Analysis of Information Literacy Skills of the University Students: A Case Study of the University of Science and Technology Bannu

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Abstract

This study investigated the information literacy skills of the students at the University of Science and Technology Bannu. The objectives of the study were to assess students' ability to identify the nature and extent of needed information, awareness about sources of information, skills to access and evaluate various sources of information, and present the collected information efficiently. The study was quantitative and employed a survey and a closed-ended questionnaire as research methods to collect data from the respondents. Utilizing the convenient sampling technique for data collection, the researchers distributed 350 questionnaires among the students, of which 330 were received, having a response rate of 94%. The majority of students were able to find necessary information and utilize electronic resources, demonstrating a thorough understanding of the requisite knowledge. They frequently used sources such as monographs, newspapers, dictionaries, and library catalogues. Students also exhibited critical evaluation and appraisal skills, focusing on paper layout, professionalism, and the timing and rationale behind information publication. Students were proficient in presenting information using Microsoft PowerPoint, writing research papers using Word, and disseminating information via email and social media platforms. University authorities ought to organize seminars, lectures, and workshops to educate students on acquiring electronic resources, various research techniques, and information strategies while searching for information in online databases.

Keywords: Information Literacy, Information Literacy skills, Information Needs, Evaluation of the Information, University of Science and Technology, Bannu, Khyber Pakhtunkhwa, Pakistan

Introduction

People in many spheres of life require knowledge and information (Hussain & Idrees, 2021). Information is a critical resource that is defined as processed content that assists in decision-

making (Ragowsky et al., 1996), organizational success (Holbrook et al., 2005), broadens one's knowledge and mental ability (Spitzer et al., 2024) and changes the overall status of a society (Madden, 2000). In a similar vein, Bazrafkan et al. (2017) specifies information as the answer to a question that reveals the object's fundamental characteristics and details. According to Pulver and Adcock (2008); Foo et al. (2017), information aids in the acquisition of knowledge, influences attitudes, and promotes continuous learning for individuals. Additionally, in order to effectively utilize information, an individual must possess information literacy competencies (Baro & Zuokemefa, 2009).

A university's primary mission is to support teaching, learning, research, and community service, all of which are typically pursued by its parent institution (Hussain & Saddiqa, 2019). They exist primarily to fulfill students' curricular demands as well as the professional interests of teachers and the institution's entire personnel (Seifi, et al., 2020). Academic libraries play a crucial role in helping students develop information literacy (IL) and the ability to study throughout their lives (Tachie-Donkor & Ezema, 2023).

Information literacy is a recently acknowledged concept in various fields, including Library and Information Science (References). Information literacy has emerged as a result of the ongoing growth and development of the information society (Chanchinmawia & Verma 2017). The term "information literacy" was first used in 1974 by Professor Paul Zurkowski to describe people who can find and use information to address their problems (American Library Association, 2000). Information literacy is a necessary skill that is required at every stage of a person's life (Lwehabura, 2018). A person's ability to make decisions wholly depends on the quality of information they have (Akter & Ahmed, 2024). IL skills enable users to find, retrieve, analyze, and use information (Jose et al., 2024).

Information literacy is "a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information (ALA, 2000). Information literacy is the ability to understand and be aware of the organization and provenance of information (Rojas-Estrada et al., 2024). The understanding and ability of individuals to assess, utilize, and generate information proficiently to attain their personal, social, professional, and educational objectives (UNESCO, 2023). An individual needs a certain set of competencies known as information literacy to search for, obtain, analyze, and utilize information (Mahmoudi & Taheri, 2015). Those who are "information literate" demonstrate competence in "information gathering, use, management, synthesis, and creation (Bent & Stubbings, 2011). The idea of information literacy refers to the entire information-seeking process, including topic identification, resource selection and use, information retrieval, resource evaluation, and research documentation (Rafique, 2014). Information literacy is made up of three key concepts: information and communication technology (ICT), information resources, and information processes (Boekhorst & Britz, 2004)

ILI assists students in building literature search abilities by retrieving literature relevant to their topic of interest from a variety of information sources (Kupeshan & Raja, 2025). Information literacy abilities help students become independent in finding solutions to challenges they confront during their study (Sasikala & Dhanraju, 2010). IL is inevitable because knowledge creation and dissemination have increased, the current practice is changing frequently, information communication technology advancements impose conventional changes, social and technological changes drive an increased need for information and its use, and social pressure to keep up with others is increased (Govindarajan & Dhanavandan 2018). Libraries in higher education institutions offer Information Literacy Instruction (ILI) to improve learning and teaching (Olubiyo et al., 2019). Libraries provide ILI to their users in the form of online courses, webinars, conferences, seminars, and lectures (Al-Qallaf & Aljiran, 2022).

