

**LEVEL OF AWARENESS ON DIGITAL REFERENCE  
SERVICES AMONG TERTIARY STUDENTS IN  
SOUTHERN CHRISTIAN COLLEGE**



**PSYCHOLOGY AND EDUCATION: A MULTIDISCIPLINARY JOURNAL**

Volume: 41

Issue 1

Pages: 152-160

Document ID: 2025PEMJ3945

DOI: 10.70838/pemj.410109

Manuscript Accepted: 04-30-2025

## Level of Awareness on Digital Reference Services among Tertiary Students in Southern Christian College

Cynthia C. Cabada,\* Richelle Kim C. Simblante, Adelyn M. Juarez, Rhodora Mae M. Celestial  
For affiliations and correspondence, see the last page.

### Abstract

The study aimed to assess the awareness of Digital Reference Services (DRS) at Southern Christian College, focusing on the factors influencing their implementation in academic libraries. Utilizing a quantitative design, the research involved a survey questionnaire distributed to 96 respondents. The demographic analysis revealed that most participants were enrolled in the Bachelor of Secondary Education program, while fewer were in other disciplines such as Office Administration, Psychology, Computer Science, and Agriculture Business. Among second-year students, a majority demonstrated awareness of DRS, primarily learning about it through friends and library orientations, with word of mouth being the least effective source. The study found that access to DRS was mainly on campus, highlighting the significance of library staff possessing excellent communication skills as a major influencing factor. In contrast, the adequacy of reference information sources had a moderate impact. Regarding awareness of specific factors, respondents exhibited high awareness of the library's website, while there was less awareness concerning the availability of bibliographical and electronic document delivery services. Overall, the findings indicate a need for enhanced outreach and education to improve awareness and access to DRS within the college community.

**Keywords:** *digital reference services, reference services, library services, reference, services, awareness*

### Introduction

The traditional reference service in academic libraries gradually integrates digital modes of communication, culminating in digital reference services (Serwaa et al., 2021). The rise of digital reference services has been one of the most significant changes in reference services over the last few years (Granfield & Robertson, 2008). DRS falls into two types of reference: asynchronous, whereby the patron asks a question by e-mail or the web form and then sends back a response by another party later; synchronous, whereby a patron talks in real time to a reference librarian using web chat applications (Granfield & Robertson, 2008). Some of the services that are used in synchronous digital reference services include chat, Voice-over-IP (VoIP), video conferencing, short messaging system (SMS), and Instant Messaging (IM).

Traditionally, reference services have been the core part of library services. It has provided personalized support to users in locating the appropriate information sources that meet their needs (Dollah & Singh, 2012). On the other hand, digital reference services include all online services that use print and digital materials (Smith, 2002). The increasing use of ICT and the internet has significantly impacted reference services, changing the ways and expectations of librarians and users. Consequently, academic libraries are integrating technology into their reference services to enhance such services and fulfill the users' online needs. Traditional reference services in academic libraries have also been increasingly embracing digital communication methods that culminated in the emergence of digital reference services (Serwaa et al., 2021).

Pomerantz and Luo (2006) say that the awareness of digital reference services in the library can inform library clients' choices and preferences regarding seeking help. However, according to Younus and Nadeem (2021), the link to digital reference services from the library's homepage should be one of the marketing strategies. They also mentioned that awareness of the digital reference service helps in resource exploitation. Since new technologies have emerged, academic libraries should redesign their reference services with new technological innovations to facilitate an efficient reference service.

Krubu and Osawaru (2011) postulated that information and communication technologies (ICT) positively affect digital reference services because they offer customers the opportunity to provide information services that have added value and access to various digital sources of information. Tutu (2016) claims that digital reference services developed due to the popularity of the Internet as a means of communication everywhere, the increasing availability of networked digital resources, the corresponding need for the service, and the declining number of personal reference transactions. Librarians are trying to be responsive to user preferences; commercial digital references such as AskJeeves and webHelp are increasing, and the reference service is expanding to reach a wider audience and remote library users.

