for students. Ensign & Woods (2018).

In view of these challenges, this study aims to address several research gaps. Firstly, research is needed to understand students' perceptions of library services, barriers to their use, and the impact of information literacy skills on academic performance (Soltani

1198

& Nikou, 2020). Secondly, academic librarians play a crucial role in delivering effective information literacy instruction to showcase library services effectively. (Harrison et al., 2021). Lastly, many previous studies of service-learning courses need to address library involvement, even if research assignments are in a form of assessment (Kennedy & Gruber, 2020). By addressing these gaps, the study aims to enhance understanding of the role of library services and information literacy sessions towards student engagement. More research is needed to understand students' perceptions of library services, the challenges they face, and the impact of information literacy skills on academic performance, as it fills a significant gap in understanding these factors.

In a nutshell, the study aims to look into and investigate university students' information literacy skills, challenges, and needs. By doing so, the study seeks to provide valuable insights to help librarians and decision-makers at higher education institutions to efficiently and effectively craft information services that meet students' needs and expectations.

Theoretical Perspective

This study argues that the library service and quality of information literacy sessions provided to college students influence their library engagement. This argument is firmly rooted in the Service Quality Theory of Parasuraman et al. (1988). This theory believes that the quality of library services provided by libraries and educational institutions plays a vital role in shaping student participation levels. It integrates various theoretical perspectives to provide a comprehensive understanding of the intricate relationships among the variables in this research. The service quality theory (Parasuraman et al., 1988) offers a practical theoretical framework for understanding the relationship between service quality, user satisfaction, and customer loyalty. The information literacy sessions that are provided, which aim to enhance students' navigation and utilization skills, have a direct impact on students' engagement with library services, as our study has demonstrated. It highlights how important it is to have resources available, but it is also important to make sure they are delivered and supported according to Service Quality Theory. This viewpoint makes it possible for the study to show the connections between user satisfaction, service quality, and the growth of enduring relationships between students and the library.

In particular, the quality of library services is measured based on the five dimensions identified by Parasuraman et al. (1988). These dimensions are resources, responsiveness, demeanor, and tangibles.

In the context of this study, resources describe the technologies and materials available and accessible within a particular library. This dimension is crucial because it directly influences users' ability to find, locate, and access the resources they need for their academic or research needs. A library with various books, digital resources, databases, and modern technology can enhance user satisfaction and improve the overall perception of service quality, thereby reducing frustration among library users (Ajith, 2022).

1199

Responsiveness measures the library's ability to address user inquiries promptly. In an academic environment, timely assistance can significantly affect user satisfaction. Prompt responses to library queries, requests for assistance, or technical problems can make users feel valued, served, and respected. A responsive librarian fosters a positive atmosphere, demonstrating the library's commitment to meeting user needs and enhancing satisfaction. Abutayeh (2020) reckoned that library staff's willingness and promptness to assist users significantly improves their satisfaction.

Moreover, demeanor refers to the interpersonal aspects of the librarians- users' interactions, including friendliness, approachability, and professionalism. A courteous and respectful attitude from librarians can enhance the overall perception of service quality. Users are more likely to feel comfortable seeking assistance and interacting with librarians when greeted with a friendly demeanor. Positive interactions in the library can enhance the overall experience, fostering user loyalty and engagement. Hence, demeanor is crucial in determining the quality of service staff provide (Gamage et al., 2010).

Finally, tangibles encompass the physical aspects of the library environment, including its facilities, cleanliness, and overall appearance. The physical appearance of the library can significantly influence library user perceptions about its service quality. A well-maintained and modern library ambiance can create a lasting positive impression that makes users feel welcome. The availability of comfortable seating, recent and innovative library technologies, and pleasing, comfortable spaces can contribute to a more enjoyable and satisfactory library experience, ultimately influencing user loyalty. Physical attributes of the library, including its infrastructure and cleanliness, have been linked to user satisfaction in a study by Iqbal et al. (2021).

Another important variable assumed to have influenced the students' engagement in library services is the quality of information literacy sessions. Participants evaluate the quality of information literacy sessions based on various theoretical frameworks. The assessments are guided by the Information Literacy Instruction (ILI) Framework, developed by the Association of College & Research Libraries [ACRL] in 2015. The framework emphasizes instructional design, teaching methods, and learning outcomes. Also, participants highly value session content relevance, active engagement, and practical applicability, according to Merriam et al. (2019) and Adult Learning Theory.

