



## Digital practices in information search: a field study on a sample of higher studies students at the department of humanities of the university of Mohamed Khider in Biskra

الممارسات الرقمية في مجال البحث عن المعلومات: دراسة ميدانية على عينة من طلبة الدراسات العليا في قسم العلوم الإنسانية بجامعة محمد خيضر ببسكرة

Les pratiques numériques dans le domaine de la recherche d'informations: étude de terrain sur un échantillon d'étudiants de cycles supérieurs au département des sciences humaines de l'université Mohamed Khider à Biskra

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### ملخص

هدفت هذه الدراسة إلى محاولة التعرف على مستوى الممارسات الرقمية في مجال البحث عن المعلومات، وذلك من خلال دراسة ميدانية تم القيام بها على عينة عشوائية من طلبة الدراسات العليا بقسم العلوم الإنسانية بجامعة محمد خيضر ببسكرة، وقد اعتمدنا في هذا البحث على المنهج الوصفي وأداة الاستبيان كأداة أساسية لجمع البيانات. ومن أهم النتائج التي توصلت إليها الدراسة أن طلبة الدراسات العليا يمتلكون درجة متوسطة من المهارات في مجال استخدام تقنيات البحث وتقييم مصادر المعلومات المسترجعة واستخدامها بكفاءة، كما توصلنا إلى وجود فروق في مستوى مهارات استخدام تقنيات البحث وتقييم مصادر المعلومات تُعزى لمتغير التخصص وذلك لصالح طلبة علم المكتبات وطلبة علوم الإعلام والاتصال، إضافة إلى وجود فروق في هذه المهارات تُعزى لمتغير الحصول على الدورات التدريبية وذلك لصالح الطلبة الذين استفادوا من دورات تدريبية وتكوينية في مجال البحث عن المعلومات.

الكلمات الدالة: الممارسات الرقمية؛ البحث عن المعلومات؛ سلوك البحث عن المعلومات؛ قسم العلوم الإنسانية؛ جامعة محمد خيضر؛ بسكرة.

### Abstract

This study aimed to determine the level of digital practices in information search through a field study conducted on a sample of higher studies students at the Department of Humanities at the University of Mohamed Khider in Biskra. In this

study, we used the descriptive method and a questionnaire as a primary tool for data collection. The findings indicate that higher studies students have an average level of skills in collecting, evaluating, and efficiently using information. Besides, there are differences in the level of skills for using digital research tools and evaluating information sources, attributed to the major variable, favoring students of the library science and those of information and communication sciences. Finally, there are differences in these skills attributed to the training sessions' variable, favoring students who received training in information search

**Keywords:** digital practices; information search; information search behaviour; department of humanities; University of Mohamed Khider; Biskra.

### Résumé

Cette étude vise à déterminer le niveau des pratiques numériques dans la recherche d'informations à travers une étude de terrain réalisée sur un échantillon d'étudiants en études supérieures au Département des Sciences Humaines de l'Université Mohamed Khider à Biskra. Pour ce faire, nous avons utilisé la méthode descriptive et un questionnaire comme principal outil de collecte de données. Les résultats montrent que les étudiants en études supérieures possèdent des compétences moyennes dans la collecte, l'évaluation et l'utilisation efficace de l'information. De plus, il existe des différences dans le niveau des compétences d'utilisation des outils de recherche numériques et d'évaluation de l'information attribuées à la variable de spécialisation, en faveur des étudiants en sciences de l'information et ceux en sciences de la communication. Enfin, des différences dans ces compétences ont été observées en fonction de la variable des sessions de formation, en faveur des étudiants ayant reçu une formation en recherche d'information.

**Mots-clés:** Les pratiques numériques; la recherche d'informations; le comportement de recherche d'informations; département des sciences humaines; université Mohamed Khider; Biskra.