The University of Science and Technology, Bannu (UST Bannu) is a public sector university situated in Bannu, Khyber-Pakhtunkhwa, Pakistan. The UST Bannu aims to integrate

disciplines and forge new collaborations while discovering innovative methods to improve academic standards and research capabilities. The UST Bannu is a public sector university in Khyber Pakhtunkhwa, created under the Provincial Assembly Act No. XIII of 2005, as per notice No: PA/NWFP/Legis:/2005/28/16 dated November 15, 2005, Peshawar (UST Bannu, 2024). UST Bannu is advancing towards the goal of providing high-quality education in Life Sciences, Engineering and Technology, Social Sciences, Physical Sciences, Business Studies, and Humanities. The university currently offers Bachelor's, Master's, and Ph.D. degree programs

Literature Review

Govindarajan and Dhanavandan (2018) assessed the information literacy abilities of university students and discovered that they were familiar with ILS. They also observed that the majority of students relied on books for knowledge and information, whereas the internet was used to find information. Buba et al. (2021) used Kuhlthau's Model of the Information Search Process (ISP) to assess undergraduate students' information literacy and use of electronic resources. The study found that more than 78% of students could initiate the search process because they had a good comprehension of search terms and information literacy training. Sanjay and Shashank (2014) assessed college lecturers' information literacy abilities. The findings revealed that only 31.25% of instructors used the internet for information retrieval, with the remainder using it for other purposes, such as email and discussion. They observed that 65.63% of teachers used Google to retrieve material, while 28.13% of respondents used Yahoo.

Matonkar and Kumar (2021) examined the level of information literacy among pharmacy students. The findings indicated that a significant majority of students (97.3%) recognized books as a source of knowledge, followed by Wikipedia (89.4%) and newspapers and magazines (69.6%). Similarly, all participants were familiar with and utilized Google as a search engine. Pathan and Anandhalli (2019) examined the knowledge of information literacy among faculty members of engineering institutions in Vijayapura. The study's results indicated that the library and the Internet served as the principal sources of information for all faculty members. E-books, standards and specifications, magazines, and books were the preferred information sources of the respondents. The library authorities were advised to provide regular training sessions for students and teachers to instruct them on the use of electronic resources. Santharooban (2016) assessed the information literacy of undergraduate medical students at the Sri Lankan Medical University. The students were found to lack the requisite abilities to use a medical encyclopaedia. Nanda and Ramesh (2012) performed research on the extent of ICT literacy among educators and professionals in the disability field. The findings indicated that 87% of the participants have computer literacy. Compared to the students, the responders demonstrated enhanced computing skills in internet usage, email, Microsoft Office, and the World Wide Web.

Tandi et al. (2018) assessed IL awareness and e-resource utilisation among health science professors at Muhimbili University of Health and Allied Sciences (MUHAS). The researchers discovered that most faculty members were well-informed about electronic resources and tools, such as e-books, e-journals, Google, Wikipedia, and Google Scholar. Faculty members who were familiar with IL were more effective users of e-resources and possessed a greater level of familiarity with them than their non-familiar counterparts. Islam and Tsuji (2010) analyzed to assess the information literacy competency of graduate students of library information science. They discovered that 10% of the pupils employed "truncation and Boolean operators" to create their queries. Most students (60%) were able to recognize the citation of a journal article. Seven of the ten students were able to identify the various sources of information, while three were able to recognize the necessity for information.