In this study, the researchers are looking at how library users know about the level of awareness of digital reference services to learn more about how information is accessed in the digital age. They want to understand what users like and what reference services are available. Further, the researchers are exploring digital reference services to enhance information accessibility and user experience, enabling SCC libraries to adapt their services to meet diverse user needs and improve the information retrieval process. Lastly, this study focuses on making digital reference services more known and used to help improve how users find and get information, benefiting library users from different backgrounds and making information services work better for everyone. However, no documents or studies provide information on this aspect in the context of SCC students at Southern Christian College. Hence, the researchers considered

filling in this research gap.

## Research Questions

This study sought to answer the following:

1. What are the factors influencing Digital Reference Services in academic libraries?
2. What is the respondents' awareness level regarding factors influencing Digital Reference Services?

## Literature Review

### *Digital Reference Services*

Singh (2012) highlights that libraries provide Digital Reference Services (DRS) through both asynchronous tools like email and web forms and synchronous tools such as chat and videoconferencing. Additionally, modern Web 2.0 tools like Facebook and Twitter enhance asynchronous services, allowing library patrons to receive support from librarians at any time, albeit with delayed responses. Lochore (2004) describes chat reference as a service centered on real-time text message exchanges between librarians and users, utilizing instant messaging (IM) or chat platforms (Francoeur, 2001). Many academic libraries in the U.S. offer this more resource-intensive service than email reference, incorporating various types of chat technologies—from basic IM tools like Yahoo! Messenger and Google Talk to more advanced web contact software such as Virtual Reference Software and 24/7 Reference (Singh, 2004). Additionally, real-time chat software has been developed to support co-browsing features, with libraries often opting for free platforms like Yahoo! Messenger and Meebo.

Since the adoption of chat reference to DRS, libraries and librarians have been concerned about the issues and challenges that arose, as well as the benefits. Some issues must be taken into consideration when adopting the chat reference service. Such issues include the cost of software in running the chat, human resource management, and service sustainability (Luo, 2008). One should note that not all chat reference services succeed. Few libraries have discontinued chat references due to low volume, software problems, and staffing models (Radford & Kern, 2006). Quadri and Abiodun (2017) also state that academic libraries were the first to implement digital reference services in the early 1980s. In contrast, the study of Dollah and Singh (2012) clarified that libraries and librarians are trying their best to satisfy library customers through digital reference services.

Chowdhury and Margariti (2004) found that while digital reference services effectively serve university, national, and public libraries in Scotland, their full potential remains untapped. Email is the primary technology for providing digital credentials, with plans for more advanced internet solutions; however, most library requests are simple, and training users to effectively utilize digital resources remains challenging (Barry et al., 2010).

Singh (2012) found that all four selected university libraries—Panjab University, Delhi University, and Kashmir University—offer online services like library websites, OPAC, and reference services. However, only Delhi University allows users to directly ask librarians, use online chat, access FAQs, and receive web-based training, while the other libraries provide user feedback via email, with Panjab University lacking this feature. Digital reference services can be conducted through email or chat, utilizing various methods such as basic email or web forms for management. Utoni (2014) identified several components of digital reference services: a) the user seeking assistance, b) the interface used for communication (such as email, web forms, chat, or videoconferencing), c) the information professional (librarian or information agent who provides answers), and d) electronic resources, which encompass CD-based materials, web resources, locally digitized content, and print resources that librarians utilize to find information.

### *Factors of Digital Reference Services*

Tutu 2016 found that Twitter, Ask-a-librarian or E-mail, Facebook, and Frequently Asked Questions (FAQs) were the most preferred digital reference channels in academic libraries in Kenya. On the other hand, the least preferred channels were live chat, whereas never-used channels were Skype, instant messaging, and library digital reference consortia. The factors influencing the choice of digital reference channels included ease of use, availability, popularity, and software features, with support being the least considered factor (Barry et al., 2010). These findings have implications for guiding other academic libraries considering implementing digital reference services. Khan et al. (2017) found that usefulness, ease of use, and knowledge of information and communications technology (ICT) are important predictors of DRS adoption. The moderation influence of demographic factors (age, gender, and library type) on the predictors' relationship with the outcome variable was insignificant (Uba & Okonkwo, 2019). Therefore, the results indicate a willingness to adopt digital reference services in university libraries in Pakistan.

