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<b>Title of research article</b> 				
<b>Information Culture and Information Literacy Competencies in Academic Communities: A Big-Six Framework Assessment Among Postgraduate Students at Tamanghasset University</b>				
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<b>Keywords</b>	Information culture; Information literacy; Big-Six model; Postgraduate students; Academic communities; Tamanghasset University; Humanities and Social Sciences; Algeria.			
<hr/> <b>Abstract</b> The rapid transformation of the digital environment has heightened the centrality of information literacy as an essential academic and professional competency for navigating contemporary knowledge ecosystems. This study examines the level of information culture and information literacy competencies among postgraduate students at Tamanghasset University through the lens of the Big-Six model—one of the most influential and pedagogically structured frameworks for developing information problem-solving abilities. Using a field-based descriptive approach, data were collected from postgraduate students across the Faculties of Humanities and Social Sciences using a structured questionnaire aligned with the six dimensions of the Big-Six model. The findings reveal strengths in identifying information needs and adopting basic search strategies, alongside weaknesses in evaluating, organizing, synthesizing, and presenting information.legal structures, and enhance collaboration between universities, government institutions, and private sector actors.				
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## Introduction:

The information revolution of the digital age has increased the volume of information, the tools for accessing and retrieving various information sources, and the methods for making information available and retrieving it. This, coupled with a degree of freedom in information dissemination, has contributed to individuals and institutions recognizing the need for an information literacy to satisfy their growing information needs. In academic institutions, information literacy is linked to the management of informational knowledge, considered a vast and ever-growing resource that requires an informational and organizational environment and culture that encourages the sharing and exchange of existing knowledge and experiences among individuals (Mohammed Hussein Al-Saffar et al., 2022).

The cultural level of societies is determined by the extent of their investment in information, both in production and consumption. Investment itself means utilizing tools, applications, and human skills to develop society, which in turn generates modern technologies capable of raising the level of individuals and meeting their informational needs. These needs are linked to the movement of scientific and technological progress, which is central to the roles of individuals in academic institutions and what is known as academic communities (Al-Salehi, 2013).

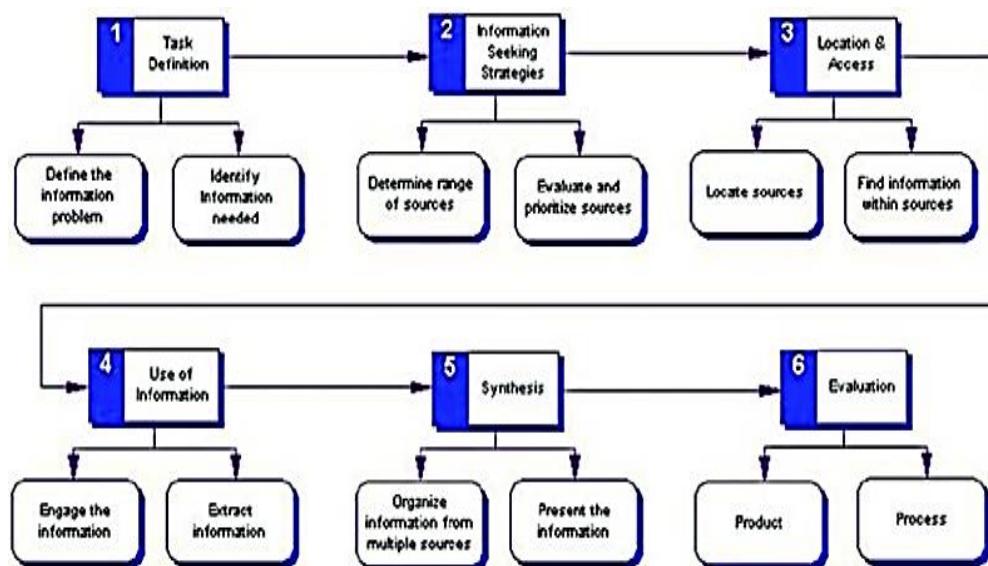
Given that community development stems from the culture of its members, academic institutions have been obligated to give great importance to raising the cultural and informational level of their human resources in service to society and human knowledge, especially in light of the challenges posed by digital technology related to information retrieval and its optimal use. Therefore, a set of skills and competencies necessary for members of academic communities in universities and educational and research institutions has been developed to integrate and interact with the structures of the information age and establish an information mindset that meets the informational needs of individuals, which has been termed information literacy (Barakat, 2018). Many global and international standardization institutions have worked on developing a general framework that defines information literacy indicators among individuals in academic communities, especially with the aim of bridging the information gap between the countries of the world and enabling a balance in societal development. These efforts have resulted in a set of standards, most notably the Information Literacy Competencies Standard for Higher Education, which emerged from the Association of Research Colleges and Libraries (ACRL) in 2000 and was approved by the American Association for Higher Education, distributed across five standards and twenty-two indicators. In addition, there is the 21st Century Skills Standard issued by the Department of Education of the North Central Region Educational Laboratory in the United States of America (NCREL) in 2003, which divided information literacy into four main categories, represented by digital age skills, creative thinking skills, effective communication skills, and high productivity skills. Other standards followed, such as the Australian and New Zealand Common Standard for Information Literacy (ANZIL) and the Big Six Skills Standard, which is the subject of our study (Issa, 2014).