Mahmood (2013) conducted a study at the University of Punjab, Lahore, to ascertain the perceived IL capabilities of students. The findings of the investigation indicated that respondents were more at ease with the utilization of internet search engines and basic computing skills. The

search skills of IL students at five private universities in Nigeria were evaluated by Ilogho and Nkikio (2014). The study's findings indicate that the majority of students (88%) were oblivious of the appropriate source for journal articles. The study demonstrated that 46.79% of the participants regarded encyclopedias as a suitable resource for acquiring knowledge about a specific topic. They suggested a user education program in libraries that would be continuous and enhanced, enabling students to become familiar with a diverse array of information sources and formats. Ullah and Ameen (2015) investigated the perceptions of medical librarians regarding the importance of information literacy. All the chief librarians emphasized the importance of the eight skills that were defined for their users. Public sector chief librarians recognized that "accessing essential information effectively and efficiently" was their primary objective. The second most important priority was "identifying credible, authoritative, and pertinent information sources." "Recognizing the necessity of information" was the third most important priority. Concurrently, private sector medical institutions prioritized the capacity to "organize the collected information" and "use the information effectively to complete a specific task."

Kousar and Mahmood (2013) evaluated the information literacy proficiency of post-graduate engineering students at the AIR University. They lack a fundamental understanding of the methods and techniques used to extract essential information from these resources. The academic success of these students is contingent upon the development of their information literacy skills, which were reported to be insufficient. McGuinness (2006) discovered that faculties have not prioritised information literacy to date. The study is a reflection of the faculty's belief that the development of students' information literacy skills is tied to the individual's interest, motivation, and inherent abilities, rather than the available instructional programs. In his survey, Singh (2005) found that only a small number of undergraduate students from a variety of accredited programs were not considered information literate. However, many of their graduate students met the information literacy criteria.

Statement of Problem

In this era of information proliferation, students are frequently perplexed about where to find the necessary information for a specific assignment or research. This uncertainty causes many of them to become frustrated with their academic performance. Information is a fundamental need for students and the most significant component of research and other academic pursuits. It is required for all academic assignments, including research. Unfortunately, based on observation and literature, most students have little or no knowledge of how to investigate needed information, assess it, and present and use the obtained information in an information environment. Taking this into consideration, the researchers want to survey to determine the level of information literacy (IL) skills possessed by the students of UST Bannu.

Objectives of the Study

The study was designed to achieve the following objectives
1. To assess students' capacity to identify the nature and scope of pertinent information.
2. To assess the students' awareness regarding various sources of essential information.
3. To examine how students identify and retrieve various sources of knowledge.
4. To evaluate the respondents' competencies in analyzing the gathered material.
5. To analyze the efficacy of the respondents' presentation of the obtained information.

Research Methodology

Descriptive research design was employed to carry out and achieve the study's objectives, as it offers greater reliability, analytical depth, and the capacity to utilize statistics for generalizing the findings (Bahader et al., 2022; Hussain & Sudir, 2025; Uwandu & Osuji, 2022). The investigation was carried out employing a quantitative approach, utilizing the survey research

technique to fulfill the intended goals. The survey technique is very popular among social science researchers, and it is also employed by library and information science researchers to know the perceptions, attitudes, awareness, and assessment of various parameters and constructs. (Anwar & Zhewei, 2022; Hussain & Ameen, 2023; Khan & Bhatti, 2024).

The study population comprised undergraduate students from the University of Science and Technology Bannu. Three thousand students (3000) were enrolled in various university departments. The sample is derived from the population using a conventional sampling calculator. The Krejcie & Morgan table suggests that a sample size of 341 is suitable for a population of 3000 in the research. A total of 341 students were selected as the sample for the study, utilizing a convenient sampling technique to gather data from the target group.

The questionnaire of Ullah (2021) was adjusted to align with the study's objectives in order to gather data from the respondents. A total of 350 questionnaires were distributed among the students, and 330 duly filled questionnaires were returned, resulting in a response rate of 94%. The surveys submitted were meticulously inspected and analyzed. Responses from respondents were recorded and organized for data analysis using the Statistical Package for Social Sciences (SPSS). Descriptive statistics were employed to get the frequency, mean, and standard deviation values.

