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Fostering Research Literacy Programs in University Libraries of Rawalpindi, and Islamabad: A Situation Analysis

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<p>Received: November 23, 2024 Review Process: December 9, 2024 Accepted: December 21, 2024 Available Online: December 23, 2024</p>	<p>Abstract</p> <p>In university libraries, a new and well liked area is called research literacy programs. This study's objectives are to assess the current state of research literacy programs offered in university libraries of Rawalpindi and Islamabad, to emphasize the key issues affecting the effectiveness of programs to promote research literacy and to offer recommendations for strategies to implement research literacy programs. The study is based on deductive reasoning which refers to the methodology of quantitative technique. The study is conducted in both public and private universities of Rawalpindi and Islamabad divisions and for that purpose, a structured questionnaire tool is used for data collection. SPSS is utilized to analyze the data. The findings show that the librarians at Rawalpindi and Islamabad University libraries are aware of the value of research literacy programs in satisfying library patrons' informational demands. However, the study identifies the several challenges, including a lack of collaboration between faculty and librarians, a lack of training for librarians, no cooperation from organizations, and a deficiency in technology proficiency. It is recommended that librarians take the appropriate actions to get rid of these challenges. It is vital that university librarians collaborate with faculty, and overcome the deficiencies. This research provides an overview of the state of research literacy programs, existing practices, and obstacles to providing research literacy programs in the university libraries of the Rawalpindi and Islamabad divisions. This study fills a gap in the literature and will raise awareness among Pakistani LIS professionals regarding the value of research literacy programs. The results of this study will also inspire librarians to improve research literacy services in university libraries.</p> <p>Keywords: <i>fostering</i>, research literacy; research literacy programs; university libraries; Pakistan</p>
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Introduction

Research is generally thought of as a knowledge-based evaluation. Librarians frequently assist

their users with their research competencies and expertise at the university level. Academic

libraries' role is to assist their parent institutions' teaching and research. (Kennan et al., 2014). Individual advantages of research include increased self-awareness and self-satisfaction but research at an organizational scale, promotes strategic planning, raises staff engagement, and improves the organization's status. Similarly, if we see it on the professional level, research encourages professional competence, and boosts the profession's positive profile, so research activities are highly recommended in universities. Reading and writing proficiency or, in more contemporary contexts, the capacity to effectively utilize and create media products are two ways to define literacy. The foundation of formal education is literacy, which may be further cultivated and enhanced at various phases of the formal

educational system (Keser Aschenberger & Pfeffer, 2021).

University libraries now place a lot of emphasis on research literacy programs. Research literacy defined as "it is the capability to locate, comprehend, discuss, and assess various forms of research services to communicate truthfully about them for academic tasks and facilitate clients regarding the research practices" (Beaudry & Miller, 2016). Research literacy is an important task for higher education and it is considered that "research literacy programs" are meant to help people in improving their research literacy abilities. Numerous delivery methods, such as workshops, online training, hands-on training, and seminars, may be used to deliver research literacy programs.



Figure1. Basic Delivery Methods for Research Literacy Programs

Research literacy trends in university libraries are constantly evolving in response to changes in technology, teaching methodologies, and student needs. Research literacy programs in universities could be planned on the current trends including utilization of digital resources, open access journals, data visualization tools, practice of reference management tools, guidance on different writing styles, including APA, MLA, and Chicago, plagiarism detection software, research ethics, practices of research proposal, research paper, publication process, thesis writing including identification of problem, statement of the problem, rational and significance, systematic literature review, data collection and analysis procedure and google searching techniques etc. Universities are making an effort to promote hands-on training in any area related to research. Instructing users on how to utilize electronic databases, citation management tools, and search engines is a priority for university libraries. The primary objective of university libraries is to help their patrons and offer research assistance tools like

data visualization and electronic resources etc (Keller, 2015; Kinengyere, 2007).

Research literacy initiatives at university libraries will be advantageous for both students and faculty. These abilities will help students succeed in their academic work and equip them for future job possibilities. Students gain research skills from librarians through training in information literacy (Eshbach, 2020; Mounce, 2010). Research literacy programs assist faculty in keeping them aware of the research trends. The particular requirements of the target audience must be taken into account while establishing research literacy programs. In particular, undergraduate programs could emphasize fundamental research techniques, whereas graduate programs and faculty-only programs might emphasize advanced methods of research.