Hamid and Younus (2021) concluded that communication skills are the most effective tool for providing library services, such as user reference interviews, service delivery at the circulation desk, information literacy lecture delivery, and effective interpersonal communication by staff members to create a healthy cooperative working environment. Aprosta and Arandilla (2018) stated that SCC librarians always offer reference services by assisting students with where to find the relevant materials. They help students find the topic of books by pointing to the shelves where books are located. This means that SCC librarians performed the conservative level of services excellently. They seldom give occasional personal assistance to experienced users assisting students in searching for information in the OPAC. Further, the SCC Library conducts yearly user instruction and orientation designed to introduce new and

return students to the library's wealth of resources and strengthen their research skills.

### ***Awareness of Digital Reference Services***

Information professionals must be able to understand the help-seeking preferences of today's library clients (Luo, 2008). DRS addresses the needs of library clients who are outside the library premises. Additionally, the study showed that the level of awareness and exposure to the existing DRS may affect the help-seeking options of library clients. Students who are not aware of Ask-a-Librarian via IM prefer e-mail reference to chat reference. Likewise, faculty members who are unaware of the Facebook page will probably submit their reference queries online. Ramos and Abrigo's (2011) study found that out of 239 respondents, 189 were aware of the Digital Reference Services (DRS) available in their libraries. Furthermore, only 34% of those who are aware of these services, which amount to 65 respondents, have used them.

Anyalebechi (2017) emphasizes the importance of awareness regarding reference and information services, such as one-on-one assistance from library staff, reference letter issuance, and literature research services. Ramos and Abrigo (2011) support this by stating that digital reference services in academic libraries require effective marketing to raise client awareness of their availability. Additionally, information professionals must understand the help-seeking preferences of contemporary library users. However, few studies have explored awareness levels and preferences related to digital reference services (Luo, 2008). Five studies indicate that face-to-face reference, or traditional reference desks, remains the most utilized and preferred method for seeking help in libraries (Granfield & Robertson, 2008; Luo, 2008). Additionally, unfamiliar students with Ask-a-Librarian using IM tend to prefer e-mail reference over chat reference (Nilsen, 2004). Likewise, faculty members unaware of the Facebook fan page will likely submit their reference queries online.

Younus and Nadeem (2021) found that 52.53% of respondents reported having heard about the Digital Reference Service provided by their university's library through a library; 60 (41.11%) said they had learned it from both government and private sector universities. The study concludes that the DRS interface is available on the library's website. The library's Web site must be known to users. Users can learn about other services offered by the library, such as DRS, if they are aware of its website. In a prominent place on the library's website, it is necessary to provide specific links for DRS to allow users to find this service. The study revealed that 30 DRSs from university libraries were available to most respondents. According to Ramos and Abrigo (2011), 60% of the respondents discovered DRS from the library website. A total of 60 respondents learned about it from a friend, while 53 respondents discovered it from the library bulletin. Amazingly, only 30 of the 189 respondents familiar with DRS learned about it from their librarians.

Southern Christian College Library conducts an annual online survey to gather feedback on the digital reference services provided to students. The purpose of this survey is to assess user satisfaction and identify areas for service enhancement. The library offers various reference services, including online referencing through Facebook chat, online book lending/renewal via Facebook chat, online book scanning, electronic document delivery via email updates, library updates on Facebook, and a library blogspot featuring resources like Philippine e-journals, e-books, and online research materials (SCC Academic Library Customers Feedback on Online Library Services, 2022).

Manantan (2019) found that most respondents knew of e-books and that the SCC library provides e-books. Their awareness of e-books came from their classmates and friends; they also learned about e-books from the librarians and staff at SCC. Users liked to use e-books because they were accessible in and out of school, library, home, and others and were freely available on the library webpage. In addition, they agreed that the SCC library should continue buying e-format library books because e-books are as good as printed and are more efficient and effective. Additionally, Jeruela (2019) confirms that the online databases of Southern Christian College are very satisfied with the usefulness of an e-book or e-journal. Through this subscribed flat form, the institution supports teaching and learning, research and extension, and project development of the students. Serwaa et al. (2021) confirm that off-campus respondents utilized digital reference services, and mobile phones were the most common mobile tool for accessing digital reference services. Thus, digital reference services greatly improve the utilization of library services.

