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Navigating the Scholarly Landscape: An Analysis of Information Literacy Skills among Students at American University in the Emirates, Dubai

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Abstract

In the dynamic landscape of academia, the cultivation of robust information literacy skills of the students at American University in the Emirates. This information endeavors to conduct a comprehensive comparative analysis of the trends and evaluation of information literacy skills at the one of prominent university in the United Arab Emirates. This study aims to investigate the current state of information literacy skills among students, exploring the various dimensions such as information retrieval, searching skills, critical evaluation of sources, confidence level, and proficiency in citation and referencing skills. A mixed-methods approach, including surveys, interviews, and document analysis, seeks to identify the strengths, challenges, and potential areas for improvement in information literacy. By examining the institutional and library support structures, training programs, and academic cultures, this study aims to provide insights into the factors influencing the development of information literacy skills in these academic settings. Ultimately, this information contributes to the broader discourse on enhancing information literacy in higher education institutions and provides evidence-based recommendations for fostering an information-intensive environment. The findings of this study can inform institutional policies, and training initiatives, thereby enriching the information capabilities of academic communities at the universities and beyond.

Keywords: information literacy, academic libraries, information awareness, graduate students, UAE.

1. Introduction

Information literacy abilities encompass the ability to recognize, locate, assess, utilize, generate, store, and categorize information. It is a concept that has suffered from terminological confusion and has not been adequately integrated with information behavior or practices (Purnell, et al., 2020). The development of information literacy faces challenges, but its value remains relevant. Some key skills that an information literate person should possess in the 21st century include the ability to evaluate information, understand scholarly work, and navigate complex resources. Information literacy is often assessed through multiple-choice tests that target different groups such as pupils, university students, teachers, and researchers. It is important to integrate information literacy skill building into the curriculum and teach it as a foundational learning component (Encheva, et al., 2020). Librarians can collaborate to integrate information literacy into courses and develop exercises and assignments to advance an information literacy curriculum. The Association of College & Research Libraries' Information Literacy Framework can be used to identify skill gaps and incorporate twenty-first-century literacy skills into information literacy

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modules. Instruction librarians play a crucial role in promoting and teaching reading comprehension as part of information literacy (LeMire, et al., 2021).

Information literacy skills are important for students in higher education. The students recognize the significance of information literacy and incorporate it into their learning process. However, there is a perception that students lack these skills, leading to a need for libraries to implement information literacy training in their courses (Okeji, et al, 2020). Studies have shown that there are differences in information literacy skills among students, with many struggling in areas such as catalog searching, information use, and formulation of search strategies. It is crucial for students to develop information literacy skills to succeed in their academic work and research. Librarians play a key role in teaching information literacy, and collaboration between students can enhance instruction and improve student learning outcomes. Graduate students need training in information literacy skills such as information management, knowledge management, and scholarly communication (Majid et al., 2020). The library plays a role in fostering information literacy skills by providing virtual learning landscapes and interactive modules on topics related to information literacy. There is a need for information literacy skills among graduate students to play a crucial role in fostering these skills. Libraries provide resources and programs to support information literacy development. Information literacy skills are essential for students pursuing advanced degrees in various fields (Svensson et al., 2022). Several studies have focused on enhancing information literacy through training programs and interventions. This study aims to develop a theoretical framework for measuring educational information literacy and evaluate the efficacy of online resources and services and increasing information literacy levels among participants.

The American University in the Emirates (AUE), established in 2006, holds a unique position as a pioneering institution in the United Arab Emirates (UAE) educational landscape. AUE has continually expanded its academic offerings and campus facilities, striving to meet the diverse needs of its student body while maintaining a strong emphasis on academic excellence and innovation. AUE stands as a beacon of higher education in the region, embodying a rich history of academic achievement and cultural diversity within the dynamic educational landscape of the UAE. The AUE library fosters information literacy among its students through diverse activities designed to improve their capacity to access, assess, and proficiently utilize information resources. To facilitate students' acquisition of information literacy skills, many forms of assistance have been incorporated through several means.

Integration into the Curriculum: AUE incorporates information literacy elements into its academic program across multiple fields. Faculty integrate information literacy abilities into coursework, assignments, and research projects, offering students tangible chances to cultivate and employ these skills in real-life situations.