University libraries may need to make investments in resources like staff training, technology, software, etc. to execute research literacy programs successfully. Collaboration of different departments in any

organization can also assist librarians in developing complete research literacy initiatives. Infrastructure enhances research practice and outcomes for students Penuel et al. (2020). In general, encouraging research literacy programs at university libraries has a positive effect on the academic performance of students and faculty.

Statement of the Problem

University students frequently find it difficult to develop the necessary research skills, which hinders their capacity to produce the highest quality educational output. Challenges including inadequate knowledge of research techniques, poor assessment of academic sources, and insufficient utilization of library resources are prominent. In addition to having an impact on students' academic achievement, these challenges also limit their capacity to contribute to the larger professional and academic community. So, there is a need to develop effective research literacy programs to address these issues. Although university libraries are essential for promoting research literacy, but numerous libraries in twin cities Rawalpindi and Islamabad don't have the resources, skilled staff, and extensive programs necessary to effectively address these challenges.

In most universities, research literacy programs which provide students with the abilities to succeed in the whole research process, from formulating research questions to handling citations are either nonexistent or inadequate. Research support services are not offering by university libraries to researchers, it may be caused by a lack of funding, trained staff, and resources (Ali & Naveed, 2020). Under these conditions, an appropriate assessment of research literacy programs at the university libraries of Islamabad and Rawalpindi is desperately needed to identify gaps in knowledge and resources, and propose strategies for enhancing these programs to more

effectively fulfill students' needs. In addition, this study intends to offer evidence-based suggestions for the creation and improvement of research literacy programs, allowing university libraries to better serve students' requirements and support the general academic advancement of their establishments.

Research Objectives:

The following research objectives meet the needs of the study:

1. To identify the practices of research literacy programs in the university libraries of Rawalpindi and Islamabad.
2. To identify the key barriers that influence the success of research literacy programs in university libraries.
3. To find out the Strategies for the effective implementation of RL programs in the university libraries of Rawalpindi and Islamabad.

Research Questions

The following research queries are thoroughly examined in the paper:

RQ 1. Which practices are designed and implemented for research literacy programs in university libraries?

RQ 2. What are the key barriers that influence the success of research literacy programs in university libraries?

RQ 3. Which strategies can libraries apply to overcome these barriers and ensure the success and sustainability of their research literacy programs?

Rationale and Significance

Research literacy programs in university libraries aim to promote research skills among faculty, staff, and students inside the university libraries. These training programs are made to give people the skills they need to find, analyze, and effectively conduct research in the future. In the current knowledge-based economy, it has become more important for people to be equipped with excellent research skills, that's

the reason, that most university libraries are promoting research literacy programs regularly. Supporting research literacy initiatives in university libraries has multiple benefits. First of all, it raises the standard of research individually. Universities can ensure the quality of the research that is done by individuals by equipping them with the knowledge and abilities needed to recognize and assess reliable sources of information. Secondly, research literacy programs empower participants with knowledge and it additionally promotes lifelong learning. Finally, universities should prioritize research literacy programs in their libraries and it may improve the standard of individual research projects and encourage lifelong learning by offering people excellent research literacy programs.

Literature Review

The literature on research literacy programs in university libraries includes information literacy trends, research support services, and challenges in research support services.

Practices of Research Literacy Programs in University Libraries

The information literacy program is also part of research literacy programs which is helpful to gain a thorough understanding of research. A study by Jabeen et al. (2016) specifies the results that introductory information skills training and library orientations and tours are often and effectively employed in both types of libraries research libraries and university libraries. Sheikh (2019) conducted a study and explained that through research literacy programs people could be familiar with various searching skills. The study's findings show that before this survey, participants' knowledge of resources and efforts connected to open access was relatively low. The most common type of research support service was training sessions for researchers, whether in the form of workshops or one-on-one consultations (Haddow & Mamtora, 2017). Data presentation is a crucial part of academic

research. A research Muzzall et al. (2022) explained that finding assistance with these phases of the larger research process can be difficult, as languages for programming, computational resources, and methodologies for examining and evaluating data can be inefficient and hard to learn. In this paper, he emphasized the potential contributions of research support programs in libraries for bridging gaps among their patrons on their research demands.

