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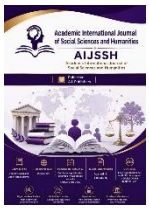

Digital Information Literacy in Arab Universities: Combating Misinformation in the Age of AI

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Abstract

The proliferation of digital misinformation has evolved into an asymmetric challenge across Arab majority nations, a reality deeply compounded by the recent breakthroughs in generative Artificial Intelligence (AI). in countries with an Arab majority. Despite the efforts made in the Arab region in achieving higher education infrastructure investment, the curricula development of digital information literacy (DIL) across the Arab region is still uneven, not well-institutionalized and not well-integrated with AI related skills. The article discusses the status of digital information literacy (DIL) in the Arab universities, the special features of Arab universities and the sociolinguistic and structural factors that make students more vulnerable to misinformation and proposes a culturally responsive and AI-aware strategy for integrating DIL into undergraduate and postgraduate programs. The paper is based on a literature review of existing regional empirical studies, existing UNESCO models and new studies in AI-related literacy, and it concludes that Arab universities must change their library instruction model from ad hoc model to a systemic model in the curriculum. The main recommendations are as follows: establishment of AI-based Arabic language Fact-Checking tools, preparation of DIL modules based on various disciplines, training of teachers, and cooperation with the relevant regulatory authorities in the area. The article joins a growing body of scholarship which argues for context-based responses to the crisis of misinformation in the digital world. The rise of Artificial Intelligence (AI) has given rise to many discussions about the significance of AI in higher education and the development of AI literacy.

الثقافة المعلوماتية الرقمية في الجامعات العربية: مكافحة المعلومات المضللة في عصر الذكاء الاصطناعي

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الخلاصة

لقد أصبح انتشار المعلومات المضللة الرقمية تحديًا غير متماثل في الدول ذات الأغلبية العربية، وقد تفاقم هذا التحدي بصورة كبيرة نتيجة التطورات الحديثة في مجال الذكاء الاصطناعي التوليدي. وعلى الرغم من الجهود التي بذلتها دول المنطقة العربية في الاستثمار في البنية التحتية للتعليم العالي، فإن تطوير مناهج الثقافة المعلوماتية الرقمية (Digital Information Literacy – DIL) ما يزال غير متوازن بين الدول والمؤسسات، ولم يجرِ ترسيخه مؤسسيًا بالشكل الكافي، كما أنه لا يزال ضعيف الاندماج مع المهارات المرتبطة بالذكاء الاصطناعي.

تناقش هذه الدراسة واقع الثقافة المعلوماتية الرقمية في الجامعات العربية، وتستعرض الخصائص المميزة لهذه الجامعات، بالإضافة إلى العوامل الاجتماعية اللغوية والبنيوية التي تجعل الطلبة أكثر عرضة للتأثر بالمعلومات المضللة. كما تقترح الدراسة استراتيجية تراعي الخصوصية الثقافية وتستوعب متطلبات الذكاء الاصطناعي بهدف دمج الثقافة المعلوماتية الرقمية في برامج الدراسات الجامعية والدراسات العليا.

اعتمدت الدراسة على مراجعة الأدبيات العلمية التي شملت الدراسات التجريبية الإقليمية المتاحة، ونماذج منظمة الأمم المتحدة للتربية والعلم والثقافة (اليونسكو)، إضافة إلى الدراسات الحديثة المتعلقة بثقافة الذكاء الاصطناعي. وتخلص الدراسة إلى أن الجامعات العربية بحاجة إلى الانتقال من نماذج التدريب المكتبي التقليدية أو المؤقتة إلى نموذج مؤسسي متكامل ومندمج داخل المناهج الدراسية.

وتتمثل أهم التوصيات في:

- تطوير أدوات عربية للتحقق من الحقائق تعتمد على الذكاء الاصطناعي.
- إعداد وحدات تعليمية للثقافة المعلوماتية الرقمية تتناسب مع مختلف التخصصات الأكاديمية.
- تدريب أعضاء هيئة التدريس على المهارات ذات الصلة.
- تعزيز التعاون مع الجهات التنظيمية والرقابية المختصة في هذا المجال.

وتنضم هذه الدراسة إلى تيار متنامٍ من الأدبيات العلمية التي تؤكد ضرورة تبني استجابات تستند إلى خصوصية السياق الثقافي والاجتماعي لمواجهة أزمة المعلومات المضللة في البيئة الرقمية. كما أن الصعود المتسارع للذكاء الاصطناعي أثار نقاشات واسعة حول أهميته في التعليم العالي ودوره في تنمية ثقافة الذكاء الاصطناعي لدى المتعلمين.