Data Analysis and Interpretation
Demographic Information of Respondents

This section provides insights into the demographic characteristics of the sample, including the distribution of respondents by gender, as well as their age and qualifications. Table 1 indicates that male students represented the majority of respondents at 53.6%, while female students accounted for 46.4%. A significant portion of the respondents, specifically 60%, fell within the 18-20 age category. This was followed by the 21-23 years age group, which comprised 27.6% of the participants, while only 2.4% were in the 24-26 years age range. A smaller proportion of respondents (10%) belonged to the age group over 26 years. A significant majority of the respondents, comprising 88%, were BS students, while the smallest group consisted of Master of Philosophy (M. Phil) students at 12%.

Table 1: Demographic Information of Respondents (N=330)

Gender	Frequency	Percentage
Male	177	53.6
Female	153	46.4
Age	**Frequency**	**Percentage**
18-20	198	60.0
21-23	91	27.6
24-26	8	2.4
>26	33	10.0
Program	**Frequency**	**Percentage (%)**
BS	290	87.9
MPhil	40	12.1

Nature and Extent of Needed Information

The students were asked about their possession of the necessary skills to assess the nature and extent of information. Seven statements were provided to evaluate the respondents' skills regarding the statements outlined in Table 2. Findings reveal that the majority of students were able to find the necessary information to fulfil their academic requirements (Mean=4.69) and utilize electronic resources to satisfy their information demands (Mean=4.49) and demonstrated a thorough comprehension of the requisite knowledge (Mean = 4.49). They also claimed they can

locate the necessary information (Mean=4.45), utilize printed resources for identifying required information (Mean=4.36), and recognize diverse sources of information (Mean=4.10).

All of the statements received higher mean values, indicating that most students had the skills to identify the nature and extent of information they required for various academic purposes.

Table 2: Nature and the Extent of Needed of Information (N=330)

Statements	Mean	S. D	Variance
I can define the information needed to meet the requirements and solve the problem.	4.69	2.85	8.13
I can use online resources for the recognition of needed information.	4.49	.65	.427
I can fully understand the needed information.	4.49	.77	.603
I can determine whether the needed information exists or not.	4.45	.71	.516
I can use printed materials for recognition of the necessary information.	4.36	2.26	5.15
I can recognize the various sources of information.	4.10	.612	.375
Go for help if required to understand the needed information.	4.07	.48	.234

Awareness about Different Sources of Information

The survey respondents were also asked about the information sources they frequently used, using a five-point Likert scale ranging from "most frequently used" to "never used." The statistics in Table 3 show that the most frequently used sources of information among the respondents include monographs (Mean = 4.73), newspapers (Mean = 4.44). Dictionaries and encyclopedias (Mean=4.13), library catalogue (Mean=4.13), research reports (Mean=3.83) and theses and dissertations (Mean=3.79). They also showed their familiarity with other information resources such as conference proceedings, audio/visual sources, government reports, online databases, and reports.

Table 3: Awareness about Different Sources of Information (N=330)

Statements	Mean	S. D	Variance
Monograph/Textbooks	4.73	.56	.31
Newspapers	4.44	.99	.98
Dictionaries and Encyclopedias	4.27	1.75	3.0
Library Catalogue	4.13	.98	.97
Research Reports/Articles	3.84	.613	.37
Theses and Dissertations	3.79	1.06	1.1
Conference/Seminar Papers	3.78	.59	.35
Audio – Visual Sources	3.77	.97	.94
Government publications	3.66	.94	.89
Print/Electronic Journals	3.58	.71	.51
Health Care Groups/Organizations	3.63	.40	.49

Abstract and Indexes	3.49	.70	.49
Online Databases	3.41	.59	.36
Institutional Resources/Repositories	3.10	.52	.28

Locate and Access the Sources of Information

A person with strong information literacy skills recognizes the methods and sources for locating and obtaining information. The data demonstrates the students' abilities in identifying and obtaining the necessary information sources. The tabulated data indicates that a significant number of students utilized search engines to find the necessary information (Mean = 4.56), while a majority also chose to access the HEC digital library (Mean = 4.46) and its contents. The data suggests that a majority of the students possessed the capability to copy or download files from the internet (Mean = 4.40). The statements received the lowest mean scores in relation to the online public access catalogue (OPAC). These scores indicate that they lacked the necessary skills to utilize the OPAC and locate library resources effectively.