Furthermore, according to the User Experience (UX) Theory (Maslov et al, 2021), essential components influencing participants' perceptions include satisfaction with the learning process and clarity of instruction. Ultimately, Quigley and Loftus (2020) emphasize in their Feedback and Assessment Framework the significance of ongoing feedback loops in the session design to enhance overall quality based on participants' engagement in the library.

Participants' emotional engagement with the library and their attitudes toward its environment are reflected in their affective engagement. It includes their feelings about the place, interests, and sense of belonging. The library's friendly atmosphere, the staff

1200

members' interactions with one another, and the physical environment's perceived safety and comfort all impact affective engagement. According to research by Fredricks, Blumenfeld, and Paris (2004), positive affective engagement increases satisfaction and motivation to use the library's resources and services by fostering a sense of ownership and investment in the institution.

Furthermore, cognitive engagement refers to library users' mental and active processes when interacting with library resources and services. It includes their critical thinking capacity, learning openness, and intellectual curiosity. Several factors impact cognitive engagement, including the clarity of the provided information, the usability and accessibility of library resources, and the availability of interactive and participatory learning experiences. According to Skinner et al. (2009), encouraging cognitive engagement in the library helps patrons gain deeper comprehension and knowledge, which results in more significant learning outcomes.

Moreover, participants' visible behaviors and interactions in the library are called behavioral engagement. It includes using the resources available to them, participating in library programs, and following the rules and guidelines of the library. The way library materials are arranged and made accessible, the efficiency of wayfinding and signage, and the provision of helpful services like technology support and reference help all impact how people behave. According to Kuh (2009), encouraging participants' active engagement and participation is indispensable because it fosters a sense of community and investment in the library, which raises overall engagement levels.

METHODOLOGY

This research study utilized a descriptive-correlation research design. Descriptive correlation is a research methodology that emphasizes collecting and analyzing numerical data to measure relationships, trends, and patterns that are systematically structured (Santalucia, 2022). This type of research is suitable for the research study because it aims to describe the participants' assessment of the library's quality of services as well as the quality of information literacy sessions towards their engagement. Moreover, the researcher employed random sampling for selecting the participants in this study.

The participants of this study were five hundred six (506) third-year and fourth-year undergraduate students of a higher educational institution located in Bayugan City, Agusan del Sur, Caraga Region who are actively using the library. Availability sampling method was used in this study, allowing the researcher to select participants from the undergraduate students who were randomly selected (Nikolopoulou, 2023).

A modified survey questionnaire served as the primary instrument to collect data for this research. This questionnaire, modified by the researcher, was validated to assess its internal consistency, (Canonizado, 2021) The questionnaire was crafted to align with the research objectives. It encompassed various sections in assessing library service quality, the quality of information literacy sessions, and user engagement in library service.

1201

The researcher distributed a survey questionnaire on the assessment of library service quality and quality information literacy sessions: implications on student's engagement to the participants administered physically. With the panel's recommendations during the research proposal, and with the Certificate approval from the Graduate School Research and Ethics Committee (REC), the researcher floated the questionnaires. Following a formal ethical procedure, a consent form was given to the participants, as well as a letter and the approval of the REC, to ensure that research ethics were adhered to throughout the research process.

In analyzing the data, Problems 1, 2, and 3 were organized descriptive statistics such as frequency, percentage, mean, and standard deviation were used to present the participant's assessment of the libraries of service in terms of resources, responsiveness, demeanor, and tangibles; participants' assessments of the quality of information literacy sessions; and participants' level of engagement in the library considering the following components: affective, cognitive, and behavioral. For Problem 4, regression was utilized to determine the participants' assessment of library service quality, and if the quality of information literacy sessions significantly influenced their level of engagement in library services.

RESULTS AND DISCUSSION

Table 1 presents the summary table of the quality of students' library services. Results revealed that the quality of the students' library services, regarding resources, responsiveness, demeanor, and tangibles, got high ratings. Among all indicators, resources got the highest mean of 4.13. This implies that students highly value the variety, accessibility, and relevance of resources available to them in the library. Garcia and Lee (2019) investigated the impact of library resources on student learning outcomes and concluded that access to comprehensive and up-to-date resources contributed significantly to students' academic success.