الكلمات المفتاحية:

الثقافة المعلوماتية الرقمية؛ الذكاء الاصطناعي؛ المعلومات المضللة؛ الجامعات العربية؛ التعليم العالي؛ الثقافة في مجال الذكاء الاصطناعي.

Introduction

AI Content Generation, algorithmic curation and social media amplification have transformed the information landscape, changing how it looks all over the world. Once defined as a ‘post-truth' issue for electoral politics, it has now found its way into all areas of everyday knowledge production, such as health, science communication, education and public policy (Wardle & Derakhshan, 2017). The pressure is especially strong at universities, the breeding ground for critical thinking. The lack of skills to assess the veracity of sources, to spot manipulation and to question algorithmically produced information may leave students walking out of the school as innocent agents of misinformation.

The challenge is one which is peculiar to the Arab countries. The Arab world refers to 22 countries in the region, and the population has more than 450 million, who speak multiple languages, and have high rates of social media penetration. With platforms like WhatsApp, TikTok, YouTube and X (formerly Twitter) now being the main sources of information, the vast majority of the content is now in Arabic and Arabic vernacular languages. However, there are still structural disparities based on language in the use of AI-powered fact-checking, digital literacy tools, and educational curricula, which further endanger the interests of Arabic speakers and users of other languages.

This article is inspired by two considerations; the need to address a crisis of misinformation and the relative lack of development of suitable responses to the crisis in Arab higher education in context. With the rise of generative AI, including large language models (LLMs) that can generate convincing material at scale, synthetic media (deepfakes) and algorithmic echo chambers (Floridi et al., 2021), it is important that information literacy frameworks be adapted from the traditional approach to evaluating sources to one that explicitly includes the evaluation of AI-generated content and synthetic media (deepfakes), as well as algorithmic echo chambers Moussa & Douai (2014) . It reviews and collates previous research and local surveys to provide an overview of the current situation, identifies structural barriers and provides suggestions for reform specific to the Arab university landscape.

Despite the growing body of scholarship on digital information literacy, media literacy, and artificial intelligence literacy, several important gaps remain in the existing literature. First, most contemporary frameworks have been developed within Western educational contexts and do not adequately account for the sociolinguistic, cultural, and institutional characteristics of Arab higher education systems. Second, while recent studies have examined the educational implications of artificial intelligence and the spread of digital misinformation, these topics are often investigated separately, resulting in limited integration between AI literacy competencies and digital information literacy frameworks. Third, there remains a lack of comprehensive frameworks specifically designed to address AI-driven misinformation within Arabic-language information environments, where challenges related to dialect diversity, limited fact-checking infrastructure, and technological constraints in Arabic natural language processing persist. Consequently, there is a need for an Arab-specific, AI-aware Digital Information Literacy framework capable of addressing the unique challenges faced by universities in the region. This study seeks to contribute to filling this gap through the development of the Digital Information Literacy Framework for Arab Higher Education (DILF-AHE).

Research Questions

Given the growing influence of artificial intelligence on information production and dissemination, and the increasing vulnerability of digital environments to misinformation, this study seeks to address the following research questions:

RQ1: What are the principal challenges affecting the development and implementation of Digital Information Literacy (DIL) within Arab higher education institutions?

RQ2: How do sociolinguistic, technological, and institutional factors contribute to the vulnerability of Arab university students to AI-driven misinformation?

RQ3: What competencies should be incorporated into a Digital Information Literacy framework to effectively address misinformation in the age of artificial intelligence?

RQ4: How can Arab universities systematically integrate AI-aware Digital Information Literacy competencies into undergraduate and postgraduate curricula?

The remainder of this article is structured as follows: Section 2 provides a comprehensive conceptual mapping of digital information literacy and AI literacy; Section 3 analyzes the contemporary state of DIL within Arab higher education institutions. Section 3 examines the current situation of DIL in the Arab universities. Section 4 discusses the types of misinformation dangers exacerbated by AI in the Arab information environment. In section 5, a framework is suggested that makes DIL an integral part of the curricula in Arab higher education. Implications for policy and practice are explored in Section 6 and directions for future research given in Section 7.