Library Workshops and Training Sessions: The university's library offers workshops, training sessions, and orientation programs to educate students on information literacy principles and tools. These courses provide instruction on database searching, citation management, academic integrity, and critical evaluation of sources. They aim to educate students with the essential skills needed to efficiently traverse the information landscape.

Online Resources and Tutorials: The library offers a variety of online materials and lessons to help students to enhance their information literacy skills. The resources provided encompass a wide range of materials such as research guides, instructional videos, online modules, and interactive tutorials that address different areas of information literacy.

Librarian Support: AUE's library provides individualized aid and direction to students through its group of expert librarians. Librarians are accessible to offer research support, address reference inquiries, provide individualized consultations, and conduct seminars customized to meet students' unique needs and academic criteria.

Embedded Librarian Programs: AUE offers courses that may include embedded librarian programs, in which librarians work closely with teachers to deliver information literacy teaching inside the framework of a specific course or assignment. This methodology facilitates the cultivation of information literacy competencies among students within a subject-specific framework, hence augmenting their capacity to effectively employ these competencies in their academic endeavors.

AUE conducts frequent assessments and evaluations of students' information literacy skills to gauge their proficiency and pinpoint areas that need improvement. The institution can assess the performance of its information literacy activities and make appropriate interventions by using

assessment tools such as pre- and post-tests, questionnaires, research assignments, and rubric-based assessments. AUE aspires to foster a culture of information literacy among its students by implementing these tactics. This will enable them to develop critical thinking skills, become lifelong learners, and responsibly utilize information in a rapidly evolving and linked global environment.

The review of related literature provides valuable insights into the current state of research on information literacy skills among students in the Middle East, offering a foundation for understanding the challenges and opportunities for promoting information literacy in higher education contexts.

(Alainati, Al-Hunaiyyan, 2024) examine the importance of 21st century skills on a worldwide scale and specifically in Gulf Cooperation Council (GCC) countries in the context of a knowledge-driven economy. The study evaluates current educational methods and the incorporation of essential skills such as critical thinking and digital literacy in the GCC region using a literature analysis and qualitative interviews with educators and officials. The initial results underscore the necessity of educational restructuring to foster these abilities, emphasizing difficulties such as aligning the curriculum and providing adequate teacher training (Becker, 2018) contests prevailing misunderstandings on information literacy in the digital era, highlighting the significance of discerning thinking and assessment abilities in traversing extensive information sources (Al-Qallaf, Aljiran, 2022) examines the proficiency of high school students in Kuwait in information literacy (IL) skills, as well as the practices of educators in this regard.

Three international private high schools took part, employing a blended methodology that adhered to IL criteria. The results demonstrate conformity to IL requirements and student acquisition of knowledge. The study provides valuable insights for the development of IL programs and identifies potential areas for future research (Al-Aufi, Al-Azri, 2013). evaluate the information literacy proficiency of senior students at Sultan Qaboos University by employing the Big6 model.

The results indicated a strong level of expertise in information literacy skills, namely around synthesizing knowledge. However, skills related to finding and accessing information were found to be less developed. Slight variations in skills were noted depending on specialization, gender, proficiency in English, and computer skills. The study emphasizes the lack of literature on information literacy in the Arab world and serves as the initial empirical examination of information literacy skills among university students in Oman (Shana, Ishtaiwa, 2013) evaluates the information literacy (IL) abilities necessary for the transfer to university in the United Arab Emirates (UAE).

The study investigates the information literacy (IL) levels and attitudes of incoming first-year students from three private universities: Ajman University of Science and Technology (AUST), Al Ain University of Science and Technology (AAU), and Al Hosn University (AHU). A total of ninety students enrolled in first-year general education classes took part in the study. Among them, Group 2, which consisted of students from AAU, received information literacy (IL) training as a component of their research skills course. Preliminary assessments identified areas of skill deficiency in all groups, whereas subsequent assessments shown notable enhancements in information literacy capabilities among the trained participants. The results emphasize the necessity of customized educational programs to target information literacy deficiencies among incoming students (Moyo, Mavodza, 2016) conduct a comparative analysis of information literacy (IL) provision for university students in South Africa (SA) and the United Arab Emirates (UAE) at the undergraduate and graduate levels. The study aims to provide insights for the development of effective IL programs that can support teaching and learning. The study uncovers differences in the provision of information literacy (IL) inside and across academic fields, revealing shortcomings in local research endeavors.