## **Methodology**

### **Research Design**

The research design of this study involves descriptive- correlational research design to assess the level of awareness of digital reference services among tertiary students at Southern Christian College. The descriptive research design systematically describes the characteristics of a population, phenomenon, or field of interest without manipulating variables. The correlational research design examines the relationship between variables to determine the extent to which they are associated. This sought to identify potential relationships between demographic factors (gender, program, year level) and the level of awareness of digital reference services.

### **Respondents**

The study's respondents of this study were randomly selected college students enrolled at Southern Christian College during the Academic Year 2024–2025. The research focused exclusively on assessing the level of awareness regarding digital reference services within the institution. The sample size was determined using Slovin's Formula with a margin of error set at 10%. However, due to

operational constraints, only 96 respondents from the total population of 2,387 college students participated in the study. To ensure equitable representation, a stratified random sampling technique was employed. The study included students who met specific criteria. The inclusion criteria required respondents to be currently enrolled at Southern Christian College during A.Y. 2024–2025, to have had access to the institution's library services, and to be willing to voluntarily participate by providing informed consent. On the other hand, students who were not enrolled during the specified academic year, who had no prior experience or access to the library services, or who declined to participate or failed to provide informed consent were excluded from the study. This approach ensured that the sample was representative and relevant to the research objectives.

### Instrument

This study used a modified questionnaire: Part II, from the study of Jamogha (2022), the study entitled “Awareness and Patronage of Library Reference Services among Graduate Students in Adeyemi College of Education, Ondo State, Nigeria”; and Part III, SCC Academic Library Customers Feedback on Online Library Services (2022). The survey questionnaire consists of three parts: Part I collected the demographic profile of the respondents; Part II consists of items that identify the factors on digital reference services in SCC; and Part III determined the level of awareness of digital reference services in SCC.

### Procedure

In the data-gathering procedure for the proposed research, the researchers sent a letter to the School Registrar to get the list of the students enrolled for the first semester of A.Y. 2024-2025. The researchers sent letters to the deans of different colleges to seek approval for the participation of some students in the study from their departments. After permission was granted, the researchers distributed a questionnaire to the selected students to ask for participation. The researchers conducted the survey and applied a statistical tool appropriate for the study.

Data management procedures involved secured collection of completed questionnaires, organizing them systematically, and verifying data accuracy and completeness. Data analysis employed appropriate statistical software to calculate descriptive statistics. Finally, the findings were compiled into a comprehensive report, discussing the demographic profile of the respondents, factors and awareness of digital reference services in Southern Christian College. Through this structured data-gathering procedure, the study systematically assessed Level of Awareness of Digital Reference Services among Tertiary Students at Southern Christian College.

### Results and Discussion

This section presents the data that the researcher has gathered. The data are shown in tabular form with their corresponding interpretations and analyses.

#### Demographic Profile of the Respondents

Table 1. Frequency and percentage distribution of the demographic profile of the respondents in terms of gender, program and year level

<i>Gender</i>	<i>f</i>	<i>%</i>
Female	71	74
Male	24	25
Did not indicate	1	1
<b>Total</b>	<b>96</b>	<b>100</b>
<i>Program</i>		
Bachelor of Secondary Education	15	
Bachelor of Science in Social Work	10	
Bachelor of Elementary Education	5	
Bachelor of Science in Accountancy	4	
Bachelor of Arts in English Language Studies	4	4
Bachelor of Science in Community Development	4	4
Bachelor of Arts in History	3	3
Bachelor of Science in Nutrition and Dietetics	2	2
Bachelor of Science in Extension Education	2	2
Bachelor of Science in Office Administration	1	1
Bachelor of Science in Psychology	1	1
Bachelor of Science in Computer Science	1	1
Bachelor of Science in Agriculture Business	1	1
<b>Total</b>	<b>96</b>	<b>100</b>
<i>Year Level</i>		
Second	39	41
First	26	27
Third	21	22
Fourth	10	10
<b>Total</b>	<b>96</b>	<b>100</b>

Table 1 shows the frequency and percentage distribution of the demographic profile of the respondents in terms of gender, program, and years level. Specifically, it indicates that the frequency is 71 (74%) for females and 24 (25%) for males. Additionally, there is one individual in each category who did not indicate their gender. The total number of individuals in this data set is 96, which accounts for all specified categories, culminating in a total of 100%.