### Introduction

Amid the excessive increase in publications in the digital environment that has led to the info-glut and the disorientation on the web, the researchers face many issues, mainly the decrease in the precision level and the increase in the recall level. This often makes researchers unable to sort out their research and identify the findings that suit the most their research inquiries. This issue was the focal point of many international meetings, namely the International Conference on Digital Libraries, which was held in 2010 in India. There, Alex D. Wade pointed to the issues raised by the cyber explosion and considered that the development of electronic research is the solution (Bihani, 2010). This can be achieved through providing and developing



many techniques and strategies of research in the digital environment to help researchers filter their research findings.

On the other hand, retrieving information requires special skills, mainly because information retrieval systems have recently been witnessing huge development. In this regard, this study focuses on the skills of using information search techniques, evaluating the retrieved information, and efficiently using the retrieved information. They are basic skills in the knowledge cycle, as they start with access to information, and end with generating new knowledge. Based on this, we raise the following question: “what is the level of digital practices in the field of information search among higher studies students at the Department of Humanities at the University of Mohamed Khider in Biskra?”. From this question, sub-questions arise as follows:

- To what extent do higher studies students at the Department of Humanities at the University of Mohamed Khider in Biskra use the techniques and strategies of information search from the web?
- To what extent do the students under study show skills in evaluating and using the sources of the retrieved information on the web?
- Are there differences in the digital practices of information search and retrieval among higher studies students at the Department of Humanities at the University of Mohamed Khider in Biskra attributed to the variable of the training sessions?

## **1. The scientific identification of the study**

### **1.1 The digital practices**

According to Virginia Paul & Jacques Pierrot, practices are characterized by being purposeful, individual or collective, fixed or adapted, socially-established, time-bound, and supported by perceptions, knowledge, logic, and reasoning (Abdullatif, 2015).

In this study, digital practices refer to the behaviours, habits, and actions that individuals engage in while interacting with digital technologies and environments. This encompasses the use of digital tools and platforms, such as social media, websites, applications, and multimedia content.

In this regard, various organizations set principles to improve digital skills for teachers, mainly “DigCompEdu” which presents 22 sub-competencies classified in 06 fields, as follows:



- Competencies related to the professional environment.
- Competencies related to providing, establishing, and sharing digital sources.
- Competencies related to the management of digital tools and their use in teaching and learning.
- Competencies related to digital tools and strategies that strengthen the evaluation.
- Competencies related to the use of digital tools to empower teachers.
- Competencies related to the management of digital competencies (Caena; Redecker, 2019).

### 1.2 Data collection from the digital environment

According to Bates, data collection is the process of identifying and finding the data in a specific cyber environment. It includes formulating the research inquiry, the use of the research tools and databases, and the evaluation of the available resources (Bates, 1999). In addition, Alcolea-Diaz et al. see that the data collection is a process that requires research, evaluation, and critical analysis skills in dealing with digital information sources, including the ability to discriminate the reliable and unreliable sources and the purposeful application and information search (Alcolea-Diaz; Reig; Mancinas-Chavez, 2020).

The behaviour of information search has been studied since the 1950s. The first studies focused on scholars while the behaviour of the students has only been studied in the last 30 years. This behaviour refers to the plan carried out by the user. It includes a series of procedures (steps) to successfully look for beneficial information on the internet. The literature provides many theories and models of the behaviour in information search (Furi; Balog, 2016). They can be divided into two classes: one revolves around the fields of the interactive retrieval of information and information behaviour (the partial level of the users' behaviour), while the second revolves around the field of the library services (the overall behaviour of the users regarding the availability of the library, the quality of its services, and its image) (Grandinaru, 2013).

From the above, it is important to emphasize the necessity for students to acquire skills in searching for information, handling it, and benefiting from it through the dissemination of digital literacy programmes, which were initially introduced by Paul Gilster in 1997. He defined digital literacy as the capacity to understand information and use it on computers and the internet



in a variety of ways (Bashar, Naaz,2024). Kammoun outlines the skills of digital literacy in the following list (Kammoun, 2019):