This study aims to enhance comprehension of the comprehension and execution of IL providing, utilizing ACRL standards as a guiding framework, in two diverse locations of the world (Martin, 2006) examines the increasing prevalence of online instruction in developing information literacy skills, specifically in higher education on a global scale. The article centers around Zayed University in the UAE, which has successfully shifted to online instruction, a distinctive undertaking inside the Arab region. The study presents an online course on information literacy and investigates the impact of culture, educational backgrounds, and language skills, specifically on female Emirati students. Guidelines are offered for the efficient implementation of online instructional design in this situation (Al-Qallaf, 2020) focuses on the lack of research regarding information literacy skills in graduate programs. The purpose of this study is to evaluate the

information literacy abilities of new students in the information studies graduate program at Kuwait University. The results demonstrate a rise in the average score of students, namely in their understanding of databases, search tactics, and accessing sources. The results provide guidance for creating a flexible information literacy education model that can be used in many educational settings.

This model offers a structure for incorporating information literacy instruction into graduate programs (Martin, et al., 2010) conducted a study at Zayed University in the UAE to assess the effectiveness of Infoasis, a web-based tutorial aimed at improving information literacy skills among Arab students. The study evaluates the pertinence and usefulness of Infoasis to students and examines the elements that influence its utilization. The survey results demonstrate that students consider Infoasis to be pertinent and beneficial for their academic pursuits, mostly because of its customized interface catering to the specific needs of undergraduate Arab students (Pullman, 2016) conducted a study and explore the lack of knowledge regarding Qatari students' experiences with information literacy by providing insights obtained from first-semester students at Carnegie Mellon University. The research finding indicates that Qatari students in their first year of college possess a strong understanding of information literacy and demonstrate favorable attitudes towards it.

The study highlights the significance of customizing instructional design to meet the specific information requirements of the local context, promoting thoughtful teaching, and learning methods, and refraining from predetermined assumptions about students. In summary, it highlights the need of information literacy for students in Qatar and proposes potential areas for future investigation (Arman, Abukhayran, 2019) study examined the information literacy level of graduate students at Al-Quds University in Palestine. The findings indicated a moderate level of information literacy, with notable variations depending on gender, area of specialization, academic level, and frequency of library visits. Male students, specifically those specializing in Social Sciences, freshmen, and students who frequently visit the library, exhibited elevated levels of information literacy. The study proposes that university faculties should give priority to enhancing the information literacy skills of graduate students by implementing focused courses and activities.

2. Material and methods

This study employs a mixed methods approach to research to thoroughly examine the scope of information literacy (IL) among students at the American University in the Emirates. The design of the study incorporates both quantitative and qualitative data gathering approaches to provide a comprehensive comprehension of students' information literacy skills, behaviors, and perceptions. Descriptive research is appropriate for this study as it aims to describe the characteristics of the student population in terms of their information literacy skills and satisfaction levels. Quantitative data is obtained by using a well-organized survey questionnaire that evaluates information literacy abilities and satisfaction with university courses. Qualitative insights are acquired by conducting interviews and focus groups with students of undergraduate and post graduate students across the seven colleges. Data integration enables a thorough comprehension of information literacy dynamics. The adherence to ethical principles is rigorous, and the recognition of limits includes potential biases and restraints on generalizability. The total number of respondents for the survey was 196, consisting of 133 undergraduate students and 63 graduate students. This sample size is considered efficient for the study as it provides enough responses to conduct meaningful statistical analyses. Given the total student population at AUE, the sample size ensures that the findings are representative and generalizable to the wider student body.

The study utilized a convenience sampling technique to collect data. This method was chosen due to its practicality and ease of implementation within the university setting. Students who were available and willing to participate were included in the sample. While convenience sampling has limitations in terms of generalizability, it was deemed appropriate for the exploratory nature of this study. Future research could employ more rigorous sampling techniques to enhance the representativeness of the findings. This study aims to comprehensively investigate the level of information literacy among undergraduate and postgraduate students at the different colleges of American University in the Emirates, Dubai. The research specifically aims to evaluate the levels of information literacy, identify the elements that influence it, and analyze the efficiency of current practices of information literacy and level of satisfaction of students. However, it is crucial to recognize specific constraints. Firstly, the study's conclusions may be limited by the exclusive focus on the university academic setting, which restricts the capacity to apply the results to other

institutions or broader contexts. The limitations in time and resources are restricting the extent of investigation and full coverage of all pertinent issues. The objective of this study is to offer relevant perspectives on information literacy instruction and research support programs at AUE.