Academic communities are concerned with the educational process of preparing individuals for the various challenges they will face in their academic and professional lives, and with making sound decisions in accordance with the demands of their current reality. Based on these objectives, the Big Six Skills model was developed by researchers Michael Eisenberg and Bob Berkowitz of Syracuse University in 1996 and revised in 2011 (Dawood, 2011). This model defines information literacy as one of the higher-order thinking skills necessary for developing and supporting academic, professional, and personal success. It is linked to the skills of identifying, defining, discovering, evaluating, and creating information in an effective and organized manner, and using and communicating it to solve various problems. It is considered essential for contributing to and participating in the information society as a social, scientific, and cultural phenomenon in the modern era (Mohammed, 2018). This model divides information literacy into six major skills, each of which branches into two sub-skills, as follows (Figure 1):

- The skill of identifying information needs: This skill relates to defining the information problem and the types of information sources needed to solve it. This can only be achieved through a well-defined problem and a clear understanding of what is required to answer it.
- The skill of research strategies Information literacy: This skill focuses on identifying and evaluating all information sources that can serve the informational need or problem, with the aim of selecting the best ones for use.

- Locating and accessing information: This skill activates traditional bibliographical skills, helping researchers obtain diverse information sources in both traditional and modern formats and utilize bibliographic tools to access the required information.
- Using information: This skill complements the previous ones, involving interaction with the information in each source through reading, presentation, or listening, and extracting information according to its relevance to solving the informational problem, whether by taking notes or summarizing.
- Organizing and presenting information: This skill includes the ability to express information gathered from diverse sources, organize the information, and present the results. Researchers at this stage are required to address the previously identified informational problem by making a decision or creating a new formulation for its solution.
- Evaluating information: This is perhaps one of the most important and challenging skills, as it involves evaluating the results obtained from the informational need or problem. The information problem, whether the results are a set of decisions, research work, or application, in addition to evaluating the quality of their performance in the task of solving the information problem (Iriani&Wicaksono, 2021).

**Figure 1: The six major information skills (Iriani&Wicaksono, 2021)**



## 2. Problem Statement:

Advances in information technology and its applications, along with the empowerment of lifelong learning strategies in academic communities, are of paramount importance for maintaining a safe distance in the information age and the digital environment. This is the context in which the problem of this study arises. Within the framework of information and communication technology training for postgraduate students at Tamanrasset University, significant difficulties were observed in identifying information sources relevant to their scientific research and in accessing and utilizing information to address the information-related problem they were studying. Furthermore, given that these students are also instructors supervising undergraduate students (Bachelor's/Master's), the need to develop their information literacy skills becomes a top priority for improving education and securing the future of students in educational institutions.

### 2.1 Research Questions:

Based on the above, this study poses the following questions:

-What information literacy skills do postgraduate students at the Faculty of Humanities and Social Sciences, Tamanrasset University possess?

-To what extent are information literacy skills present among the study sample?

-What are the possible solutions for developing information literacy skills within the academic community of Tamanrasset University? 2.2 Study Objectives:

Information literacy empowers individuals with a range of techniques and knowledge that enable them to effectively utilize information resources in accordance with the growing need for information and the vast amount of information surrounding them. Solving information-related problems is only possible with the presence of thinkers and information literate individuals capable of keeping pace with the rapid advancements in information technology. Therefore, this study focused on revealing the reality and level of information literacy skills within the academic community at Tamanrasset University through the following points:

-Identifying the information literacy skills of postgraduate students in the Faculty of Humanities and Social Sciences at Tamanrasset University.

-Determining the extent to which information literacy skills are present among the study sample.

-Determining the level of information literacy among the study sample.

-Providing necessary proposals for developing information literacy within the academic community at Tamanrasset University.

**3.Methodology and Tools:** This study falls under the category of quantitative studies, employing the descriptive method as the most suitable approach for studying and analyzing the results obtained by describing the phenomenon and clarifying the possible relationships between it and various other indicators.

### 3.1 Study Population and Sample:

The study addresses the level of information literacy skills among a sample of 108 postgraduate students (Master's/PhD) at the Faculty of Humanities and Social Sciences at Tamanrasset University, Algeria (Table 1). They were selected using a survey sampling method, which allows for a judgment on all members of the studied population.