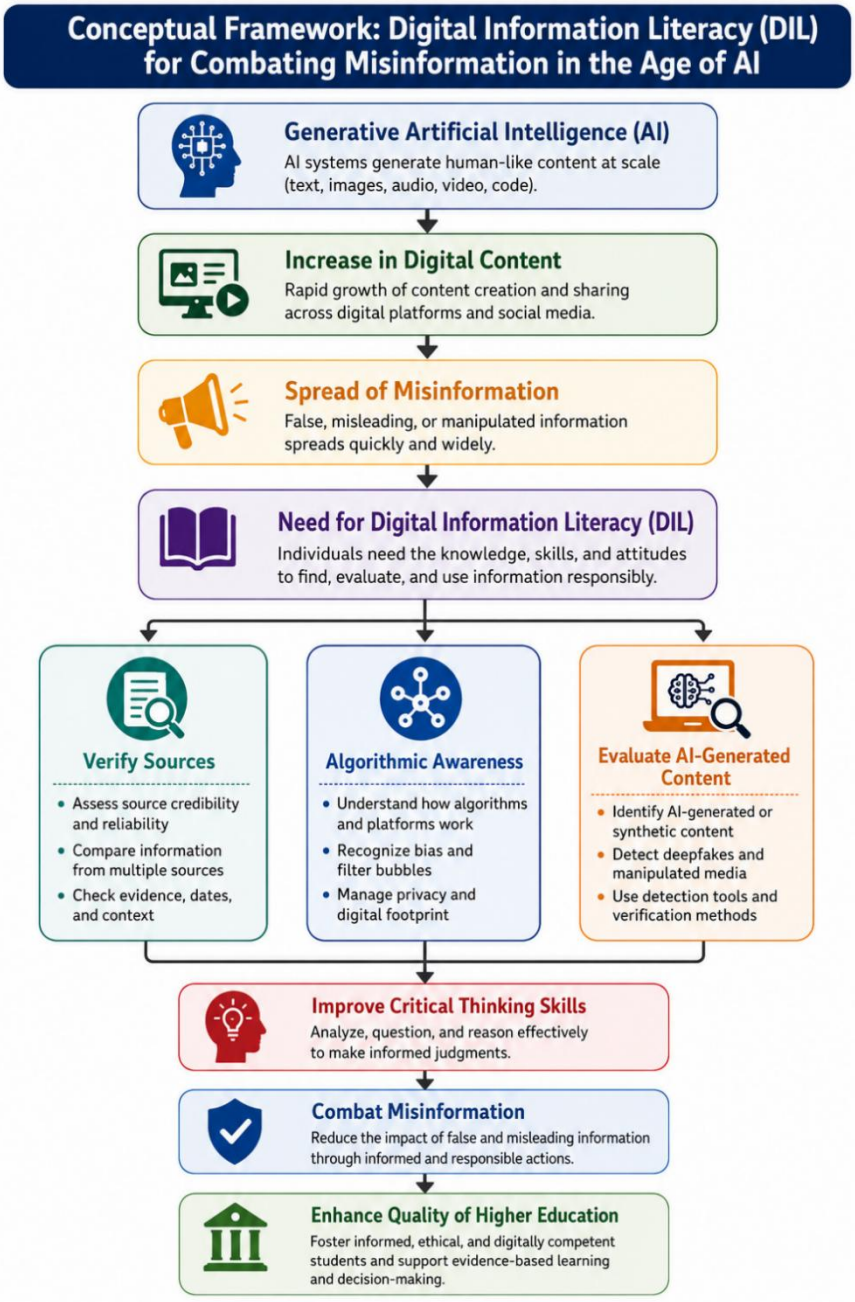

Figure 1. Conceptual Framework of Digital Information Literacy (DIL) for Combating Misinformation in the Age of Artificial Intelligence

2. Take responsibility for learning resources.

2.1 Evolution of Digital Information Literacy (DIL)

The American Library Association (Association of College and Research Libraries [ACRL], 2000) has defined information literacy as the ability to identify information needs and to find, evaluate and use information effectively. This model was developed further into online and networked skills, such as

understanding hyperlinked structures, assessing the credibility of websites, making use of paywalled academic databases, and managing digital archives. "The Association of College and Research Libraries (ACRL, 2016) redefined information literacy from skills to threshold concepts which views knowledge as socially constructed and contested. In support of this shift, Ramaiah and Rao (2021) emphasized that media and information literacy serve as a foundational paradigm for modern educational frameworks."

In this article, we take Bawden and Robinson (2009) integrative definition of digital information literacy, which defines digital information literacy as an amalgamation of traditional literacy, computer literacy and media literacy and extends to critically accessing information in all its digital manifestations. Most importantly, this definition is quite loose, to accommodate new skills that may relate to content created with AI, but that were not envisioned in previous frameworks (Eshet, 2004).