Table 1. Summary of Student's Library Services Quality

Library of Service	Overall Mean	Interpretation	SD
Resources	4.13	High	0.72
Responsiveness	4.08	High	0.79
Demeanor	4.10	High	0.84
Tangibles	4.04	High	0.87
Overall	**4.09**	**High**	**0.81**

On the other hand, even though tangibles received a high rating, they still obtained the lowest mean of 4.04. This suggests that while students perceive the physical aspects of the library positively, such as cleanliness and organization, there may still be room for improvement or specific areas that could be enhanced. A study by Hughes (2011) discovered that students generally value comfortable seating arrangements and study spaces in the library. However, noise levels or temperature control might influence their

1202

satisfaction with tangibles, which could impact their overall perception of the physical environment.

Table 2 shows the summary of the quality of information literacy sessions. Results show that the quality of information literacy sessions got a high rating. This denotes that students have appreciated the efforts of librarians in developing their skills and knowledge to effectively locate, evaluate, and ethically apply information in various academic and real-world contexts. A thorough information literacy training program is vital for providing individuals with the skills and information needed to successfully traverse the complicated information landscape of the digital age (Haider, 2022).

Table 2. Summary of the Quality of Information Literacy Sessions

	Overall Mean	Interpretation	SD
Quality of information literacy sessions	4.5	High	0.86

Moreover, this indicates that the participants thought the instructional strategies used were successful in helping them learn and understand the topic shared by the librarians. This could be attributed to the librarian's adeptness and competence in conducting information literacy sessions. This emphasizes how crucial instructor preparation and experience are in providing high-quality instruction during the information literacy sessions (Sulaiman et al., 2023). Additionally, this may mean that library users are generally satisfied with the clarity of information literacy sessions conducted by the librarians. This further means that librarians were able to clearly explain the session's goals to the participants. Hence, they know its objectives and expectations. Amerstorfer & Münster-Kistner (2021) contends that clear goals enhance the learning process efficacy by allowing participants to focus on desired outcomes.

Table 3 presents the summary table of participants' level of engagement in the library. Results revealed that the library's affective, cognitive, and behavioral engagement level got high ratings. Among all indicators, cognitive got the highest mean of 4.08. This suggests that people actively engage in activities that call for mental work and critical thought in a library. Shandu (2020) supported the idea that students' academic success, skill development, and confidence in learning are positively impacted by using library resources, including educational and online libraries, library instruction, and staff collaboration.

Table 3. Summary of Participants' Level of Engagement in the Library

Engagement in the library	Overall Mean	Interpretation	SD
Affective	4.01	High	0.87
Cognitive	4.08	High	0.89
Behavioral	4.01	High	0.82
Overall	**4.03**	**High**	**0.86**

Behavioral and affective engagement, on the other hand, had the lowest mean of 4.01 despite receiving high ratings. This implies that even though users actively engage with emotional and practical aspects of the library, there might be opportunities for improvement or specific areas that could be improved. Appleton (2020) discovered that participants frequently feel happy or satisfied while utilizing library resources or participating in library activities. Because individual preferences and experiences differ, affective engagement may still be rated lower than other indicators, even in the face of these positive experiences.

Table 4 below presents the regression analysis of the influence of assessment of library services and quality of information literacy sessions on engagement in library services. Results reveal literacy sessions significantly influence their level of engagement in library services. Library users are more likely to return if they perceive high-quality services and learn essential information locating and utilization skills during library sessions (Julien et al., 2005). Good information sessions, therefore, increase patron engagement with the library. Additionally, the research suggests that libraries may offer reasonable services and informative sessions to retain patrons who find value in their resources and acquire valuable skills. To keep students engaged, library staff may ensure to match what they learn and intend to learn. Having areas for group work and quiet study increases students' likelihood of using the library. Besides, fun workshops encourage students to participate in activities other than studying. These factors affect how much students use the library, as does their identity and whether or not they have access to technology. The study evaluates the implications of healthy information literacy sessions on students' library usage, concluding that higher-quality sessions lead to increased engagement with library resources and activities.

Table 4. Regression Analysis of the Influence of Assessment of Library Services and Quality of Information Literacy Session on Engagement in Library Services

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.236	.087		2.701	.007

Assessment of Library Services	.413	.049	.378	8.348	.000
Quality of Information Literacy Session	.520	.043	.547	12.099	.000

Model Summary

R = .904   R2 = .816   Adj R2 = .816   F = 1113.88**   p=.000

Conclusions

The quality of resources and services provided by the library, along with the librarians, were essential in fulfilling the academic needs of college students. Librarians understudy have effectively conducted information literacy sessions that enabled college students to empower learners. Apparently, the library services and information literacy sessions are essential as it influences the student's engagement with the library services. The findings of this study confirm the assertions of Parasuraman's et al. Service Quality Theory (1988) that library services and the quality of information literacy sessions affect the student's library services engagement. It can be inferred that college students who highly assessed the library's services and information literacy sessions have high library engagement.