**Table 1: Survey Study Sample.**

percentage of the sample	Number of individuals in the sample	Study community
%18.5	20	humanities
%81.5	88	Social Sciences
%100	108	the total

### 3.2 Study Procedures:

Statistical analysis was conducted using SPSS version 26. Cronbach's alpha coefficient was used to measure the reliability of the instrument and the degree of correlation and internal consistency of the questionnaire variables. Pearson's correlation coefficient was used to illustrate the linear relationship between the study variables and to determine the strength and direction of the relationship. Additionally, a t-test was used to examine the differences between means based on gender and academic specialization.

### 3.3 Study Tools:

The study adopted a questionnaire prepared by Dr. Maha Ahmed Ibrahim Mohamed, Assistant Professor of Information Science, Department of Information Science, Faculty of Arts, Beni Suef University, Egypt, within the framework of a study on "Information Literacy Skills of Researchers in the Field of Medical Sciences at Beni Suef University using the 6Big Model." The tool includes closed-ended questions and statements distributed on a five-point Likert scale (strongly agree - agree - neutral - disagree - strongly disagree). Our responses on the Likert scale were divided into positive values and scored from (1/2/3/4/5) and the opposite in the case of negativity (5/4/3/2/1), in addition to a three-point rating scale (average - good - excellent) and (do not use - sometimes - always). These statements were distributed across eight axes as shown in the following figure:

**Table 2: Study Instrument Themes**

Axis Title	N	Axis Title	N
The focus of the Big Six Skills standard	5	Personal Data Hub	1
The focus of information search strategies	6	Focus on identifying information needs	2
Information use axis	7	The focus is on identifying the location of information and ways to access it.	3
Information assessment axis	8	Information organization and presentation focus	4

The study questionnaire comprised 133 items. To ensure its relevance to the current scientific environment, it was submitted to professors at the University of Tamanrasset for review and feedback. Most of the questionnaire was accepted, with the exception of modifications to the personal data section, the reordering of some items, and the renaming of sections to align with current academic standards.

The reliability and consistency of the questionnaire were measured using Cronbach's alpha, yielding a result of 0.963, which is considered appropriate and acceptable for achieving the study's objectives. The questionnaire sections were characterized by measuring the dimensions shown in Table 2.

**Table 3: Description of the Study Management.**

M. Stability (Cronbach's Alpha)	phrase pattern	A. Phrases	
/	Closed questions	<b>03</b>	Personal data
,874	Triple rating scale	<b>12</b>	The Big Six Skills Standard
,813	Statements on the Likert scale	<b>12</b>	Identifying information needs
,831	Statements on the Likert scale	16	Information searchstrategies
,918	Statements on the Likert scale	41	Locating the information and ways to access it
,907	Triple rating scale	21	Using information
,932	Triple rating scale	18	Organizing and presenting information
,929	Triple rating scale	10	Information assessment
,963	/ /	<b>133</b>	All axes

**Results:** In order to determine the information skills of the students in the study sample, we can analyze the results of the six major information literacy skills that were distributed across the questionnaire axes, each with its own axis, in addition to the axis of awareness of the standard of the six major skills.

#### Personal Data Section:

This section addressed the characteristics of the study sample in terms of their specialization and academic level. The results showed that 46.3% (50) were male students, while 53.7% (58) were female students. The majority (81.5%) (88) were in the Social Sciences department, while a smaller percentage (18.5%) (20) were in the Humanities department.

The students in the study sample were pursuing their higher education at four progressive levels of varying numbers. The largest group consisted of 63 students (58.3%) in their first year of doctoral studies. The second year comprised 20.4% (22) of the students. The third and fourth years had similar percentages (10.2%) and 8.3% (11 and 9) respectively. Finally, 3 students (2.8%) were in a year beyond the four-year doctoral program. The high percentage of first-year students is explained by the fact that the doctoral projects at Tamanrasset University are relatively new. Approximately seven doctoral projects have been registered in the last two years: three in the Humanities Department and four in the Social Sciences Department. The higher-year students are enrolled in doctoral programs at Tamanrasset University in partnership with other universities.