Table 4: Locate and Access the Sources of Information (N=330)

Statements	Mean	S. D	Variance
I can use search engines to locate required information.	4.56	.88	.78
I can use HEC digital library.	4.46	.98	.96
I can Copy/Download files form the internet.	4.40	1.00	1.0
I can download scholarly articles from the internet.	4.00	.86	.754
I can use different databases to access needed information / articles	3.96	1.12	1.2
I can find what I am looking for	3.86	.68	.46
I can use library catalogue in all formats.	3.81	.69	.48
I can apply an advanced search option to limit my search	3.76	1.02	1.0
I can utilize Boolean Operators and Truncations for searching.	3.55	1.03	1.0
I can search in the online medical database	3.51	.82	.68
I understand various online searching techniques	3.30	.78	.61
I can understand the abstracting and indexing services	2.94	.61	.38
I can search for keywords in any OPAC	1.37	.83	.69
I can use OPAC to locate the needed information.	1.34	.77	.60
I can search for an author, subject, and title in Online Public Access Catalogue	1.30	.73	.54

Table 5: Evaluation of the Retrieved Information Sources

Table 5 illustrates the students' ability and capabilities to critically evaluate and appraise the information and information sources they have acquired. Data indicates that aspects like the quality of paper layout and graphical images (Mean=3.93), as well as professionalism, were commonly utilized as evaluation criteria for the information collected from students (Mean = 3.95). In a similar vein, the majority of students place significant emphasis on the ISBN and ISSN linked to their information sources. Furthermore, during the assessment of the data gathered, a majority of students also considered the timing and rationale behind the publication of the information. In addition, the respondents gave less weight to items like writers' credentials (Mean=1.7), saying they were not interested in the trustworthiness of the author of any information source (Mean=1.20), and comparing information from different sources (Mean=1.38).

Table 5: Evaluation of the Retrieved Information Sources (N=330)

Statements	Mean	S. D	Variance

What is the quality of the page? Layout and graphical images? Does it look professional?	3.93	.55	.308
Is there any standard number on the information (ISBN, ISSN)?	3.87	.54	.298
Why is this information being published?	3.78	.66	.443
Why do you need this information? Does it apply to your research needs?	3.72	.63	.408
Where did the information come from? (.edu, .Gov., .com,. mail, .org)	3.67	.62	.385
When was the information published?	3.52	.68	.463
To determine whether the information needs is accomplished or the initial query needs to be received.	3.48	.62	.390
To determine whether the information received is valuable or not?	3.35	.65	.424
Is the information from a reliable source?	3.30	.65	.433
How old is the information? Is it still reliable?	3.19	.63	.398
I can examine and compare information gathered from various sources to evaluate reliability, validity, accuracy, authority, etc.	1.38	.93	.870
Can the author be contacted?	1.20	.84	.713
Check the author's credentials. Is the author an expert in the field?	1.17	.77	.601

Table 6: Presentation of Information

Table 6 demonstrates the abilities of students in conveying the information. The values indicate that most students were excel in presenting information with Microsoft PowerPoint presentation software (Mean = 4.70), possessed the skills to write a research paper using Microsoft Word (Mean = 4.69), and were knowledgeable about various formats for accessing information, including PDF, Word, JPG, and MP4 (Mean = 4.66). The findings suggest that a majority of students were proficient in disseminating information via email (Mean=4.57) and social media platforms (Mean=3.98). Furthermore, Table 6 indicates that a significant proportion of the students were capable of presenting information in both print and electronic formats (Mean = 4.19), exhibited strong literary skills in the context of digitizing information (Mean = 4.42), and demonstrated familiarity with various referencing styles (Mean=4.19). The students showed very less or no skills in using citation management software was low (Mean = 1.84).