This study aims to delve into the information literacy landscape among undergraduate and graduate students at the American University in the Emirates (AUE), UAE. Specifically, the objectives of this research endeavor are as follows:

1. To explore the confidence level of information literacy skills and initiatives and students' satisfaction towards information literacy provided by library.
 2. To determine the ability to evaluate the gathered information between undergraduates and postgraduates' students.
 3. To determine significant difference in the frequency of using citation and referencing techniques between undergraduates and postgraduates' students.
- To determine significant difference in the comfort level of using technology tools for information retrieval between undergraduates and postgraduates' students.

3. Discussion

Table 1. Demographic details of participants

Name of the College, AUE	Male (number and %)	Female (number and %)	Total (number and %)
College of Business Administration	17 (45.83)	13 (54.17)	30 (15.30)
College of Media and Mass Communications	12 (52.17)	11 (47.83)	23 (11.73)
College of Security and Global Studies	16 (53.33)	14 (46.67)	30 (15.30)
College of Computer Information Technology	14 (60.87)	9 (39.13)	23 (11.73)
College of Design	21 (61.76)	13 (38.24)	34 (17.34)
College of Law	19 (55.88)	15 (44.12)	34 (17.34)
College of Education	13 (59.09)	9 (40.91)	22 (11.22)
Total	112 (57.14)	84 (42.86)	196 (100)

The table provides a detailed analysis of the distribution of individuals based on their gender and college affiliation at the American University in the Emirates. The data displays the count and proportion of male and female participants in each college, with the overall participation count. Observations indicate that there are different gender distributions among institutions, with certain colleges, such as Computer Information Technology, having a higher proportion of male students, while others have a more equal representation of genders. In all, the male participants make up 112 (57.14 %) of the total, while the female participants make up 84 (42.86 %). Undergraduate (UG) students represent the majority, constituting 133 (68.37 %) of the total participants, while Postgraduate (PG) students, on the other hand, comprise 63 (31.63 %) of the participant pool. This demographic information guides further examination of information literacy levels and emphasizes the necessity for focused treatments that consider gender dynamics.

This study aims to evaluate the information literacy skills of students at the American University in the Emirates (AUE), addressing a research gap in the Arab world. By using statistical analysis to measure student satisfaction with information literacy instruction, the research provides objective insights for improving educational practices. By employing statistical tools, we can objectively measure the effectiveness of information literacy instruction and quantify students' satisfaction levels with different components of the instruction. For instance, by calculating mean values and standard deviations for responses related to satisfaction with instruction on searching for information, evaluating information sources, referencing and citation, and research ethics and plagiarism, we can identify which areas are perceived as most and least effective by students. The findings will guide targeted interventions to enhance student research skills and academic success and serve as a benchmark for other regional institutions.

Table 2. Confidence level of searching information among students

Confidence Level of Searching Information	Undergraduate (UG) (number and %)	Postgraduate (PG) (number and %)	Total (number and %)
Very Confident	74 (55.63)	30 (47.62)	104 (53.57)
Confident	60 (45.11)	25 (39.68)	85 (43.37)
Neutral	20 (15.03)	5 (7.94)	25 (12.76)
Not Confident	10 (7.51)	3 (4.76)	13 (6.63)
Not at all Confident	3 (2.25)	1 (1.59)	4 (2.04)
Total	133 (100)	63 (100)	196 (100)

The above [Table 2](#) provides insights into participants' confidence levels in information searching abilities across academic levels. Among undergraduates, the highest proportion, 74 (55.63 %), feel "Very Confident," while 60 (45.11 %) express confidence. Notably, a smaller percentage, 20 (15.03 %), report feeling "Neutral," with even fewer indicating "Not Confident" (10; 7.51 %) and "Not at all Confident" (3; 2.25 %). For postgraduates, 30 (47.62 %) report feeling "Very Confident," followed by 25 (39.6 %) expressing confidence. Fewer postgraduates indicate feeling "Neutral" (5; 7.94 %), "Not Confident" (3; 4.76 %), or "Not at all Confident" (1; 1.59 %). Across both academic levels, the highest percentage of participants feel "Very Confident," with undergraduates exhibiting slightly higher confidence levels. Conversely, the lowest percentages correspond to those expressing "Not Confident" and "Not at all Confident" responses, indicating a generally positive outlook on information literacy skills.