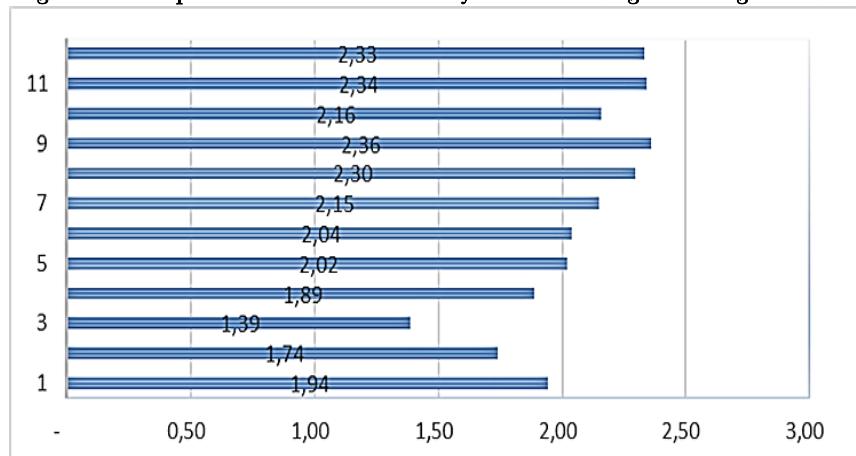
**Table 4: Distribution of the Study Sample.**

%	N	Variable categories	variable
%46.3	50	male	Sex
%53.7	58	feminine	
%100	108	the total	
%18.5	20	humanities	Scientific
%81.5	88	Social Sciences	specialization
%100	114	the total	
%58.3	63	First PhD	academic level
%20.4	22	Second PhD	
%10.2	11	Third PhD	
%08.3	09	Fourth PhD	
%02.8	03	More than four years PhD	
%100	108	the total	

#### 4.2 The Big Six Skills Standard:

This section addresses students' understanding of information literacy skills and the Big Six Skills standard through questions related to information problem-solving and the Big Six Skills model. Based on the data obtained, it is clear that the study sample is aware of information skills in terms of the ability to access information sources, evaluate available information to solve problems, understand the importance of this information in solving scientific problems, and be able to use and benefit from information. We recorded an arithmetic mean ranging from (2.34 to 2.30), indicating a good level of agreement. The ability to gather and organize information, information search strategies, and the ability to define problems and information tasks were scored second, with an arithmetic mean ranging from (2.16 to 2.02), indicating a good level of agreement. The elements related to understanding concepts associated with information literacy ranked last, revealing the study sample's weak knowledge of the elements and skills of information problem-solving and the Big Six model, with an arithmetic mean ranging from (1.94 to 1.39), indicating a moderate level of agreement. (Figure 1)

**Figure 1: Perception of information literacy skills according to the Big6 standard**

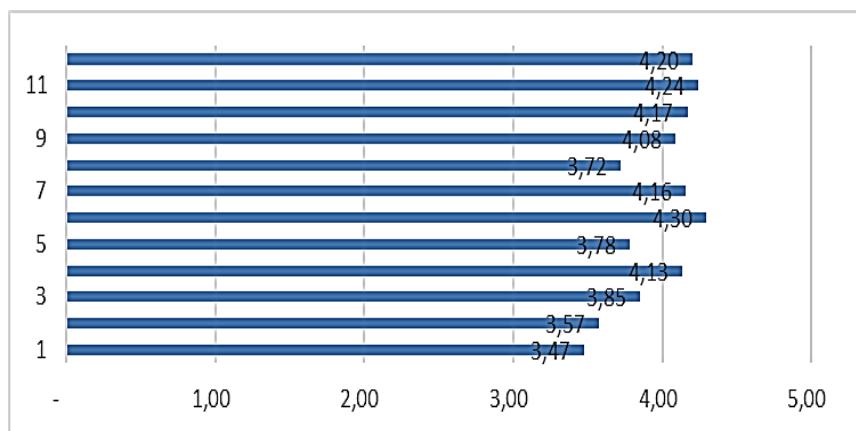


#### 4.3 Identifying Information Needs:

This aspect relates to the study sample's ability to understand the information they seek based on their specific information needs. This requires certain cognitive and communication skills, and it is here that the role of faculty members becomes crucial in providing effective information guidance to prevent students from becoming overwhelmed by information and further hindering their ability to grasp the presented information problem.

Looking at the results obtained, we observe a convergence in the outcomes of the statements, although they can be classified into two categories. The arithmetic mean for the first category ranges from 4.30 to 4.08, indicating a high degree of agreement. This category relates to cognitive abilities, specifically the ability to identify the types of information sought, determine the need for information, and fulfill the information need by precisely defining what is required, formulating a set of questions, or identifying the keywords of the information problem. It also includes mastery of knowledge related to managing and documenting references and sources. The second category relates to communication skills, where we recorded an arithmetic mean ranging from 3.85 to 3.47, also indicating a high degree of agreement. This category primarily addresses time management in obtaining information and avoiding plagiarism, in addition to mental abilities and barriers in information seeking, such as brainstorming and information phobia. (Figure 2)