**Table 01: List of digital literacy skills**

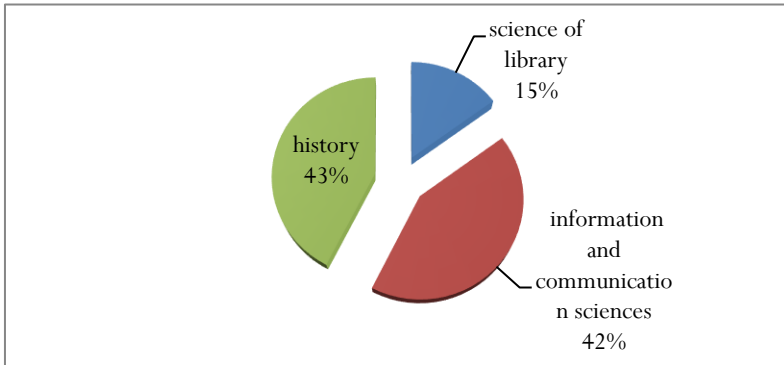
Nub	DL competencies	Subskill(s)	Clarification
1	Photo-visual	The ability to: - decipher and understand digital icons and images in a given graphic user interface - understand instructions and messages represented visually	
2	Reproduction	The ability to: - compose and construct forms of digital media - generate innovative ideas through forms of digital media	Forms of digital media (text-sound-graphic-video)
3	Branching	The ability to: - construct knowledge from independent online docs accessed in a non-linear way - synthesize information from the non-linear accessed docs	Hyperlinks, hypertexts, surfing the web, etc.
4	Information literacy	The ability to: - recognize the need for information - identify what info is needed - locate and find info - evaluate the validity of the info - evaluate the reliability of the info and its sources - use the retrieved information	
5	Socio-emotional	The ability to: - conduct effective interaction in a non-face-to face virtual setting - collaborate online with others through learning activities - respect the rules of online safety	
6	Real-time thinking	The ability to: - process large volumes of real-time information at high speed - develop real-time thinking	Synchronous online communication, digital games, online teaching/learning intervention



## 2. Methodological approach

We used the descriptive method to reveal the level of digital practices in research and information retrieval by a simple random sample of 40 higher studies students at the Department of Humanities in Biskra. The sample includes 6 students majoring in Library Science, 17 in information search and Communication Sciences, and 17 in History, as shown in Figure 01:

**Figure 01: Distribution of study sample based on their majors**



In addition, we used a questionnaire that we designed according to Lickert's 03 points scale. We also used the SPSS software for data analysis, after making sure of its psychometric properties, as shown in the table:

**Table 02: The coefficients of consistency of the scale**

Axes	Items	Coefficient of consistency	Coefficient of validity
The skills of using the techniques and strategies of research on the web	11	0,918	0,958
The skills in evaluating information retrieved from the web	7	0,724	0,860
The skills of efficiently using information from the web	11	0,737	0,858
<b>Total</b>	<b>33</b>	<b>0,793</b>	<b>0,892</b>

Table 02 shows that the coefficient of consistency of all the study variables exceeds the required level, as the general coefficient is 79%, which is high and shows the reliability of the study findings. Besides, the general



coefficient of validity is 89%, which confirms the efficiency of the scale and its exact measurement.

### 3. Presentation of the field study findings

#### 3.1 Receiving training programmes on information search

Table 03 shows that the majority of the students, 67.5%, did not receive training on information search. This may be due to the lack of awareness about the importance of these programmes in enabling the researcher to access the relevant information that serves their research field, in addition to the lack of awareness among PhD students about the importance of these programmes in improving the quality of their scientific research.

**Table 03: Receiving training programmes on information search**

	Frequency	Percentage
Yes	13	32.5%
No	27	67.5%
Total	40	100%

#### 3.2 The use of the techniques and strategies of information search from the web by the higher studies students at the Department of Humanities of the University of Mohamed Khider in Biskra

Table 04 shows that the total arithmetic mean of the axis items is 1.91 with a standard deviation of 0.572. This shows that the students have an average level in using the techniques and strategies of information search from the web. In this regard, item 09 ranked first with an arithmetic mean of 2.34. This shows that most of the students continuously modify their research queries. In addition, item 01 ranked second with an arithmetic mean of 2.03, showing the ability of the students to identify their research needs because they have the experience in the web research and prior knowledge about their research field.