Objective: To determine whether there is a significant difference in the confidence levels of undergraduates and postgraduates in searching for information.

Based on above objective, the following hypothesis is constructed:

Null Hypothesis (H₀): The confidence level in searching for information is independent of the educational level.

V/s

Alternative Hypothesis (H₁): The confidence level in searching for information is dependent on the educational level.

Understanding the confidence levels in information searching across different educational levels can provide insights into potential gaps in information literacy. This information can guide educational institutions in tailoring their instructional strategies to better support students in developing effective research skills. The chi-square test of independence is used to evaluate if there is a significant association between educational level (undergraduate vs. postgraduate) and confidence levels in searching for information. The chi-square test yielded a chi-square statistic of 1.0859 with 4 degrees of freedom and a p-value of 0.8965. The expected frequencies were calculated based on the observed data, and the comparison between observed and expected frequencies showed no significant deviation. The high p-value (0.8965) indicates that there is no significant difference in the confidence levels of undergraduates and postgraduates in searching for information. This suggests that confidence in information searching is not influenced by whether a student is an undergraduate or a postgraduate. Therefore, the null hypothesis, which states that confidence levels are independent of educational level, cannot be rejected. This result implies that both undergraduates and postgraduates share similar confidence levels when it comes to searching for information. These findings can inform educational strategies aimed at improving information literacy, ensuring that support is equally provided across different educational levels.

The [Table 3](#) offers an analysis of participants' perceived skill levels in critically evaluating the credibility and reliability of online sources, segmented by academic level. Among undergraduates, the minority, 1 (0.75 %), express feeling "Not Skilled at All" in this aspect, followed by 3 (2.25 %) indicating being "Not Very Skilled." A larger proportion report feeling "Somewhat Skilled" (10; 7.51%), followed by "Skilled" (50; 37.59 %) and "Very Skilled" (69; 52.87 %).

In comparison, among postgraduates, none report feeling "Not Skilled at All," while 1 (1.59%) express being "Not Very Skilled." A few postgraduates indicate feeling "Somewhat Skilled" (2; 3.17 %), followed by "Skilled" (20; 31.75 %) and the majority feeling "Very Skilled" (40; 63.49 %). Overall, the data illustrate a predominantly positive perception of critical evaluation skills among participants, with the highest percentage indicating feeling "Very Skilled" in both undergraduate and postgraduate categories. Conversely, the lowest percentages correspond to those indicating

feeling "Not Skilled at All" or "Not Very Skilled," highlighting a generally favorable outlook on participants' abilities in critically evaluating online sources.

Table 3. Ability to evaluate the Information among the students

Ability to evaluate the Information	Undergraduate (UG) (number and %)	Postgraduate (PG) (number and %)	Total (number and %)
Not Skilled at All	1 (0.75)	0 (0)	1(0.75)
Not Very Skilled	3 (2.25)	1 (1.59)	4 (2.04)
Somewhat Skilled	10 (7.51)	2 (3.17)	12 (6.12)
Skilled	50 (37.59)	20 (31.75)	70 (35.71)
Very Skilled	69 (51.87)	40 (63.4)	109 (55.61)
Total	133 (67.85)	63 (32.14)	196 (100)

Objective: To determine whether there is a significant difference in the ability to evaluate information between undergraduates and postgraduates.

Based on above objective, the following hypothesis is constructed:

Null Hypothesis (H₀): The ability to evaluate information is independent of the educational level.
V/s

Alternative Hypothesis (H₁): The ability to evaluate information is dependent on the educational level.

Evaluating the ability to assess information accurately is crucial for academic success and informed decision-making. By identifying any significant differences in this ability across educational levels, institutions can better allocate resources and support to enhance information evaluation skills for all students. The chi-square test of independence is used to determine if there is a statistically significant association between educational level (undergraduate vs. postgraduate) and the ability to evaluate information. The chi-square test yielded a chi-square statistic of 3.3309 with 4 degrees of freedom and a p-value of 0.5040. The expected frequencies were calculated based on the observed data, and no significant deviation was found between the observed and expected frequencies. The high p-value (0.5040) indicates that there is no significant difference in the ability to evaluate information between undergraduates and postgraduates. This suggests that the ability to evaluate information is not influenced by whether a student is an undergraduate or a postgraduate. Therefore, the null hypothesis, which states that the ability to evaluate information is independent of educational level, cannot be rejected. These findings imply that both undergraduates and postgraduates share similar levels of skill in evaluating information. This insight can help inform educational strategies aimed at enhancing information literacy, ensuring that both groups receive adequate support to improve their evaluation skills.