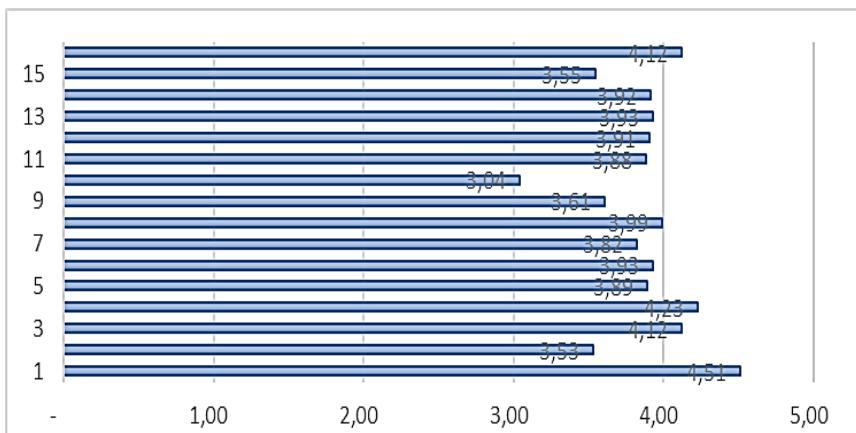
**Figure 2: The skill of determining information needs.**



#### 4.4 Information Search Strategies:

This section represents the methods of using information search tools provided by information institutions or various scientific spaces concerned with disseminating and broadcasting information to users, whether through traditional or digital means. Considering the results obtained, the first point to discuss is the extent of personal use of these tools or the reliance on information intermediaries to facilitate access to information. In this regard, it appears that the study sample relies on its skills in searching for information via websites or internet search engines. The arithmetic mean of its statements (01, 04, 16) reaches (4.51), which is a very high rate indicating a very high degree of agreement. We also recorded a great similarity between the statements (09, 07, 05, 06, 08, 11, 12, 13, 14) related to accessing traditional and digital information sources by direct means, going to the library or using digital tools, using simple or complex search strategies that mainly depend on contacting search tools and combining the topic's keywords. The arithmetic mean of these statements was estimated to be between (3.99 to 3.61) with a high degree of agreement. Meanwhile, the students in the study sample find difficulties in using the complex search strategy and subscribing to mailing lists or newsgroups to access information sources, as well as communication difficulties with information specialists, as was previously observed in communicating with teaching staff through the use of digital devices. This was shown in statements (02, 15, 10) with an arithmetic mean estimated to be between (3.04 to 3.55) with a moderate degree of agreement.

Figure 8: Information Research Strategy Skill.



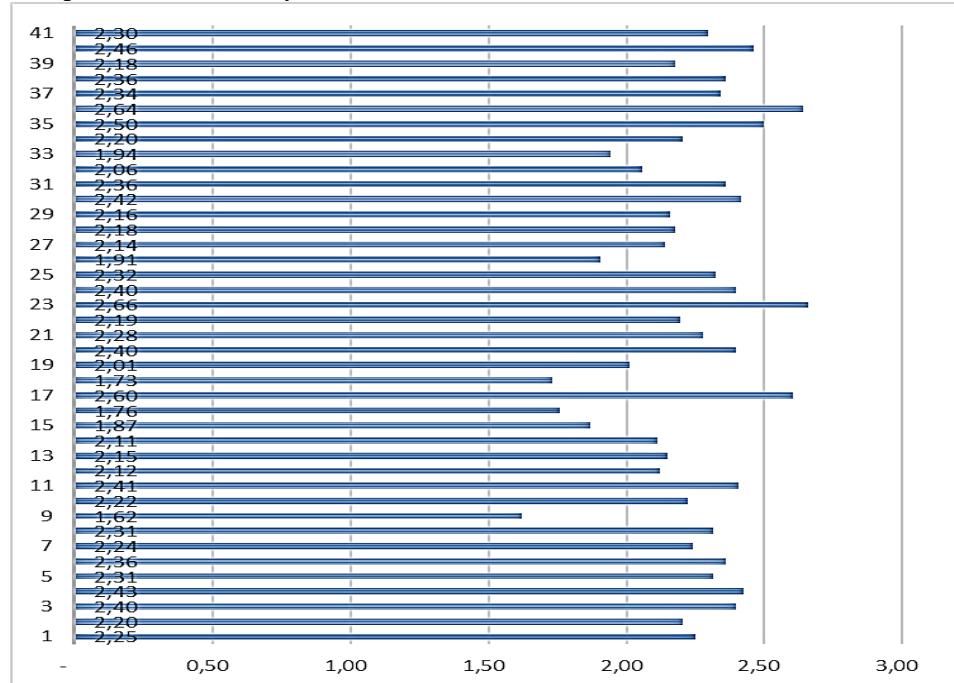
#### 4.5 Locating and Accessing Information:

This section explores the extent to which the students in the study sample are aware of the organization used in the various search tools they utilize, whether available in libraries or digitally. It examines their preferences in using these tools, their access methods, available options, and the types of information and sources they favor. This allows us to understand the nature of the information the study sample can obtain and the extent to which this information meets their current information needs.