In terms of the educational backgrounds of the participants, it is revealed that Bachelor of Secondary Education has the highest representation with 15 (16%) participants, while the Bachelor of Science in Agriculture Business has the lowest representation with just 1 (1%) participant. The study highlights a diverse range of educational qualifications among the participants, with significant numbers in Bachelor of Secondary Education, Bachelor of Science in Social Work following the Bachelor of Science in Business Administration

Regarding in academic year level, the largest group of respondents consists of second year with 39 students comprising (49%), highlights that they are more engaged or available for participation in the study, possibly due to their academic schedules or the nature of the research topic being more relevant to them at this stage in their education. While, fourth-year students represented the smallest group, with only 10% of respondents. This lower participation rate among fourth-year students could be attributed to various factors, such as increased academic pressures, job searching activities, or a general focus on completing their degrees.

### ***Awareness of the Existence of Digital Reference Services in the Library***

Table 2. *Frequency and percentage distribution of the respondents in terms of their awareness of the existence of the DRS in their library*

<i>Awareness</i>	<i>f</i>	<i>%</i>
Yes	81	84
No	15	16
Total	96	100

Table 2 shows the frequency and percentage distribution of the respondents in terms of their awareness of the existence of the DRS in their library. The results of the study reveal a significant level of awareness among respondents, with 81 participants (84%) indicating that they are aware of the existence of the DRS in the library, while 15 participants (16%) reported that they are not. This strong majority suggests that the information or resource being assessed is well-known among the surveyed population, which could indicate effective communication, outreach, or education efforts related to the DRS.

### ***Sources of Respondents on How They Learn About the Digital Reference Services in their Library***

Table 3. *Frequency and percentage distribution of the respondents in terms of their sources on how they learn about the digital reference services in their library*

<i>Sources</i>	<i>f</i>	<i>%</i>
From a friend	34	35
Library orientation	26	27
From the Librarian	24	25
Library Website	24	25
Library brochure/guide	9	9
Library bulletin	9	9
Word of mouth	5	5

Table 3 shows the frequency and percentage distribution of the respondents in terms of their sources on how they learn about the digital reference services in their library. The results of the study indicate a diverse range of sources through which respondents learned about the Digital Reference Services (DRS). The most significant finding is that 35% of respondents learned about DRS from a friend, suggesting that peer recommendations are crucial in disseminating information about library resources. This highlights the importance of social networks in promoting library services. The lower percentages for library brochures/guides (9%) and word of mouth (5%) indicate that these traditional methods of communication may not be as effective in reaching users compared to personal interactions and structured orientations.

### ***Access to Digital Reference Services***

Table 4. *Frequency and percentage distribution of the respondents in terms of their access to the Digital Reference Services*

<i>Access</i>	<i>f</i>	<i>%</i>
On-campus	89	93
Off-campus	7	7
Total	96	100

Table 4 shows the frequency and percentage distribution of the respondents in terms of their access to the Digital Reference Services. The results indicate a significant preference for on-campus access to the Digital Reference

Services (DRS), with 93% of respondents utilizing the service while physically present at the library. This finding suggests that users may feel more comfortable or find it more convenient to access DRS resources in a familiar environment where additional support, such as librarian assistance, is readily available.

### Factors Influencing Digital Reference Services in Academic Libraries

Table 5. Mean and interpretation of factors influencing Digital Reference Services in academic libraries

Items	Mean	Interpretation
1. I participate in orientation programs.	1.91	Moderately Influence
2. Adequacy of reference information sources.	1.96	Moderately Influence
3. There is sufficient space and a convenient location for the reference unit.	1.88	Moderately Influence
4. The library staff have excellent communication skills.	1.67	High Influence
5. The availability, popularity, and software features are present.	1.97	Moderately Influence
6. I am satisfied and oriented when utilizing the digital reference service.	1.89	Moderately Influence
7. The digital reference librarian's selection of the literature satisfied me.	1.87	Moderately Influence
8. I am interested in a service that provides just the right amount of information, which makes it easy to locate pertinent information quickly.	1.82	Moderately Influence
<b>Grand Mean</b>	<b>1.87</b>	<b>Moderately Influence</b>