Moreover, item 03 ranked third with an arithmetic mean of 2.03, showing the ability of the students to discriminate the search capabilities and the range of coverage of each research tool and, thus, the selection of the most suitable tool. Furthermore, item 02 ranked seventh with an arithmetic mean of 1.98, showing that the students identify the types of information sources (such as Word files and PPT presentations) when formulating the research inquiry; this allows them to filter and narrow down the findings. Finally, the techniques of truncation, Boolean search, and the use of quotation marks for



phrases are the least mastered because the students do not have the necessary research skills to use them.

**Table 04: The use of the techniques and strategies of information search from the web by the higher studies students at the Department of Humanities of the University of Mohamed Khider in Biskra**

	<b>The items of the use of the techniques and strategies of information search</b>	<b>Arithmetic mean</b>	<b>Standard deviation</b>	<b>Evaluation</b>	<b>Rank</b>
1	I can identify the research terms that exactly reflect my research needs	2,03	0,862	Average	2
2	I identify the type of information sources (Word/PPT) when formulating the research inquiry	1,98	0,920	Average	4
3	I can select the most suitable research tools (research engine, database, etc)	2,03	0,832	Average	3
4	I have the ability to use all the Boolean search coefficients (and, or, not)	1,78	0,832	Average	7
5	I master the techniques of widening or narrowing the research results according to the topic and aim of the research	1,75	0,840	Average	8
6	I use these signs in research (*,\$, In :, ?...) to widen the range of the research	1,53	0,751	Low	9
7	I use the inverted commas “ ” to widen the range of my research	1,90	0,841	Average	6
8	I use the advanced research to reduce the disturbance factor in the retrieved information	1,93	0,917	Average	5
9	I continuously modify the research inquiry according to the results until I find the needed information	2,34	0,764	High	1
<b>The total degree of the axis</b>		<b>1,91</b>	<b>0,572</b>	<b>Average</b>	





### 3.3 The mastery of the skills in evaluating information retrieved from the web by higher studies students at the Department of Humanities at the University of Mohamed Khider in Biskra

The table shows that the students have an average level of skills in evaluating information retrieved from the web. In this regard, the total arithmetic mean of the axis items is 2.17, with a standard deviation of 0.808. Items 12 and 11 ranked 1<sup>st</sup> and 2<sup>nd</sup> with arithmetic means of 2.58 and 2.55, respectively. This shows that the students can make a critical analysis of the sources of information retrieved from the internet. This skill requires a good knowledge about research and the ability to analyse academic and scientific sources. Additionally, item 14 ranked 03<sup>rd</sup> with an arithmetic mean of 2.18, showing that most of the students consider the modernity of information retrieved through checking their date of publication and update. Furthermore, item 10 ranked 04<sup>th</sup> with an arithmetic mean of 2.10, showing that most of the students can discriminate between reliable and unreliable sources of information. Finally, item 13 had an arithmetic mean of 1.55, showing that most of the students have the ability to avoid suspicious links.

**Table 05: The mastery of the skills in evaluating information retrieved from of the web by the higher studies students at the Department of Humanities at the University of Mohamed Khider in Biskra**

	The items of the skills in evaluating information retrieved	Arithmetic mean	Standard deviation	Evaluation	Rank
10	I can discriminate between reliable and unreliable information sources	2,10	1,008	Average	4
11	I can move between the research findings and efficiently classify them to find the most relevant information	2,55	0,749	High	2
12	I can make a critical evaluation of the sources of information retrieved from the web	2,58	0,712	High	1
13	I have the ability to avoid the suspicious links	2,07	0,888	Average	5
14	I consider the modernity of the retrieved information through checking their date of publication and update	2,18	0,747	Average	3
15	I use tools to check the validity of information on the internet, such as Spot the Troll, News Guard, and Tin Eye	1,55	0,749	Low	6
<b>The total degree of the axis</b>		<b>2,17</b>	<b>0,808</b>	<b>Average</b>	



### 3.4 The mastery of the skills of the efficient use of information retrieved from the web by the higher studies students at the Department of Humanities at the University of Mohamed Khider in Biskra

The table shows that the students have an average level of skills of the efficient use of information retrieved from the internet. In this regard, the arithmetic mean of the axis items is 2.17, with a standard deviation of 0.808. Item 16 ranked 1st with an arithmetic mean of 2.75, showing that most of the students can correctly cite from the internet.