Regarding the first part of this section, which relates to awareness of the organization and use of various information search tools, the results for statements (01, 2, 3, 4, and 5) showed a high degree of agreement, ranging from 2.20 to 2.43. These statements were linked to libraries and their research tools, the use of their information resources, and the electronic information resources available within libraries or through digital

search tools. As for the second part of this axis related to the tools that the study sample used to search for information, the first place was web pages, libraries and information centers with a high degree of agreement estimated at an arithmetic mean between (2.41 to 2.31), while the specialized databases, direct electronic databases, and national databases, the National Online Documentation System and the National Journals Platform came with a moderate degree of agreement with an arithmetic mean estimated between (2.36 to 2.15). In last place was the use of the CD network with a weak degree of agreement estimated at an arithmetic mean of (1.62), and this is normal considering that it is an outdated technology.

**Chart 4: The skill of locating information and ways to access it**



As for the third part related to methods of accessing and making information sources available, it was represented by subscribing to local, national and global platforms that provide them for free with a high degree of agreement estimated at an arithmetic mean of (2.11) and (2.60) respectively, in contrast to subscribing to private cooperative networks for sharing sources in a paid form only with a low degree of agreement estimated at an arithmetic mean of (1.76) and (1.73). This is based on all types of information available, primarily the full text with a high degree of agreement estimated at an arithmetic mean of (2.40), and to a lesser degree abstracts and bibliographic data with a moderate degree of agreement estimated at an arithmetic mean of (2.28) and (2.19) respectively.

The last part presents the results of the types of information sources used by the study sample, where it is clear that books, electronic books, electronic blogs, in addition to searching on direct online search engines, are the most used with a high degree of agreement with an arithmetic mean estimated between (2.66 to 2.42), while electronic journals, reference books, scientific bulletins, specialized bibliographies, academic theses, and conference proceedings are used with a moderate degree of agreement with an arithmetic mean estimated between (2.36 to 2.14), and indexes, audio-visual materials, and electronic encyclopedias with a low degree of agreement, where the study recorded an arithmetic mean estimated between (2.06 to 1.91). (Figure 4).

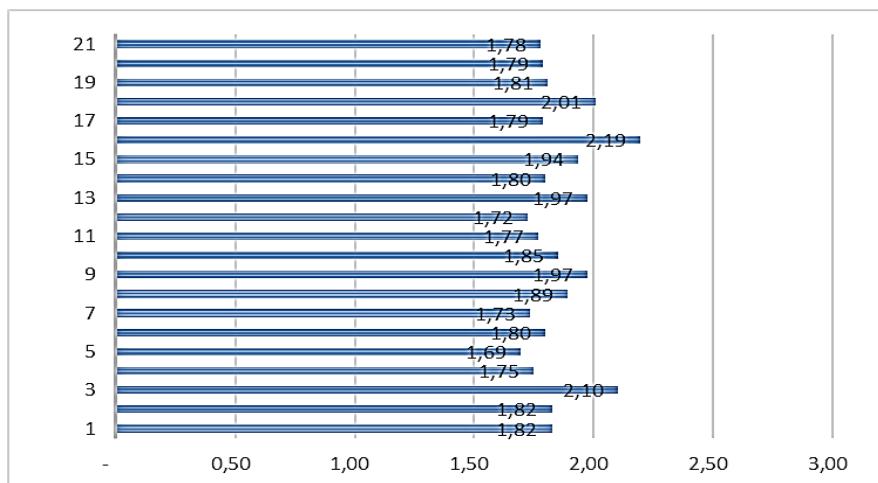
#### Information Use:

The skill of using information is linked to the ability of the study sample to read specific information sources consciously and purposefully using different methods, and to be able to extract information in various formats and in effective ways. Based on these elements, this section was divided into two parts. The first part addresses methods of reading information sources, which included a range of approaches. However, the study sample's choices showed a high degree of agreement with aloud reading, exploratory reading, analytical reading, and selective reading in statements (02, 09, 10, and 08), with an arithmetic mean ranging from 1.85 to 2.10. The other statements related to silent reading, intensive reading, speed reading, partial reading, and supplementary reading showed moderate agreement, with an arithmetic mean ranging from 1.69 to 1.82.