Moreover, librarians can use the findings of this study as baseline data to further improve the quality of library services and its information literacy program. The data can also help enhance college students' learning experience by prioritizing ongoing assessment, professional development, collaboration, and technology integration to ensure robust and meaningful engagement with library services. Given this, librarians may ensure to prioritize professional development in information literacy, utilizing online courses, workshops, and peer learning activities to stay updated on the latest developments and best practices.

Recommendations

Based on the findings of the study, the following are the recommendation endorsed. First, school administrators may support the library in improving access to e-books and electronic resources through online platforms. Second, librarians may conduct regular assessments of user preferences and academic requirements that can inform collection development strategies. Third, librarians may incorporate interactive elements and provide additional resources that can further support participants' learning outcomes. Fourth, librarians may establish mechanisms for continuous assessment of user satisfaction and engagement levels. Fifth, future researchers may consider replicating this study and consider other variables that influence the student's library engagement.

Compliance with Ethical Standards

Before distributing the questionnaire to the selected school, permission was formally requested from the institution's vice president of academic affairs. It was administered physically, including consent from the participant and a data privacy statement with the provisions of RA 10173, "Data Privacy Act of 2012." It also included a short background of why the study was conducted in the school. It was then disseminated to third year and fourth-year students. Each of the questions was not biased and was continuously neutral. The researcher treated each participant respectfully, did not adopt an expert position, and was transparent to them. The participants' answers were automatically sent back to them to check their answers. It was treated with complete confidentiality before being checked, tallied, presented in tables, analyzed, and interpreted by the researcher. As the survey questionnaire states, the data will be retained for two years, only from 2024 to 2025. Unless the participant submits a written cancellation, personal data will be removed from the summary data and deleted or disposed after two years.

Recognizing the critical significance of ethics in research endeavors and the complexities inherent in conducting studies, universities are diligent in safeguarding the dignity and well-being of research participants (Silverman, 2009). Over the past few years, Lourdes College has introduced a Research Ethics Committee to ensure that ethical requirements are followed when conducting research. Therefore, this research was approved by the ethics committee. Additionally, no risks are associated with my participation in this survey questionnaire. The panelists also agreed to the proposal for the researcher's thrust and topic of interest. Following a formal ethical procedure such as a consent form and data privacy statement in full compliance with the provisions of RA 10173, the "Data Privacy Act of 2012" was given to the participants, as well as a letter to the parents and the approval of the REC was included to ensure that research ethics were adhered to during the entire research process.

REFERENCES

Abutayeh, N. (2020). Communication between staff and users in academic libraries: An assessment study. *Agathos: An International Review of the Humanities & Social Sciences, 11*(1), 145-159. https://www.academia.edu/download/65061928/CommunicationAgathosIS I.pdf academic engagement and student-teacher relationships in problem-based learning. *Frontiers in psychology*, 12, 713057.

Ajith, J. A. (2022). The Impact of School Library Services on Students' Academic Performance in the Technology Stream. http://ir.lib.ruh.ac.lk/xmlui/bitstream/handle/iruor/5728/32.pdf?sequence=1

Amerstorfer, C. M., & Freiin von Münster-Kistner, C. (2021). Student perceptions of

Appleton, L. (2020). Academic libraries and student engagement: A literature review. *New Review of Academic Librarianship, 26*(2-4), 189-213.

Canonizado, I. C. (2021). When to use total population sampling in a research study. https://discover.hubpages.com/education/When-to-use-total-population-sampling-in-aresearch-study. Economics (pp. 17-37). Brill. https://brill.com/downloadpdf/book/9789460911958/BP000003.pdf

Ensign, J., Mays Woods, A., & Kulinna, P. H. (2018). Entering the field of physical education: The journey of fifteen first-year teachers. *Research Quarterly for Exercise and Sport, 89*(1), 66-79.

Feng, W. (2018*). The Relationship between Institutional Climate and Student Engagement and Learning Outcomes in Ontario Community Colleges*. University of Toronto (Canada). https://search.proquest.com/openview/3e3777accc6b1254043ca22bce3f4 b3c/1?pq-

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of educational research, 74*(1), 59- 109.