**Table 06: The mastery of the skills of the efficient use of information retrieved from of the web by the higher studies students at the Department of Humanities at the University of Mohamed Khider in Biskra**

	The items of the efficient use of information retrieved from of the web	Arithmeti c mean	Standard deviation	Evaluation	Rank
16	I know how to avoid plagiarism and use online citation	2,75	0,543	High	1
17	I apply various methods for managing and storing digital information to facilitate access to them	2,20	0,823	Average	3
18	I can use the sources of information retrieved from the web in producing important research papers	2,05	0,904	Average	4
19	I use reference management software, such as Zotero and Mendeley	1,65	0,812	Low	5
20	I have the skills of dealing with the various types of information sources (databases, websites, etc) and their formats (text, video, etc)	2,50	0, 679	High	2
21	I took advantage of the educational platforms that provide training sessions on how to efficiently use information on the web, such as Coursera, EdX, Udemy, etc.	1,52	0,750	Low	6
<b>The total degree of the axis</b>		<b>2,11</b>	<b>0,808</b>	<b>Average</b>	



Besides, item 17 ranked 3<sup>rd</sup> with an arithmetic mean of 2.20, showing that most of the students apply different methods for the management and storage of retrieved digital information to facilitate access to them. In addition, item 18 ranked 4<sup>th</sup> with an arithmetic mean of 2.05, showing that most of the students use information retrieved from the web to produce important research papers through the criticism, analysis, and comments, and to generate new beneficial information in their field. Besides, item 19 ranked 05<sup>th</sup> with an arithmetic mean of 1.65, showing that some students use the reference management software, such as Zotero and Mendeley. Finally, item 21 ranked 06<sup>th</sup> with an arithmetic mean of 1.52, showing that most of the students did not benefit from the educational platforms that provide training sessions on how to efficiently use the data on the web.

### **3.5 The existence of differences in the level of the skills of the documentary research attributed to the variables of the major and the training programmes**

#### **3.5.1 The existence of differences in the level of the skills of the documentary research attributed to the variable of the major**

According to Kruskal-Walis test, the table shows statistically significant differences in the level of the skills in using the techniques and strategies of the research, as well as in the evaluation of the retrieved information attributed to the variable of the major. In this regard, the significance level of the two axes reached 0.037 and 0.003, respectively; they are less both than 5%. Moreover, there is a gap in the arithmetic means between the majors because the students of the library science and of information and communication sciences master the skills of using the techniques and strategies of the research, as well as evaluating the retrieved information better than those of history.



**Table 07: The existence of differences in the level of the skills of the documentary research attributed to the variable of the major.**

	Groups	Number	Ranks means	Chi-square	Degree of freedom	Significance
The skills of using the techniques and strategies of research	Library science	6	28,86	6,576	2	,037
	Information and communication sciences	17	21,38			
	History	17	16,24			
The skills in evaluating the retrieved information	Library science	6	30,86	11,960	2	,003
	Information and communication sciences	17	22,69			
	History	17	14,18			
The skills of using and benefiting from the information	Library science	6	19,79	,041	2	,980
	Information and communication sciences	17	20,56			
	History	17	20,74			

On the other hand, there are no statistically significant differences in the skills of the efficient use of the retrieved information attributed to the variable of the major, as the significance level is 0.980 and is more than 5%.

### **3.5.2 The existence of differences in the level of the skills of the documentary research attributed to the variable of the training programmes**

According to Mann-Whitney test, the table shows statistically significant differences in the level of the skills of using the techniques and strategies of the research and of evaluating the retrieved information attributed to the variable of the training programmes. In this regard, the significance level of the two axes was 0.000; it is less than 5%. Moreover, there is a gap between the arithmetic means of the students who got training and those who did not, because those who did mastered the skills of using research techniques and strategies better. On the other hand, there are no statistically significant differences in the skills of the efficient use of retrieved information



attributed to the variable of training, as the significance level is 0.505, which is more than 5%.