The second part of the results showed that extracting information from images and digital data from printed information sources and recording the resulting observations was highly agreed with statements (13, 15, 16, 18), with an arithmetic mean ranging from 1.94 to 2.19. This was in comparison with methods of extracting

information expressed in tables, graphs, maps, and information recorded in digital formats such as audio and video recordings, or that which was digitized via scanning. These results were represented in statements (11, 12, 14, 17, 19, 20, 21), with an arithmetic mean ranging from 1.72 to 1.81. (Figure 5)

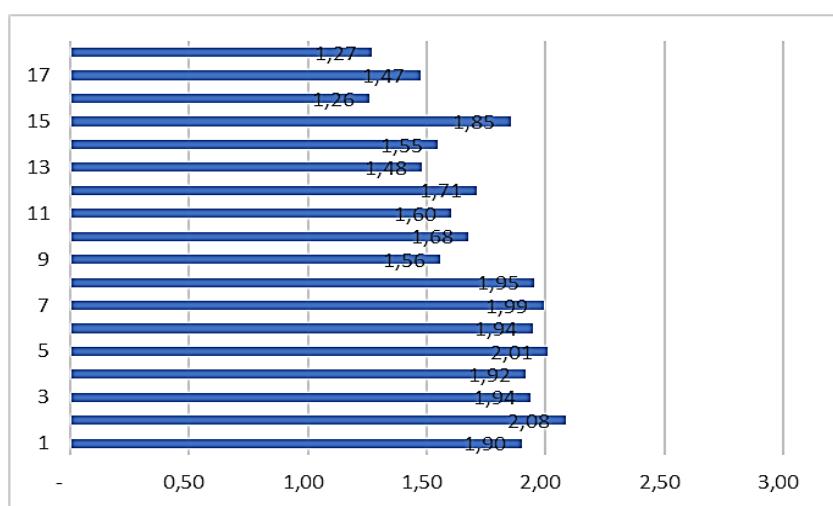
**Chart 5: Information Use Skills**



#### 4.7 Information Organization and Presentation:

The graph on information organization and presentation skills reveals that the statements in this section were divided into two parts. The first part concerned the study sample's ability to analyze information and verify its accuracy and comprehensiveness by distinguishing between fact and opinion, employing logical reasoning, and using keywords related to the information problem. Statements in this section (01, 02, 03, 04, 05, 06, 07) had a mean score ranging from 1.90 to 2.08, indicating moderate agreement. The use of the APA style of documentation also yielded a mean score of 1.85, indicating moderate agreement, unlike other methods which received lower scores in statements (16, 17, 18), with mean scores ranging from 1.26 to 1.47. The second part of the section concerned the study sample's ability to use various information organization and presentation software, also with moderate agreement. This included word processing programs, drawing programs, audio and video programs, presentation and mobile software, and database programs. (14, 13, 12, 11, 10, 9, 8). (Graph 6).

**Graph 6: The skill of organizing and presenting information**



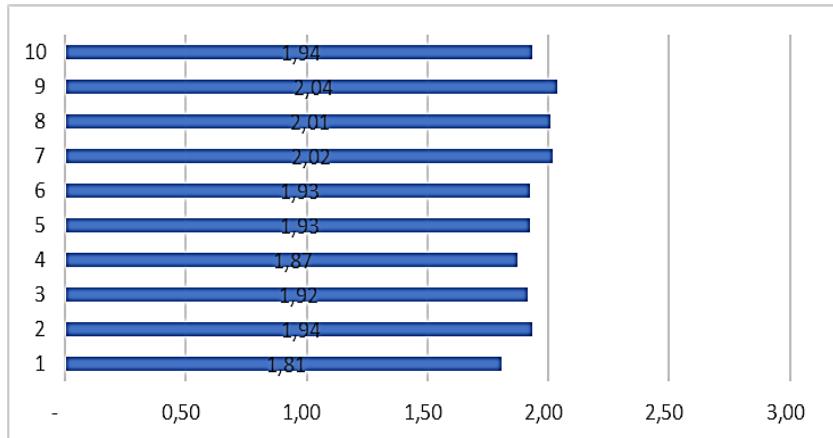
#### Information Evaluation:

In the information evaluation skill, the study sample was asked to evaluate the results and processes they successfully completed. This skill represents the evaluation of outcomes, that is, assessing the nature of the results from the activities undertaken by the study sample. The results obtained indicate that the study sample is aware of methods for comparing requirements and results (1.81), and possesses the ability to verify the accuracy of

information and organize the solutions found (1.93). Moderate satisfaction with the completed processes and results was also recorded.

Regarding the assessment of information literacy skills, the results were largely similar. The skill of organizing and presenting information ranked first (2.04), indicating moderate agreement. This was followed by accessing information and its sources (2.02), closely matched by the skill of using information (2.01). The skills of identifying information needs, information search strategies, and performance level compared to personal capabilities ranked third, with scores ranging from 1.93 to 1.94.