Koltay (2019) said to respond to the emergence of Research, which manifests in data-intensive research and necessitates supporting actions, this paper lists some of the roles that university libraries must play. According to Auckland (2012), reference librarians are responsible for a wide range of tasks, including database knowledge, systematic literature reviews, contents, data mining, and caliber of research. Grant aid, consultancy of copyright, digitalization, handling data software, and scholarship are further types of research support (Cooper et al., 2019; Dohe et al., 2019). Librarians have particularly connected these services on demand of a researcher grounded on the lifecycle of research, that is, from the start of a research project until its conclusion, as a result, the capacity of librarians to address the particular requirements of researchers is an essential part of a successful Research Support Services (RSS) (Tang & Zhang, 2019).

Si et al. (2019) identified primary services such as research directions, scholarly publications, research assistance, and research tools in their assessment of the RSS provided by libraries in top institutions throughout the world. Technical infrastructure that enables data maintenance along the study cycle is provided by curator services, which may include permanent storage, the allocation of unique identifiers, or the development and administration of metadata (Johnston et al., 2018). Academic libraries frequently concentrate on data curation, which is more concerned with data using tools like tabular data modeling and a variety of statistical software. Academic libraries have not supported any of these technologies. However,

gradually, statistical and analytical operations may prove to be significant in academic libraries as well (Maxwell et al., 2018). Despite the comparisons, data science employs novel techniques and procedures that might be useful for data librarianship, particularly if librarians are eager to learn more about data visualization (Shashikumara & Kumbar, 2018).

Key Barriers in Practices of Research literacy Programs

In academic institutions, programs regarding the research literacy are essential for developing students' critical thinking, and capacity for lifelong learning. These training programs provide researchers the tools they need to find, assess, and apply data efficiently. However, a number of barriers frequently stand in the way of the effective execution of such plans. A significant barrier is the absence of institutional assistance. Research literacy initiatives are often neglected by institutions because of a lack of strategic planning, insufficient financing, and lack of resources (Miller, 2024). Libraries with inadequate funding are unable to provide the people and technology needed to operate broad literacy programs (Caffrey et al., 2023). Programs for research literacy in poor nations like Pakistan are hindered by a shortage of advanced training, a lack of experience, and a preference for self-directed study over official professional growth programs (Ali & Richardson, 2018). Low student participation in these literacy programs is frequently caused by students' perceptions that the training is theoretical or unneeded, which lessens its efficacy (Alahi & Yesmin, 2024). Due to the growing dependence on digital technologies in education, the digital divide which is made worse by unequal access to dependable internet and computer devices hinders student involvement, especially in rural regions (Drysdale & Goode, 2024). According to the literature, overcoming the barriers to successful research literacy initiatives calls for a multifaceted strategy. This study recommended that to achieve better results, cooperation between librarians and faculty should be formed

and an Information Literacy (IL) policy should be implemented at the federal level.

Research Gap

The research on the situation of certain research support services or research literacy in Pakistani university libraries has been conducted the least. Sheikh (2015) discovered that despite their significance for assisting research, components of the "information commons" service model were not being promoted within the university libraries in Pakistan. In addition, he made it clear that productive information included resources like computers, e-resources, technology support services, seminars, reference services, and support for research publishing. According to Ahmed and Rehman (2016), most university libraries in Khyber Pakhtunkhwa (KPK) provide web surfing, email, search engines, e-journals, and bibliographic databases. In Pakistan's university libraries, Piracha and Ameen (2019) looked at policy development and planning related to research data management and found that, in general, senior librarians lacked expertise and understanding. absence of commitment, enthusiasm, and collaboration with researchers, the absence of competent, and insufficient infrastructure and networking were the major obstacles. For university libraries in Pakistan to offer demand-based, innovative reference and research support services, the capacity of library employees with relation to current tools and skills needs to be increased (Ali & Naveed, 2020). A growing and well-liked section of university libraries is research support services (RSS) and according to the study's results, the majority of university libraries offer fundamental RSS and have strong research skills to satisfy the demands of scholars (Awan et al., 2022).