**Table 08: The existence of differences in the level of the skills of the documentary research attributed to the variable of training programmes**

	Variables	Sample	Ranks means	Overall ranks	U value	Z value	Significance
The skills of using the techniques and strategies of research	Receiving training programmes	13	32,42	421,5	20,5	-4,71	,000
	Not receiving training programmes	27	14,76	398,5			
The skills in evaluating the retrieved information	Receiving training programmes	13	30,12	391,5	50,5	-3,75	,000
	Not receiving training programmes	27	15,87	428,5			
The skills of using and benefitting from the information	Receiving training programmes	13	20	260	169	-,20	,836
	Not receiving training programmes	27	20,74	560			

#### 4. Discussion of the findings and testing the hypotheses

##### 4.1 Discussion of the findings

##### – The use of the techniques and strategies of information search from the web by higher studies students at the Department of Humanities at the University of Mohamed Khider in Biskra

The findings show that the students continuously modify their research inquiry to improve the research process and get the required data, as confirmed by Khan & Asif who found out that the continuous modification of the research inquiry until reaching the target results is one of the most beneficial methods (Asif; Khan, 2022). Besides, most of the students can discriminate the research capabilities of each research tool and its range of



coverage. This is among the most important research skills that must be mastered by the students. This is confirmed by many modern studies that demonstrated the existence of differences among the various research tools that must be mastered by the researcher. For example, we mention the study of Rahim et al. who confirmed the differences between Bing and Yahoo regarding the coverage, the call coefficient, the modernity of the retrieved information, and the ability to avoid the dead and repetitive links (Rahim; Mushtaq; Ahmed; et al., 2019).

Furthermore, the lack of the research skills for the students can be due to the absence of the training programmes on the documentary research, as found by Tariq et al., who confirmed that some students had acquired the skills of documentary research through the training. On the other hand, most of the students had acquired the skill mistakenly or by experience (Tariq; Rehman; Mahmoud; et al., 2018), which is insufficient for us.

– **The mastery of the skills in evaluating information retrieved from of the web by the higher studies students at the Department of Humanities of the University of Mohamed Khider in Biskra**

The findings confirm the ability of the students to evaluate the sources of the retrieved information. This requires a good knowledge about the field of research and the ability to analyse the academic and scientific sources. In this context, Carr & Claxton pointed out that the mastery of the critical evaluation of information and of their sources is among the main indices of mastering information skills (Claxton; Carr, 2004). Besides, the students can move between the findings and select the most relevant ones. Moreover, the majority of the students consider the modernity and reliability of the retrieved information, as confirmed by Fidel et al, who found out that the students pay attention to the dates of publication when evaluating information sources, and consider the modernity of the sources as an index of the relevance to the topic (Fidel; Davies; Douglass; et al., 1999).

Additionally, most of the students cannot avoid the suspected links due to the absence of the security awareness. In this context, the study of Roderic et al. showed that the university students are the target of the fraudulent attacks via suspected links due to their limited experience in the field of digital security and their low awareness (Broadjusr; Skinner; Sifniotis; et al., 2018). Furthermore, the study showed that most of the students do not use tools to check the validity of information on the internet, such as Spot the Troll,



News Guard, and Tin Eye due to their unawareness about their existence. In addition, they face technical issues when using them.

– **The mastery of the skills of the efficient use of information retrieved from of the web by the higher studies students at the Department of Humanities at the University of Mohamed Khider in Biskra**

The findings of the field study show that the students can use online citations correctly. In this regard, this does not go with the findings of Madkhali who confirmed that the Saudi students, despite their awareness about the severity of plagiarism, still resort to plagiarism due to their unawareness about the rules (Madkhali, 2017). Besides, most of the students have good skills in dealing with the various sources of information regarding their management and storage to facilitate access to them. In this context, with the technological development, programmes and applications emerged to facilitate the process for the researchers, such as the systems of managing the databases, the cloud computing, and the system of managing the documents. Furthermore, most of the students use the sources of the retrieved information in producing important research papers through criticism, analysis, and comments, and to generate new beneficial information in their fields of study.