Legend: 1.00 – 1.75 High Influence; 2.51 – 3.25 Slightly Influence; 1.76 – 2.50 Moderately Influence; 3.26 – 4.00 Low Influence

Table 5 shows the mean and interpretation of factors influencing Digital Reference Services in academic libraries. The results indicate that the most significant factor influencing Digital Reference Services is library staff have excellent communication skills, which received the highest mean score of 1.67. This suggests that respondents valued strong communication skills among library staff, highlighting their positive impact on the overall experience. Followed by the interest in services that facilitate quick information retrieval received a mean score of 1.82, which highlights users' appreciation for efficient access to information, emphasizing their desire for a smooth and streamlined experience.

The results further show that participation in orientation programs also received a favorable mean score of 1.91, indicating that users value structured guidance in navigating digital reference services. Adequacy of reference information sources scored 1.96. However, the lowest mean score of 1.97, availability, popularity, and software features, suggests that users might have a negative experience if the technology used by the library is not easy to use or effective.

### Respondents' Awareness Level Regarding Factors Influencing Digital Reference Services

Table 6. Mean and interpretation of the respondents' awareness level regarding factors influencing Digital Reference Services

Statements	Mean	Interpretation
1. Are you aware that the library has Library Websites?	1.75	Fully Aware
2. Are you aware that the library provides OPAC for searching materials?	1.89	Moderately Aware
3. Are you aware that the library provides Online Library Orientation/Instruction?	1.95	Moderately Aware
4. Are you aware that the library provides Online Referencing and Research Guidance?	1.82	Moderately Aware
5. Are you aware that the library has Information and Reader's Advisory?	1.82	Moderately Aware
6. Do you know the library has Bibliographical services (such as Bibliography Report of New Acquisition)?	2.13	Moderately Aware
7. Do you know the library has Online Book Lending and Online Book Renewal?	2.03	Moderately Aware
8. Do you know the library subscribes to Online Databases: E-journal and E-book Searching (Gale and Philippine E-journal)?	2.03	Moderately Aware
9. Are you aware that the library posts Library Updates Thru Library Social Media Accounts?	2.09	Moderately Aware
10. Are you aware that the library provides Electronic Document Delivery Services?	2.13	Moderately Aware
<b>Grand Mean</b>	<b>1.97</b>	<b>Moderately Aware</b>

Legend: 1.00 – 1.75 High Influence; 2.51 – 3.25 Slightly Influence; 1.76 – 2.50 Moderately Influence; 3.26 – 4.00 Low Influence

Table 6 presents the mean scores and interpretations of respondents' awareness levels regarding factors that influence Digital Reference Services. The results of our study offer valuable insights into the varying levels of user engagement and awareness regarding the digital services offered by the library.

The data reveals distinct patterns in user preferences and perceptions of these services, with some areas demonstrating higher satisfaction or awareness than others. Library Website emerged as the service with the highest awareness, receiving a mean score of 1.75. This suggests that the library's website is the most widely recognized and utilized service among users. Its prominence may reflect its central role in providing access to various resources, information, and services, and further efforts could be made to enhance its functionality, ease of use, and integration with other library services.

Library Updates Through Media Accounts scored 2.09, indicating success in reaching users but with room to improve engagement and update effectiveness. Interestingly, the Electronic Document Delivery Services and Bibliographical Services received the lowest mean score of 2.13, suggesting limited user recognition or value. This may be due to a lack of awareness or complexity, highlighting the need for better promotion, simplified access, and increased relevance to enhance user satisfaction.

## Conclusions

Based on the result of the study, it is concluded that the level of awareness of Digital Reference Services (DRS) is primarily influenced by the library staff having excellent communication skills; however, respondents demonstrate a full awareness of the library's digital services, with the library website.