Gamage, D. T., Suwanabroma, J., Ueyama, T., Hada, S., & Sekikawa, E. (2010). *Comparative*

Garcia, R., Araújo, V., Mascarini, S., Santos, E., Costa, A., 2020. How long-term university-industry collaboration shapes the academic productivity of research groups. Innov. Org. Manag.22 56–70

Haider, J., & Sundin, O. (2022). *Paradoxes of media and information literacy: The crisis of information*. Taylor & Francis.

Harrison, S. J.- A., & Deans, M.-J. O. (2021). An assessment of academic library services: international and domestic students perspectives. *Asian Association of Open Universities Journal. 16*(2). https://www.emerald.com/insight/content/doi/10.1108/AAOUJ-01-2021 0006/full/html

Hughes, H., Bland, D., Willis, J., & Burns, R. E. (2015). A happy compromise: Collaborative approaches to school library designing. *The Australian Library Journal, 64*(4), 321-334.

Iqbal, A., & Hussain Asad, I. (2023). Mapping Library Users' Loyalty through LibQUAL+: Mediating Role of Users' Satisfaction. *Journal of Library Administration, 63*(3), 402-420.

Julien, H., Detlor, B., Serenko, A., Willson, R., & Lavallee, M. (2009). Outcomes of information literacy instruction for undergraduate business students. *Proceedings of*

Kennedy, H. R., & Gruber, A. M. H. (2020). Critical thinking in a service-learning course: *Impacts of information literacy instruction. Communication in Information Literacy, 14*(2), 182.

Kuh, G. D. (2009). What student affairs professionals need to know about student engagement. *Journal of college student development, 50*(6), 683-706.

Maslov, I., Nikou, S., & Hansen, P. (2021). Exploring user experience of learning management system. *The International Journal of Information and Learning Technology, 38*(4), 344-363.

Merriam, S. B., & Grenier, R. S. (Eds.). (2019). *Qualitative research in practice: Examples for discussion and analysis*. John Wiley & Sons.

Nikolopoulou, K., Gialamas, V., & Lavidas, K. (2023). Mobile learning-technology barriers in school education: Teachers' views. *Technology, Pedagogy and Education, 32*(1), 29-44. origsite=gscholar&cbl=18750&diss=y

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple- item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12-40. https://psycnet.apa.org/record/1989-10632- 001 *Private Universities in Japan and Thailand*. In Education, Language, and

Quaye, S. J., Harper, S. R., & Pendakur, S. L. (Eds.). (2019). *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations*. Routledge.

Quigley, D., Loftus, L., McGuire, A., & O'Grady, K. (2020). An optimal environment for placement learning: listening to the voices of speech and language therapy students. *International Journal of Language & Communication Disorders, 55*(4), 506-519.

Santalucia, J. (2022). *Creating Innovation Through Data Science: A Descriptive-Correlational Study Utilizing Data Science for Innovation* (Doctoral dissertation, St. Thomas University).

Shandu, L. (2020*). Investigating barriers in accessing and utilizing of public library services by learners at Tsakane Public Library* (Doctoral dissertation, North-West University (South Africa)).

Silverman, S. K., & Davis, H. A. (2009). Teacher Efficacy. In E. Anderman, & L. Anderman (Eds.), Psychology of Classroom Learning: An Encyclopedia (PCL) (Vol. 2, pp. 915-920). New York: Macmillan Reference.

Skinner, E. A., Kindermann, T. A., & Furrer, C. J. (2009). A motivational perspective on engagement and disaffection: Conceptualization and assessment of children's behavioral and emotional participation in academic activities in the classroom. *Educational and psychological measurement, 69*(3), 493-525.

1208

Soltani, S., & Nikou, S. (2020). An assessment of academic library services: international and domestic students perspectives. *Library Management, 41*(8/9), 631-653.

Sparks, J. R., Katz, I. R., & Beile, P. M. (2016). Assessing digital information literacy in higher education: A review of existing frameworks and assessments with recommendations for next-generation assessment. ETS Research Report Series, 2016(2), 1-33.

Study of Total Quality Management (TQM) Approaches to Student Services at

Sulaiman, S., Shaifuddin, N., Samsudin, A. Z. H., & Yu, H. (2023). Teachers' Digital information Literacy (DIL) competencies in teaching ICT-based projects: Malaysian secondary schools teachers' experience. *Journal of Information and Knowledge Management (JIKM), 13*(2), 66-78.

the American Society for Information Science and Technology, 46(1), 1-18.