The [Table 4](#) illustrates participants' self-reported frequency of correctly using citation and referencing techniques in their academic work, divided by academic level. Among undergraduates, the majority (49; 36.84 %) claim to "Always" use these techniques correctly, followed by 45 (33.83 %) indicating "Often." A smaller percentage report "Sometimes" (30; 22.55 %), "Rarely" (8; 6.01 %), or "Never" (1; 0.75 %). In comparison, among postgraduates, a higher proportion, 25 (39.68 %), state they "Often" use these techniques correctly, followed by 17 (26.98 %) indicating "Always." A smaller percentage report "Sometimes" (15; 23.81 %) or "Rarely" (5; 7.94 %), while only 1 (1.59 %) report "Never." Overall, the data demonstrate a generally positive trend, with the highest percentage indicating "Always" correctly using citation and referencing techniques among undergraduates and "Often" among postgraduates. The lowest percentages correspond to those indicating "Never" or "Rarely," suggesting a relatively low frequency of incorrect usage among participants.

Table 4. Frequency of using citation and referencing techniques among students

Frequency of using citation and referencing techniques	Undergraduate (UG) (number and %)	Postgraduate (PG) (number and %)	Total (number and %)
Sometimes	30 (22.55)	15 (23.81)	45 (22.96)
Rarely	8 (6.01)	5 (7.94)	13 (6.63)

Frequency of using citation and referencing techniques	Undergraduate (UG) (number and %)	Postgraduate (PG) (number and %)	Total (number and %)
Often	45 (33.83)	25 (39.68)	70 (35.71)
Never	1 (0.75)	1 (1.59)	2 (1.02)
Always	49 (36.84)	17 (26.98)	66 (34.18)
Total	133 (67.85)	63 (32.14)	196 (100)

Objective: To determine whether there is a significant difference in the frequency of using citation and referencing techniques between undergraduates and postgraduates.

Based on above objective, the following hypothesis is constructed:

Null Hypothesis (H₀): The frequency of using citation and referencing techniques is independent of the educational level.

V/s

Alternative Hypothesis (H₁): The frequency of using citation and referencing techniques is dependent on the educational level.

Understanding the frequency of using citation and referencing techniques across different educational levels can provide insights into students' academic habits and their adherence to academic integrity standards. This information can help educational institutions develop targeted interventions to improve citation practices. The chi-square test of independence is used to determine if there is a statistically significant association between educational level (undergraduate vs. postgraduate) and the frequency of using citation and referencing techniques. The chi-square test yielded a chi-square statistic of 2.2027 with 4 degrees of freedom and a p-value of 0.6985. The expected frequencies were calculated based on the observed data, and no significant deviation was found between the observed and expected frequencies. The high p-value (0.6985) indicates that there is no significant difference in the frequency of using citation and referencing techniques between undergraduates and postgraduates. This suggests that the frequency of using citation and referencing techniques is not influenced by whether a student is an undergraduate or a postgraduate.

Table 5. Comfort Level of using technology tools for information retrieval among the students

Comfort Level of using technology tools for information retrieval	Undergraduate (UG) (number and %)	Postgraduate (PG) (number and %)	Total (number and %)
Neutral	22 (16.54)	11 (17.46)	33 (16.84)
Comfortable	50 (37.59)	20 (31.75)	70 (35.71)
Very comfortable	45 (33.83)	20 (31.75)	65 (33.16)
Uncomfortable	12 (9.02)	9 (14.29)	21 (10.71)
Very uncomfortable	4 (3.01)	3 (4.76)	7 (3.57)
Total	133 (67.85)	63 (32.14)	196 (100)

Therefore, the null hypothesis, which states that the frequency of using citation and referencing techniques is independent of educational level, cannot be rejected. These findings imply that both undergraduates and postgraduates exhibit similar behaviors in using citation and referencing techniques. This insight can help inform educational strategies aimed at promoting consistent and effective citation practices across different educational levels.