**Chart 7: Information Evaluation Skill.**



#### **Discussion:**

Based on the study results presented above, it can be concluded that the information literacy skills of the students in the study sample, tested using the Big Six skills criterion, indicate that postgraduate students at Tamanrasset University possess relatively good abilities in identifying information needs and formulating information search strategies related to information problems. These abilities were confirmed by the overall results of the axes. For the information search strategies skill axis, we recorded a mean of (3.87), a standard deviation of (0.444), and a correlation coefficient of (0.525\*\*), which is a value at the 0.01 significance level and less than the statistical significance level of 0.05. Therefore, there is a correlation indicating the presence of the skill of formulating information search strategies among the study sample. These results were similar to those for the information needs identification skill, where we recorded a mean of (3.73), a standard deviation of (0.446), and a correlation coefficient of (0.581\*\*), which is also a value at the 0.01 significance level. The significance level is less than 0.05, indicating a correlation between the study sample's ability to identify information needs and their high level of agreement in these skills, reflecting their understanding of the information.

Meanwhile, awareness of the Big Six skills standard and the ability to locate, access, use, organize, present, and evaluate information—such as information use, information organization, and information evaluation—were skills possessed by the study sample at a somewhat moderate level. We recorded a mean value ranging from 1.73 to 2.23 and a standard deviation ranging from 0.313 to 0.548. The correlation coefficient for these dimensions explains the study questions. For the dimension of awareness of the Big Six skills standard, we recorded the lowest correlation coefficient at 0.512\*\*, a value at the 0.01 significance level, which is less than the 0.05 statistical significance level, thus indicating a correlation. The highest correlation coefficient was 0.868\*\*, a value at the 0.01 significance level, which is less than the 0.05 statistical significance level, thus indicating a correlation.

Based on the results of the field study, it was found that postgraduate students at Tamanrasset University possess an average level of digital skills related to information literacy. Raising this level of information literacy to higher levels requires an information-focused approach that provides a range of resources to facilitate access to, acquisition of, and effective use of information. To achieve this, it is necessary to implement programs related to disseminating information literacy and instilling the principles of information awareness.

The starting point for these programs in academic environments is through educational programs, both theoretical and applied, available on e-learning platforms and linked to scientific disciplines. This also involves empowering information literacy institutions that encourage individuals to adopt technical skills and develop ongoing programs to cultivate these skills among their members. Furthermore, it is crucial to hold conferences and seminars that explore this field, present the latest developments that can be incorporated into educational programs, and train students to apply these developments in their research projects. Finally, it is essential to disseminate knowledge related to the legal and ethical use of information.

**Conclusion:** The study yielded the following results:

-Graduate students at the University of Tamanrasset demonstrate a moderate level of awareness of information literacy skills, as measured by the Big Six skills standard.

-Graduate students at the University of Tamanrasset possess a high degree of proficiency in identifying information needs and information search strategies.

-Graduate students at the University of Tamanrasset exhibit lower levels of proficiency in locating, accessing, using, organizing, presenting, and evaluating information compared to other skills.

-The most prominent aspects demonstrated in identifying information needs were the cognitive abilities to determine the types of information sought, identify the need for information, and fulfill that need.

-The most prominent aspects demonstrated in information search strategies were the ability to search for information using websites or internet search engines, employing both simple and complex search strategies.

-The most prominent aspects demonstrated in locating and accessing information were the reliance on libraries and their research tools, the use of library resources, and the availability of electronic information resources within libraries or through digital search tools. To a lesser extent, the use of international and national databases was also demonstrated. - The most prominent aspects achieved in the area of information use were the ability to read analytically, exploratoryly, and orally from printed information sources, in particular, and the ability to extract data from charts, graphs, and some digital formats of information sources.

-The most prominent aspects achieved in the area of information organization and presentation were the ability to analyze information and verify its accuracy and comprehensiveness by distinguishing between fact and opinion, employing logical reasoning, and using keywords that identify the information problem.

-The most prominent aspects achieved in the area of information evaluation were the ability to compare requirements and results, verify the accuracy of information, and organize the solutions that were found.

## Methodology

A descriptive, field-based quantitative research design was adopted to assess postgraduate students' information literacy competencies. A structured questionnaire aligned with the Big-Six model was distributed. Data analysis involved descriptive statistics including means, frequencies, and standard deviations.

## Ethical Considerations

The study adhered to institutional ethical guidelines. Participation was voluntary, informed consent was obtained, and data anonymity was ensured. Ethical approval came from the University of Tamanrasset Research Ethics Committee.

## Author Contributions

- Ouled Hacini Youcef: Conceptualization, research design, theoretical framework.
- Boukhouidem Fares: Instrument development, data collection.
- Chainoune Sidaamar: Data analysis and interpretation.
- Abderrahmane Boukar: Field coordination and data validation.
- Ouzar Slimane: Supervision, critical review, final manuscript approval.

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## Conflict of Interest

The authors declare no conflict of interest.

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