As can be seen previously, very few researches have been done to investigate the position of research literacy trends in Pakistani university libraries. Additionally, several of the studies only looked just particular research services. As a result, available literature shows the gap in the said field and it has drawn

attention for more thorough investigation. There is a need to identify the current literacy trends, key barriers, and strategies for the effective implementation of RL programs in the university libraries of twin cities Rawalpindi and Islamabad.

Research Methodology

by using numbers and everything that can be measured in a systematic way (Mohajan, 2020). The study's quantitative design also made it easier for researchers to generalize the findings to larger settings, guaranteeing that the conclusions were relevant within the particular dataset under study.

Population and Sampling

The study is conducted in both public and private universities of Rawalpindi and Islamabad divisions, affiliated with Higher Education Commission Pakistan. For that purpose the list of universities was gained from the HEC website. There were thirty-one HEC-affiliated universities in twin cities Rawalpindi and Islamabad but data was received only from twenty-seven universities. A purposive sampling method was used for gathering data. A non-probability sampling technique called "purposive sampling" selects participants specifically based on traits or standards that most effectively suit the study's objectives (Egami & Lee, 2024). Sample size of the study is twenty-seven (n=27) university librarians in this study. One participant from each university was approached who was serving as leading position and this was the eligibility criteria of participant.

Data Collection

Data were gathered through a structured questionnaire that was prepared on and most librarians gave consent on mobile to fill out the questionnaire. Three point likert scale was utilized in this study for data collection. Employing Likert scales is common in survey research (Rokeman, 2024).

Research Design

The study is based on deductive reasoning which refers to the methodology of quantitative techniques and meets the aforementioned objectives. Quantitative research techniques investigate phenomena and their relationships

Google Questionnaire link were sent to the emails. Calls were placed to them before sending the questionnaire

Data Analysis

After receiving data, it was analyzed through SPSS and used descriptive statistics for the interpretation of the results. Descriptive statistics including frequencies, percentages, mean, and SD were employed to assess the data in accordance with the study's goals.

Results and Discussion

The study aimed to find out the practices of research literacy programs, barriers, and strategies in the university libraries of Pakistan. A response rate was achieved from 27 out of 28 respondents. Table 1 presents the demographic information of the respondents. The findings show that most 17 (63.0%) contribution was from the public universities. The highest ratio of feedback 11 (40.7%) was from Chief Librarians and the second highest ratio was from senior librarians 9 (33.3%) respectively. In addition, a significant portion of respondents, 15 (55.6%), said they had 11-20 years of experience and the majority of respondents, 14 (51.9%), were M.Phil degree holders in library and information science. Male participants were 22 (81.5%) and female respondents 5 (18.5%) respectively.

Table 1
Demographics of Respondents (n=27)

Demographics	Frequency	%
Status of the University		
Public	17	63.00
Private	10	37.00
Designation		
Library Assistant	2	7.4
Senior Librarian	9	33.3
Deputy Librarian	5	18.5
Chief Librarian	11	40.7
Professional Qualification		
MLIS/BS	4	14.8
M.Phil	14	51.9
Ph.D	9	33.3
Professional work experience		
1-10	4	14.8
11-20	15	55.6
21 and above	8	29.6
Gender		
Male	22	81.5
Female	5	18.5

The survey examined the university libraries' engagement in offering research literacy programs for their researchers, such as discussed in Table 2 in detail. There are decreased levels of recent involvement in umbrella, rapid and narrative reviews, meta-analysis, and utilizing NVivo, it seems like they have the least interest in these research programs or they lack knowledge. It might be possible students of these universities have no demand for these research-related practices. However, several also mentioned self-proficient significant programs for research literacy on

Microsoft Office (Word, Excel, and PowerPoint), data visualization tools, use of Google Scholar, introductions to research, and research ethics. The study's findings conclude the majority of librarians felt confident in their RL self-abilities, and there is little practice of outsourcing regarding the research literacy programs. A moderate response of self-proficient practices was shown among university librarians on the APA writing styles, theoretical review, research questions, SPSS software, and data collection procedure. The findings show that librarians usually provide self-proficient research practices

instead of outsourcing and no practice response was almost the least, which demonstrates that university librarians are providing services

seriously. These findings correlate with those of a few earlier research, such as (Moin Ud Din et al., 2022; Safdar & Idrees, 2021).