On the other hand, most of them neither use the reference management software, such as Zotero and Mendeley, nor the educational platforms such as Coursera, EdX, and Udemy that provide sessions on how to efficiently use information from the web. This may be due to the low knowledge about these platforms and programmes in the academic field, as the students usually need a supporting and guiding environment from the educational institutions to strengthen their use of these platforms.

## **Conclusion**

The study allowed us to determine the level of digital practices by the higher studies students regarding information search because it is the basic point for the academic activity and the scientific production. Besides, the study showed differences in these skills with the change of the major and the reception of training. The study confirmed the importance of training in increasing the skills of the researchers, as it provides the necessary knowledge and skills for the efficient execution of information search through learning how to use the advanced research tools, analyse the findings, and evaluate the retrieved information. Thus, we can conclude the



aspects that must be focused on in future studies, mainly the development of training programmes on information search, whether through electronic training programmes or artificial intelligence applications, which constitute modern research areas for those interested. Based on the results obtained, we can make the following suggestions:

- Providing intensive training courses on research strategies and how to identify research objectives, in addition to enhancing skills in selecting and analysing information sources and using advanced research tools.
- Training programmes on information retrieval should include skills for the effective use of retrieved information, as a successful researcher does not stop at retrieving information that matches their research inquiry, but places greater importance on the ethical and efficient use of the retrieved information.
- Training programmes in the field of document research should include all disciplines, including history, where students face a relative lack of information retrieval skills compared to other disciplines.

## Bibliography

1. Abdullatif Ahmed, 2015. *Les pratiques numériques des étudiants de l'Université des Comores dans le processus d'apprentissage*, Paris: Doctoral thesis of sociology, Université Paris Saclay.
2. Alcolea-Díazgema; Reigramón; Mancinas-ChávezRosalba, 2020. "UNESCO's Media and Information Literacy curriculum for teachers from the perspective of Structural Considerations of Information", *Comunicar*[Online], vol. 28, no 62, p. 103-114.[visited: 09/07/2023]. Retrieved from: <https://unesdoc.unesco.org/ark:/48223/pf0000192971>
3. Asif Muhammad, Khan Shakeel Ahmad, 2022. "Online Information Searching Techniques: An Investigation from Library Science Professionals", *Library Philosophy & Practice*[Online]. [visited: 09/07/2023]. Retrieved from: <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=13567&context=libphilprac>
4. Bashar, Ummul, Naaz, Ishrat, 2024. "Digital literacy: the importance, initiatives and challenges ." *International Research Journal of Modernization in Engineering Technology and Science* [Online], vol. 06, no 05, p. 6218-6223. [visited: 07/10/2024]. Retrieved from: [https://www.researchgate.net/publication/381091132\\_digital\\_literacy\\_the\\_importance\\_initiatives\\_and\\_challenges](https://www.researchgate.net/publication/381091132_digital_literacy_the_importance_initiatives_and_challenges)