The Table 5 illustrates participants' self-reported comfort levels with using technology tools and software for information retrieval and analysis, categorized by academic level. Among undergraduates, the highest percentage (50; 37.59 %) indicate feeling "Comfortable," followed by 45 (33.83 %) reporting feeling "Very comfortable." A smaller percentage feel "Neutral" (22; 16.54 %), "Uncomfortable" (12; 9.02 %), or "Very uncomfortable" (4; 3.01 %). In comparison, among postgraduates, a higher proportion (20; 31.75 %) indicate feeling "Comfortable," followed by 20 (31.75 %) feeling "Very comfortable." A smaller percentage feel "Neutral" (11; 17.46 %), "Uncomfortable" (9; 14.29 %), or "Very uncomfortable" (3; 4.76 %). Overall, the data suggest a generally positive trend, with the highest percentage indicating feeling "Comfortable" among both undergraduates and postgraduates. The lowest percentages correspond to those indicating feeling

"Very uncomfortable," indicating a relatively low discomfort level with technology tools and software among participants.

Objective: To determine whether there is a significant difference in the comfort level of using technology tools for information retrieval between undergraduates and postgraduates.

Null Hypothesis (H₀): The comfort level of using technology tools for information retrieval is independent of the educational level.

V/s

Alternative Hypothesis (H₁): The comfort level of using technology tools for information retrieval is dependent on the educational level.

Understanding the comfort level with technology tools across different educational levels can provide insights into students' technological proficiency and highlight areas where additional training or support may be needed. This information can help educational institutions enhance the technological readiness of their students. The chi-square test of independence is used to determine if there is a statistically significant association between educational level (undergraduate vs. postgraduate) and the comfort level in using technology tools for information retrieval. The chi-square test yielded a chi-square statistic of 1.9607 with 4 degrees of freedom and a p-value of 0.7429. The expected frequencies were calculated based on the observed data, and no significant deviation was found between the observed and expected frequencies. The high p-value (0.7429) indicates that there is no significant difference in the comfort level of using technology tools for information retrieval between undergraduates and postgraduates.

Table 6. How satisfied were you getting the information literacy instruction?

Satisfaction Level	Searching for Information (number and %)	Evaluation of Information Sources (number and %)	Referencing and Citation (number and %)	Research Ethics and Plagiarism (number and %)
Dissatisfied	5 (2.55)	6 (3.06)	4 (2.04)	7 (3.57)
Slightly Satisfied	12 (6.12)	11 (5.61)	10 (5.10)	9 (4.59)
Satisfied	45 (22.96)	42 (21.43)	50 (25.51)	46 (23.47)
Very Satisfied	85 (43.37)	78 (39.80)	75 (38.27)	77 (39.29)
Extremely Satisfied	49 (25.00)	59 (30.10)	57 (29.08)	57 (29.08)
Total (N = 196)	196 (100)	196 (100)	196 (100)	196 (100)

Notes: Likert Scale: 1 = Dissatisfied, 2 = Slightly satisfied, 3 = Satisfied, 4 = Very satisfied, 5 = Extremely satisfied (Multiple answer allowed) N = 196

This suggests that the comfort level with technology tools is not influenced by whether a student is an undergraduate or a postgraduate. Therefore, the null hypothesis, which states that the comfort level is independent of educational level, cannot be rejected. These findings imply that both undergraduates and postgraduates exhibit similar comfort levels when using technology tools for information retrieval. This insight can help inform educational strategies aimed at enhancing technological proficiency across different educational levels.

The descriptive analysis of the satisfaction levels for various aspects of information literacy instruction among 196 participants is summarized in the table. For "Searching for Information," most participants were very satisfied, with 85 (43.37 %) indicating this level, followed by 49 (25.00%) who were extremely satisfied. The lowest satisfaction level was dissatisfied, with only 5 (2.55 %) participants. In "Evaluation of Information Sources," 78 (39.80 %) participants were very satisfied, followed by 59 (30.10 %) who were extremely satisfied. The least satisfied group, those who were dissatisfied, comprised 6 (3.06 %) participants. Regarding "Referencing and Citation," 75 (38.27 %) participants were very satisfied, and 57 (29.08 %) were extremely satisfied. Dissatisfaction was reported by 4 (2.04 %) participants, making it the lowest satisfaction level in this category. For "Research Ethics and Plagiarism," 77 (39.29 %) participants were very satisfied, and 57 (29.08 %) were extremely satisfied. The lowest satisfaction level, dissatisfied, was reported by 7 (3.57 %) participants. Overall, the highest level of satisfaction was observed in "Searching for

Information" with 85 (43.37 %) participants being very satisfied, while the lowest level of satisfaction was in "Referencing and Citation," with 4 (2.04 %) participants reporting dissatisfaction. This distribution indicates a general trend of high satisfaction across all categories, with "Very Satisfied" and "Extremely Satisfied" being the most common responses.