Table 2
Librarians' Practices about Research Literacy Programs (n=27)

Research Literacy Programs	Self-Proficient		Out Source		No practice	
	Frequency	%	Frequency	%	Frequency	%
Introduction in research	17	63.0	2	7.4	8	29.6
Statement of problem	14	51.9	4	14.8	9	33.3
Research Objectives	13	48.1	6	22.2	8	29.6
Research Questions	17	63.0	4	14.8	6	22.2
Rationale and Significance	11	40.7	8	29.6	8	29.6
Research Methodology	11	40.7	7	25.9	9	33.3
Data collection procedure	16	59.3	6	22.2	5	18.5
Data analysis procedure	13	48.1	6	22.2	8	29.6
Delimitations and Limitations	12	44.4	9	33.3	6	22.2
Research report writing	13	48.1	6	22.2	8	29.6
Research Proposal	16	59.3	6	22.2	5	18.5
Research ethics	17	63.0	6	22.2	4	14.8
Use of Turnitin	13	48.1	7	25.9	7	25.9
Use of SPSS	16	59.3	7	25.9	4	14.8
Use of Nvivo	7	25.9	14	51.9	6	22.2
Basic and advanced searching techniques	9	33.3	12	44.4	6	22.2
Use of google scholar	21	77.8	2	7.4	4	14.8
Data visualization tools	22	81.5	5	18.5	0	0.0
Theoretical Review	16	59.3	7	25.9	4	14.8
Methodological Review	15	55.6	8	29.6	4	14.8
Mapping review	8	29.6	9	33.3	10	37.0
Meta-analysis	8	29.6	7	25.9	12	44.4
Umbrella review	3	11.1	10	37.0	14	51.9
Narrative review	8	29.6	7	25.9	12	44.4
Rapid review	7	25.9	11	40.7	9	33.3
Systematic literature review	13	48.1	9	33.3	5	18.5
Summarizing results	14	51.9	4	14.8	9	33.3
Discussion	13	48.1	7	25.9	7	25.9
Future directions	11	40.7	5	18.5	11	40.7
APA	18	66.7	4	14.8	5	18.5
Chicago	15	55.6	6	22.2	6	22.2
MLA	13	48.1	3	11.1	11	40.7
IEEE	12	44.4	5	18.5	10	37.0
MS Word	26	96.3	1	3.7	0	0
MS Excel	25	92.6	2	7.4	0	0
MS PowerPoint	24	88.9	1	3.7	2	7.4

Major eight barriers regarding the challenges associated with the provision of RL programs in Rawalpindi and Islamabad universities were presented by the respondents.

According to the research analysis, opinions on the barriers RL programs recognize differ. The most often cited barriers to the establishment of research literacy programs were the following: Lack of collaboration between faculty and librarians (mean = 1.00) is viewed as a minor challenge, although no interest in faculty (mean = 1.50) and lack of awareness about the importance of RLP among university librarians (mean = 1.38), on the other hand, are seen as more serious. The majority of the questions have modest standard deviations, suggesting consistency in replies; however,

faculty interest (SD = 0.535) indicates a more varied range of opinions.

These results correspond with those of some earlier studies, such as those by (Jabeen et al., 2016; Ullah & Ameen, 2014), which found a lack of coordination between faculty and librarian. Most university librarians have this issue that teachers do not bother with the collaboration of these types of activities. It is a key barrier that needs to be solved. Secondly, the highlighted barrier is the lack of RL skills among university librarians. Chances for librarians to receive research training, Lack of time by the librarians due to professional workload, and deficiency of technology competence were also highlighted issues gradually. Training in advanced technologies is highly needed to overcome this barrier.