Table 6: Presentation of Information (N=330)

Statements	Mean	S. D	Variance
I can make PowerPoint presentations	4.70	.72	.524
I can write research paper using MS word.	4.69	.80	.645
I have knowledge about various formats like pdf, word, jpg, jpeg, Rar, Tiff, bitmap, HTML, and mov, mp3, and mp4.	4.66	.73	.533
I can send information through email.	4.57	.96	.925
I can present the information in all formats.	4.55	1.00	1.002
I can digitize information.	4.42	1.01	1.023
I have the knowledge of different research styles to organize the reference list.	4.19	.94	.890
I can present the information in digital and printed format.	4.19	.95	.903
I can share information on social media.	3.98	1.01	1.021
I can share the information on online discussion groups and professional platforms.	3.93	.96	.929
I have knowledge of Drop Box Services.	3.84	.61	.378

I can make a spreadsheet.	3.76	.63	.401
I can use citation management Software (Endnote, Ref work, Mendeley, etc.)	1.84	1.35	1.827

Discussion

The results of the study illustrate how students perceive their information literacy skills. The students asserted that they possess adequate information literacy skills to determine the nature and extent of information. The results are consistent with the studies of Rehman and Rasool (2019), who found that 60% of students of Khushal Khan Khattak University were capable of identifying the nature and extent of the information required for various academic purposes. Nuryaman and Rifai (2024) reported that the students at the Graduate School of UIN Syarif Hidayatullah Jakarta possessed strong IL skills and acknowledged that they could complete a variety of academic tasks with the assistance of these skills. According to Alex-Nmecha Ejitagha (2023), the vast majority of undergraduate students in Nigerian institutions were proficient in digital information literacy. They demonstrated a high level of proficiency in conducting internet searches and were ready to utilize new technologies readily.

The survey results show that the respondents were aware of various information resources such as monographs/books, newspapers, dictionaries, encyclopedias, library catalogues, research reports, theses and dissertations, conference proceedings, audio/visual sources, government reports, online databases, and reports. Mahmood (2013) discovered that the respondents expressed a sense of comfort in determining their needs. Most students acknowledged the diverse sources of information available to them, utilizing both printed and online materials to locate the information they require. Jan et al. (2020) assessed the faculty members of the medical colleges of KP. They reported that the most preferred sources were monographs/books, newspapers, dictionaries, encyclopedia, library catalogue, research reports, theses, and dissertations. Hemavathi and Ramesha (2019) conducted a study that indicated most students preferred using textbooks, dictionaries, and the internet to find the meaning of words. In support of this, a study conducted by Natarajan and Roja (2014) demonstrated that the majority of respondents frequently employed textbooks to complete their coursework. Students exhibited a comprehensive comprehension of a variety of information sources, including newspapers, research reports and articles, print and online journals, audiovisual materials, and government publications.

The survey results indicate that students accessed and utilized various sources to locate and retrieve the information they needed. These include search engines, the HEC digital library, the internet, databases, and the library catalogue. Tachie-Donkor and Ezema (2023) discovered that the preferred sources of information among students at Cape Coast, Ghana, were the internet, physical resources in the library, and lectures delivered by teachers in classrooms. Rafique (2014) discovered that only a small fraction of faculty members accessed the HEC digital library to locate and access their materials. Mahmood (2013) reported a notable lack of confidence among students at the University of Punjab in Lahore when using the HEC digital library. The analysis indicated that only a small number of students were able to do a search in locating information sources using the OPAC. The research conducted by Kumar et al. (2019) observed that the students at Davangere City, Karnataka, India possessed highly IL skills regarding various tools to access and retrieve information. They also show competent use of the library OPAC while retrieving information resources to satisfy their needs. Haridasan and Khan (2009) demonstrated that all faculty members and research scholars utilized OPAC for literature searching. A significant number of students could employ advanced search options to refine their queries, utilizing Boolean operators and truncation techniques for effective searching. Sasikala and Dhanraju (2011) found that a significant proportion of students relied on basic keyword searches, while 20% utilized field search techniques to retrieve information from various databases. Majid et al. (2020) proposed that to improve the IL skills of students, the curriculum of the schools should include a course on information literacy.