## References

- Anyalebechi, L. I. (2017). Awareness and Use of Reference and Information Services amongst Library Users in University Libraries in two States in Nigeria. *Journal of Applied Information Science and Technology*, 10(3), 109-116. <https://www.jaisonline.org/10vol3/14.pdf>.
- Aprosta, W. N., & Arandilla, J. M. C. O. (2018). The Level of Reference Services and The Behavioral Attributes of Librarians in SCC Library, AY, 2017-2018 [Unpublished undergraduate thesis] Southern Christian College.
- Barry, E., Bedoya, J., Groom, C., & Patterson, L. (2010). Virtual Reference in UK Academic libraries: The virtual inquiry project 2008-2009. *Library Review*, 59(1), 40-55. <https://doi.org/10.1108/00242531011014673>
- Chowdhury, G., & Margariti, S. (2004). Digital Reference Services: a Snapshot of the Current Practices in Scottish Libraries. *Library Review*, 53(1), 50-60. <https://doi.org/10.1108/00242530514793>.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods approaches* (4th ed.). Sage Publications.
- Davis, F.D. (1986) *A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results*. Sloan School of Management, Massachusetts Institute of Technology.
- Dollah, W. A. K. W., & Singh, D. (2012). *Digital Reference Services in Academic Libraries*. The University of Malaya Press. <https://citeseerx.ist.psu.edu/document/doi=5521d76eeaddc030aa75b9>.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to design and evaluate research in education* (10 ed.). McGraw-Hill Education.
- Francoeur, S. (2001). An Analytical Survey of Chat Reference Services. *Reference Services Review*, 29(3), 1889-203. <https://www.emerald.com/insight/content/doi/10.1108/00907320110399547>
- Granfield, D., & Robertson, M. (2008). Preference for Reference: New Options and Choices for Academic Library Users. *Librarian and Staff Publications*. [https://digitalcommons.ryerson.ca/library\\_pubs/13](https://digitalcommons.ryerson.ca/library_pubs/13)
- Hamid, A., & Younus, Dr. M. (2021). Analysis of Library Professionals' Communication Skills: Status and Effectiveness on Workplace Productivity. *Library Philosophy and Practice (e- journal)*, 4736. <https://digitalcommons.unl.edu/lib-philprac/4736>
- Jamogha, O., & Jamogha, E. (2022). Awareness and Patronage of Library Reference Services among Graduate Students in Adeyemi College of Education, Ondo State, Nigeria. <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1000&context=ext+unllibphd>
- Jeruela, E.J. (2019). Utilization of the Online Databases Subscribed by the Academic Library of Southern Christian College, AY 2018-2019 [Unpublished undergraduate thesis] College of Computing and Information Sciences, Southern Christian College, Midsayap, Cotabato.
- Khan, A., Masrek, M. N., Mahmood, K., & Qutab, S. (2017) Factors Influencing the Adoption of Digital Reference Services among the University Librarians in Pakistan, *The Electronic Library*, 35(6), 1225-1246, <https://doi.org/10.1108/EL-05-2016-0112>.
- Krubu, D. E., & Osawaru, K. E. (2011). The impact of information and communication technology (ICT) in Nigerian university