Table 3
Barriers while offering Research Literacy Programs (n=27)

	N	Minimum	Maximum	Mean	Std. Deviation
Lack of RL skills among the university librarians	8	1	2	1.25	.463
Shortage of trained library staff to provide RL instructions	8	1	2	1.13	.354
Lack of awareness about the importance of RLP among university librarians	8	1	2	1.38	.518
Lack of research training opportunities for librarians	8	1	2	1.13	.354
Lack of collaboration between faculty and librarians	8	1	1	1.00	.000
Lack of time by the librarians due to professional workload	8	1	2	1.25	.463
No interest in faculty	8	1	2	1.50	.535
Lack of technological proficiency	8	1	2	1.13	.354

To get feedback from librarians about practical methods for implementing RL programs practice, various strategies proposed by librarians to overcome these barriers such as cooperation, professional advancement, evaluation of services, and reading the latest research. Look to your fellow librarians for

guidance, informing faculty members of the significance of literacy programs, professional seminars, digital connections, increased meetings, and other educational gatherings, support from institutions, and researchers' needs analysis. These proposed strategies may be helpful to overcome these barriers.

Table 4

Strategies to overcome the Barriers (n=27)

	Strategies	Frequency	%
1	Collaboration and Partnerships, Outreach and Marketing, User Engagement and Feedback, Training and Professional Development, Service Evaluation, and Impact Assessment	4	14.9
2	Conduct an environmental scan of your library to identify potential scheduling, contractual, and interpersonal staff barriers as well as opportunities. Read the latest research. Look to your fellow librarians for guidance Familiarize yourself with the curriculum standards or objectives. Lead professional development for teachers.	6	22.2
3	Digital link and coordination	2	7.4
4	Librarians may increase the meetings, communication, and other gatherings with the faculty members to tell them the importance of literacy programs. As there is no direct link with students, librarians face difficulty in informing students about their literacy programs. Faculty can encourage students to attend these programs.	5	18.5
5	The relevant department should nominate for participation in the professional workshops.	1	3.7
6	Research Literacy programs should be included in the curriculum of library and information sciences.	6	22.2
7	Research questions, selecting primary studies, Appraisal of primary studies, Preparing data, Data analysis	2	7.4
8	To overcome barriers and ensure the success and sustainability of research literacy programs, libraries can apply the following strategies:	1	3.7
	Institutional Support:		
8.1	Seek strong institutional support and recognition for research literacy programs. Advocate for resources, funding, and time allocation to support the programs.		
	Professional Development for Librarians:		
8.2	Invest in continuous professional development for librarians to enhance their research literacy skills and Provide opportunities for librarians to attend conferences, workshops, and training programs focused on research methodologies and information literacy.		
	Needs Assessment:		
8.3	Conduct regular needs assessments to understand the specific requirements and challenges of researchers and students.		
	Tailored Instruction and Support:		
8.4	Customize research literacy instruction and support to cater to the specific needs and disciplines of researchers and students. Offer a range of		

resources, workshops, and consultations that are tailored to different levels of expertise, research methodologies, and academic disciplines.

The participants were also questioned for strategies to improve RL practices in the universities of Pakistan. The respondents said training/workshops for library professionals and programs to raise awareness of RL among library patrons were helpful tactics. Previous research has recommended some comparable techniques for enhancing RL practices (Batool et al., 2022; Moin Ud Din et al., 2022; Safdar & Idrees, 2021). The results of this research will assist in promoting and improving the RL activities provided by LIS experts to library patrons in Pakistan. Furthermore, investigations to find out what students are thinking about RL practices might also be a subject of significant interest.

Conclusion and Recommendations

This research concludes that library professionals working in Rawalpindi's university libraries are fully aware of the value of RL programs to see the needs of university researchers. The majority of librarians have found the ability to implement RL practices in universities, however, several obstacles were also noticed, including a lack of training for librarians, no cooperation from organizations, and a deficiency of technology proficiency. The aforementioned obstacles were thought to have a bad impact on research literacy programs in Pakistani university libraries and it is recommended that librarians take the appropriate actions to get rid of these challenges. It is vital that university librarians collaborate with faculty, and overcome the deficiencies regarding the use of technology and research practices.

In light of the findings, this study suggests some important points to university librarians that provide RL programs to their customers, and the universities should assist them with the necessary infrastructure, resources, and expertise. Librarians must increase their engagement as well as their proficiency in research and also in technology. Library

professionals should own this profession honestly and fulfill the needs of the current research era

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