It was found that the students could critically evaluate and appraise the information gathered from various sources. They focused on the quality of the paper, layout, and graphical images as well as the standard number of the information resource (DOI, ISBN, ISSN), and who, when, and from where the information is published. In addition, the respondents gave less weight to items such as writers' credentials and comparison of information gathered from various sources to evaluate their reliability, validity, accuracy, and authority. Evaluation of information is the systematic assessment of the merit and value of information (Belanger et al., 2011). As a result, students must be able to distinguish between reliable and inaccurate information and select the most relevant material for their academic endeavors (Alex-Nmecha & Ejitagha, 2023). According to Keboh and Baro (2020), Nigerian undergraduate LIS students were able to verify the digital information they obtained by checking the identities and credentials of the writers before using it. Other factors that were important to the respondents included the work's up-to-datedness, the content's usefulness, its scholarly or professional quality, and the overall quality of the information. Lucaser & Acedera (2025) assessed the information literacy skills and critical thinking strategies of students at a community college in Misamis, Philippines. They possessed strong skills in identifying source authority, detecting content accuracy, and determining the currency and verifiability of the information gained from various sources.

The analysis indicates that the majority of students demonstrated proficiency in using presentation software, and most students could write a research paper with word processing tools. The results indicate that a majority of participants were able to disseminate information via email and social media platforms. In contrast to the findings, Mahmood (2013) discovered that respondents expressed comfort in using email for information sharing. Although most students were familiar with various referencing styles for organizing their references, they demonstrated a deficiency in skills related to utilizing citation management software (e.g., EndNote, RefWorks, Mendeley). Malanga (2017) conducted a study revealing that a significant majority of students were comfortable with the APA style, while a notable portion of respondents reported being unfamiliar with citation management software. Tandi Lowoga and Sukums (2018) conducted a study, revealing that a majority of faculty members expressed discomfort with using reference management software.

Recommendations
Considering the findings, the following suggestions are proposed to enhance students' information literacy skills.
- University authorities ought to organize seminars, lectures, and workshops to educate students on acquiring electronic resources, various research techniques, and information strategies while searching for information in online databases.
- Students should be aware of the evaluation of the gathered information, and fostering awareness regarding the ethical use of information should be prioritized for them.
- It is also proposed that the Information Literacy course should be included in the curriculum of every BS Program to enhance their understanding regarding various concepts of IL.
- The theory and practical classes of Information Literacy should be incorporated into the schedule of each class on a weekly, fortnightly, or monthly basis.

Conclusion
The study assessed the IL skills of the University of Science and Technology, Bannu, Information literacy skills are crucial for students to succeed academically and enhance their future professional opportunities. Practicing LIS professionals are acknowledged as information managers, and they need to take steps to impart information literacy skills to the younger

generation, thereby contributing to the development of an information-literate society. Enhancing the information literacy skills of students is therefore a critical objective of university education. Information literacy skills foster self-directed learning and enhance one's capacity for reasoning and critical thinking. The awareness and utilization of information literacy skills among students will contribute to fostering a positive image of the university.

Male students made up a larger portion of the research sample than female students, and the majority of responders were between the ages of 18 and 20. Additionally, it was observed that the vast majority of responders were Bachelor of Science (BS) students, with Master of Philosophy (M.Phil.) students making up the smallest group.

The study aimed to assess students' skills in evaluating information and identifying sources. The majority of students were able to find necessary information and utilize electronic resources, demonstrating a thorough understanding of the requisite knowledge. They frequently used sources such as monographs, newspapers, dictionaries, library catalogues, research reports, and theses and dissertations. However, they lacked the necessary skills to use the online public access catalogue (OPAC) effectively. Students also exhibited critical evaluation and appraisal skills, focusing on paper layout, professionalism, and the timing and rationale behind information publication. They also emphasized the importance of ISBN and ISSN but gave less weight to writer credentials. Students were proficient in presenting information using Microsoft PowerPoint, writing research papers using Word, and disseminating information via email and social media platforms. They were also adept in presenting information in both print and electronic formats, demonstrating strong literary skills and familiarity with various referencing styles.

The study had some limitations. First, it is restricted to the University of Science and Technology Bannu; second, it exclusively assesses students' information literacy skills. As a result, it is advised that such studies be undertaken to measure the IL skills of students from other universities in the KP and other provinces of the country. In addition, students' digital information literacy and technology management competency skills can also be investigated.

Reference

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