- libraries. *Library philosophy and Practice*, 2011(583), 1-19. <https://digitalcommons.unl.edu/lib.philprac/583>.
- Liu, J. (2021). Digital Library and Digital Reference Services. In: Rikowski, R (eds) *Digitisation Perspectives Theory and Practice*, vol 46. SensePublishers. [https://doi.org/10.1007/978-94-6091-299-3\\_12](https://doi.org/10.1007/978-94-6091-299-3_12)
- Lochore, S. (2004). How good are the free DRS: A Comparison of Library-based and Expert Services. *Library Review*, 53(1),24-29. [https://www.emerald.com/in-sight/content/doi/10.1108/002453041\\_0514766/full/html](https://www.emerald.com/in-sight/content/doi/10.1108/002453041_0514766/full/html)
- Luo, L. (2008). Chat Reference Evaluation: A Framework of Perspectives and Measures. *Reference Services Review* 36(1), 71-85. [https://www.emerald.com/insight/content/doi/10.1108/00\\_907320810852041/full/](https://www.emerald.com/insight/content/doi/10.1108/00_907320810852041/full/)
- Manantan, C. M. (2019). Survey of E-book Awareness and Usage Patterns Among Library and Information Science Students at Southern Christian College AY 2018-2019[Unpublished undergraduate thesis] Southern Christian College.
- Nicholas, P. (2011). Creating a digital reference agenda for academic libraries in Jamaica: An exploratory case study. *Libri*, 61(4),258-280. [https://www.degruyter.com/document/doi/10.151\\_5/libr.2011.023/html](https://www.degruyter.com/document/doi/10.151_5/libr.2011.023/html)
- Nilsen, K. (2004). The library visit study: User experiences at the virtual reference desk. *Information Research*, 9(2), 9-2. <http://information.net/ir/9-2/paper.171.html>
- Pomerantz, J., & Luo, L. (2006). Motivations and uses: Evaluating virtual reference service from the users' perspective. *Library & information science research*, 28-(3)350-373. [https://www.sciencedirect.com/science/article/abs/pii/S074\\_Quadri, R. F., & Abiodun, O. S. \(2017\). Availability and Use of Reference Sources and Services to Federal Polytechnic Offa Students, Kwara State. Scirea Journal of Information Science and Systems Science, 8\(2\), 10-28. https://www.academia.edu/download/61730576/1200920200109](https://www.sciencedirect.com/science/article/abs/pii/S074_Quadri, R. F., & Abiodun, O. S. (2017). Availability and Use of Reference Sources and Services to Federal Polytechnic Offa Students, Kwara State. Scirea Journal of Information Science and Systems Science, 8(2), 10-28. https://www.academia.edu/download/61730576/1200920200109)
- Radford, M., & Kern, M. (2006). A multiple-case study investigation of the discontinuation of nine chat reference services. *Library & Information Science Research*, 28, 521-547. Available at Science Direct database. <https://www.sciencedirect.com/science/article/doi.org/10.1016/j.lisr.2016.10.011>
- Ramos, M. S., & Abrigo, C. M. (2011). Reference 2.0 in Action: An Evaluation of the Digital Reference Services in Selected Philippine Academic Libraries. *Library hi tech news*, 29(1), 8-20. <https://www.conferencer.ifla.org/ifla77>.
- Serwaa, N.A., Dadzie, P. S., & Owusu-Ansah, C.M. (2021). Awareness and Use of Digital Reference Services in Academic Libraries in Ghana. *International Journal of Knowledge Content Development & Technology*, 12. <https://journals.sfu.ca/ijkcdt/index.php/ijkcdt/article/view/603>
- Singh, N. K. (2012). Digital reference service in university libraries: A case study of the Northern India. *International Journal of Library and Information Studies*, 2(4), 117. <https://www.researchgate.net/publication/261288041>.
- Sinhababu, A., & Kumar, S. (2021). Constructing Theoretical Framework for Virtual Reference Service: a Technology Acceptance Approach. *Library Philosophy and Practice (e- journal)*, 6547. <https://digitalcommons.unl.edu/libphilprac/6547>.
- Smith, L. C. (2002). Education for Digital Reference Services. *Publications in Librarianship*. <https://www.ideals.illinois.edu/items/829>.
- Southern Christian College. (2022). SCC Academic Library customers' feedback on online library services and the library system.
- Tutu, J. M. (2016). Provision of Digital Reference Services in Academic Libraries in Kenya: a review. *International Journal of Library and Information Studies*, 2(4), 1-17. <http://repository.mut.ac.ke/8080>.
- Uba, E., & Okonkwo, E. (2019, November 22). Use of digital reference service by undergraduates in Faculty of Law, University of Nigeria, Enugu Campus Uutoni, W. E. (2014). Evaluation of Digital Reference Services in Academic Libraries in Namibia. <https://hb.diva-portal.org/smash/get/diva2:1309746>.
- Yonus, M. (2014). Awareness of Digital Reference Services in Academic Libraries. In *Awareness and Use of Digital Reference Services in Academic Libraries in Ghana*.
- Younus, M., & Nadeem, A.H. (2021). Effectiveness of Digital Reference Services in University Libraries in Punjab, Pakistan: Users' Perceptions. *Library Philosophy and Practice (ejournal)*, 5545. <https://digitalcommons.unl.edu/libphilprac/5545..>

### Affiliations and Corresponding Information

**Cynthia C. Cabada**

Southern Christian College – Philippines

**Richelle Kim C. Simblante**

Southern Christian College – Philippines



**Adelyn M. Juarez**

Southern Christian College – Philippines

**Rhodora Mae M. Celestial, RL, MLIS**

Southern Christian College – Philippines