Objective: To determine the correlation between satisfaction levels in different aspects of academic skills: searching for information, evaluating information sources, referencing and citation, and research ethics and plagiarism.

Null Hypothesis (H₀): There is no correlation between the satisfaction levels in different aspects of academic skills.

V/s

Alternative Hypothesis (H₁): There is a correlation between the satisfaction levels in different aspects of academic skills.

4. Results

Understanding the correlation between satisfaction levels across different academic skills can provide insights into how these skills are perceived by students. Identifying strong correlations can help educators design more integrated and comprehensive training programs. Pearson correlation coefficient is used to determine the strength and direction of the linear relationship between satisfaction levels in different aspects of academic skills.

Table 7. Correlation result

		<i>Searching for Information</i>	<i>Evaluation of Information Sources</i>	<i>Referencing and Citation</i>	<i>Research Ethics and Plagiarism</i>
Searching for Information	Pearson Correlation	1	0.85	0.78	0.80
	Sig. (2-tailed)		0.000	0.000	0.000
	N	196	196	196	196
Evaluation of Information Sources	Pearson Correlation	0.85	1	0.75	0.82
	Sig. (2-tailed)	0.000		0.000	0.000
	N	196	196	196	196
Referencing and Citation	Pearson Correlation	0.78	0.75	1	0.90
	Sig. (2-tailed)	0.000	0.000		0.000
	N	196	196	196	196
Research Ethics and Plagiarism	Pearson Correlation	0.80	0.82	0.90	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	196	196	196	196

P-values less than 0.05 typically indicate that the correlation is statistically significant. "Searching for Information" is strongly positively correlated with all other variables, with the highest correlation with "Evaluation of Information Sources" (0.85) and the lowest with "Referencing and Citation" (0.78). "Evaluation of Information Sources" shows a strong positive correlation with all other variables, with the highest correlation with "Research Ethics and Plagiarism" (0.82) and the lowest with "Referencing and Citation" (0.75). "Referencing and Citation" is also strongly correlated with all other variables, particularly with "Research Ethics and Plagiarism" (0.90). "Research Ethics and Plagiarism" has strong positive correlations with all other variables, especially with "Referencing and Citation" (0.90).

5. Conclusion

This study has provided insight into the level of information literacy abilities possessed by students at American University in the Emirates (AUE), Dubai located in the United Arab Emirates. By conducting a thorough examination of information literacy levels in different fields of study and academic stages, some significant discoveries have been made. Initially, the survey uncovers a substantial level of information literacy skills among undergraduate and graduate students at AUE, with significant discrepancies observed throughout other colleges and programs. This highlights the significance of focused treatments and customized information literacy programs to tackle requirements within each academic field. The research emphasizes the vital importance of formal instruction and training provided by librarians in improving the information literacy skills of students. The results indicate a direct relationship between obtaining structured teaching and increased levels of satisfaction with education in information literacy. This highlights the importance of ongoing investment in librarian-led training programs and workshops to further improve students' information literacy skills. In the futurizing is crucial to utilize these findings to guide the creation of successful information literacy initiatives and educational interventions at AUE. This encompasses the implementation of focused training programs, the integration of information literacy elements into current curriculum, and the promotion of cooperation among librarians, faculty members, and academic departments. Furthermore, continuous assessment and evaluation of information literacy programs are crucial to guarantee their efficacy and pertinence in addressing the changing needs of students and academic demands. This study is not only enhancing comprehension of information literacy skills among students at AUE, but also provides significant insights for improving information literacy instruction and practice in higher education institutions more generally. Institutions may enhance students' ability to negotiate the complexity of an information-rich society and flourish academically and professionally by prioritizing activities that promote information literacy and develop a culture of lifelong learning and critical inquiry. This study seeks to improve information literacy initiatives at AUE and provide insights for future methods to promote information literacy in higher education.

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