5. BATES Marcia J., 1999. "The invisible substrate of information science", *Journal of the American society for information science*, vol. 50, no 12, p. 1043-1050.
6. Bihani Sanjay K, 2010. "International Conference on Digital Libraries (ICDL 2010): Shaping the Information Paradigm, 23rd-26th February 2010, New Delhi (India): A report", *IFLA Journal* [Online], vol. 36, no 2, p. 184-186. [visited: 09/07/2023]. Retrieved from: <https://journals.sagepub.com/doi/abs/10.1177/0340035210369986>
7. Broadhurst Roderic; Skinner Katie; Sifniotis Nick; et al., 2018. "Phishing and cybercrime risks in a university student community", *International Journal of Cybersecurity Intelligence and Cybercrime* [Online], vol. 2, Iss. 1, p. 4-23. [visited: 09/07/2023]. Retrieved from: [https://www.researchgate.net/publication/326029318\\_Phishing\\_and\\_Cybercrime\\_Risks\\_in\\_a\\_University\\_Student\\_Community](https://www.researchgate.net/publication/326029318_Phishing_and_Cybercrime_Risks_in_a_University_Student_Community)
8. Caena Francesca; Redecker Christine, 2019. "Aligning teacher competence frameworks to 21st century challenges: The case for the European Digital Competence Framework for Educators (Digcompedu)", *European journal of education* [Online], vol. 54, no 3, p. 356-369 [visited: 09/07/2023]. Retrieved from: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/ejed.12345>
9. Claxton Guy; Carr Margaret, 2004. "A framework for teaching learning: the dynamics of disposition", *Early years* [Online], vol. 24, no 1, p. 87-97. [visited: 09/07/2023]. Retrieved from: [https://www.researchgate.net/publication/254837964\\_A\\_framework\\_for\\_teaching\\_learning\\_The\\_dynamics\\_of\\_disposition](https://www.researchgate.net/publication/254837964_A_framework_for_teaching_learning_The_dynamics_of_disposition)
10. Fidel Raya, Davies Rachel K., Douglass Mary H., et al, 1999. "A visit to the information mall: Web searching behavior of high school students", *Journal of the American society for Information Science* [Online], vol. 50, no 1, p. 24-37. [visited: 09/07/2023]. Retrieved from: [https://asistdl.onlinelibrary.wiley.com/doi/abs/10.1002/\(SICI\)1097-4571\(1999\)50:1%3C24::AID-ASI5%3E3.0.CO;2-W](https://asistdl.onlinelibrary.wiley.com/doi/abs/10.1002/(SICI)1097-4571(1999)50:1%3C24::AID-ASI5%3E3.0.CO;2-W)
11. Grădinaru Camelia, 2013. "The information searching behaviour in the digital age", *Argumentum: Journal the Seminar of Discursive Logic, Argumentation Theory & Rhetoric*, p. 90-101.



12. Kammoun, Amr A., 2019. "Digital Literacy Skills" [Online]. [visited: 07/10/2024]. Retrieved from:[https://www.academia.edu/61087502/Digital\\_Literacy\\_Skills](https://www.academia.edu/61087502/Digital_Literacy_Skills)
13. Larousse. Dictionnaire de la langue française. Lexis [Online] .[visited: 09/07/2023]. Retrieved from:<https://www.larousse.fr/dictionnaires/francais/pratique/63257>
14. Madkhali Mohammad M., 2017. *Saudi students' perception of plagiarism*, United States: A Master of Arts thesis, Cloud State University.
15. Rahim Ifra; Mushtaq Humaira; Ahmad Shabir; et al, 2019. "Evaluation of search engines using advanced search: comparative analysis of yahoo and bing", *Library Philosophy and Practice* [Online], p. 1-12.[visited: 09/07/2023]. Retrieved from :  
<https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=6301&context=libphilprac>
16. Tariq Muhammad; Rehman Shafiq Ur; Mahmood Khalid; et al., 2018. "Online information searching skills of business students", *Pakistan Journal of Information Management & Libraries*[Online], vol. 20, p. 39-59. [visited: 09/07/2023]. Retrieved from:[https://www.researchgate.net/publication/330224679\\_Online\\_Information\\_Searching\\_Skills\\_of\\_Business\\_Students](https://www.researchgate.net/publication/330224679_Online_Information_Searching_Skills_of_Business_Students)
17. Yamin Fadhilah Mat, Ramayah T., Ishak Wan Hussain Wan, 2013. "Information searching: The impact of user knowledge on user search behavior", *Journal of Information & Knowledge Management*[Online], vol. 12, no 03, p. 01-10. [visited: 09/07/2023]. Retrieved from:[https://www.researchgate.net/publication/263801851\\_Information\\_Searching\\_The\\_Impact\\_of\\_User\\_Knowledge\\_on\\_User\\_Search\\_Behavior](https://www.researchgate.net/publication/263801851_Information_Searching_The_Impact_of_User_Knowledge_on_User_Search_Behavior).