2.2 The Convergence of AI Literacy

AI literacy refers to the collection of skills needed to be able to critically assess AI technologies, communicate with AI systems, and apply AI as a tool to solve real-world problems (Long & Magerko, 2020). AI literacy is embedded in the concept of information literacy, not only with regard to the awareness of the possible automation of information production and manipulation, but also with regard to the epistemological trustworthiness of information produced by AI and recommended by AI.

It's becoming harder to keep the distinction between human-written and machine-written content. Indeed, papers using the OpenAI GPT-4 or the Meta LLaMA models indicate that AI writing can be as close as possible to human writing for trained readers as for un-trained readers (Guo et al., 2023). The limitation is exacerbated in the Arab context due to the limited availability of Arabic language detection tools specifically and the variations between national Arabic dialects in terms of the writing conventions. In an all-round DIL approach towards Arab universities, then, addressing AI literacy should be made explicit, not as an advanced or optional feature.

2.3 The Misinformation Typology

According to Wardle and Derakhshan's (2017) tripartite typology there are three types of misinformation: misinformation (false content shared without intent to harm), dis-information (false content deliberately created to cause harm), mal-information (genuine content weaponised with the intent to cause harm). This approach is still the most often used one in the scholarly research and policy-making literature and is convenient for analysing the diverse types of threats that confront Arab student college and university students. The main sources of dis-information risks relate to generative AI's ability to generate large amounts of believable fake content at low cost, as well as large amounts of factually incorrect content when the AI system is confident despite having factually incorrect information (hallucination, Ji et al., 2023).

2.4 Methodological Approach

To construct the Digital Information Literacy Framework for Arab Higher Education (DILF-AHE), this study adopts a conceptual synthesis methodology that integrates insights from existing theoretical, empirical, and policy-oriented literature. The framework was developed through the triangulation of three primary sources of evidence: (1) international information literacy and media literacy frameworks, including those developed by UNESCO and the Association of College and Research Libraries (ACRL); (2) regional empirical studies examining digital information literacy, misinformation exposure, and source-verification behaviors among university students in Arab and Middle Eastern contexts; and (3) scholarly research addressing the technical limitations of Arabic natural language processing (NLP), AI-generated content detection, and digital fact-checking systems.

A systematic literature review process was employed to ensure transparency and comprehensiveness. The relevant papers were identified by systematic searches on Scopus and Google Scholar using keywords like "digital information literacy," "AI literacy," "misinformation," "higher education," "Arab universities," "fact-checking," and "Arabic NLP." The search was performed between 2020 and 2026 for current research in artificial intelligence and digital misinformation. Studies were selected if they were related to digital information literacy, AI literacy, misinformation, or higher education in Arab or international communities. After screening, the literature was analyzed thematically to identify recurring challenges, competency requirements, institutional barriers, and good educational practices. These themes were subsequently synthesized to develop the DILF-AHE framework and its associated competency domains and implementation pathways.

3. The current situation of the digital information literacy in Arab universities

3.1 Institutional Landscape

In the last 30 years, the number of higher education institutions has increased in the Arab League from some 200 in 1990 to more than 1,200 by 2023. At the same time, there has been heavy investment in digital infrastructure, especially in the Gulf Cooperation Council (GCC) nations: fibre-optic connections are part of the standard setup of leading universities, and e-learning platforms and digital library subscriptions are commonplace. Internationally benchmarked information literacy standards are used in many institutions including King Abdullah University of Science and Technology (KAUST) in Saudi Arabia, the American University in Dubai and Qatar University.

However, the development of digital systems has not always gone hand-in-hand with the development of information literacy instruction. conducted a study of the curricula in Egypt, Jordan, Morocco, Lebanon and Saudi Arabia that revealed that only 34% of the universities included in the study reported some form of information literacy education and training in its curricula, and less than 12% of the universities incorporated it into multiple faculties. These were more likely to be about how to use the databases or how to cite the sources than about how to critically evaluate the sources or how to identify misinformation in those libraries that did have library instruction programmers Khan & Sohail (2025).

Consequently, the institutional landscape exhibits sharp regional asymmetries. While GCC institutions leverage advanced financial resources and comprehensive digital ecosystems, universities in conflict-affected or economically constrained environments (such as Syria, Yemen, and Sudan) suffer from structural deficits, intermittent connectivity, and severe resource scarcities that hinder standardized DIL implementation Bhattarai & Yousef (2025).

3.2 Sociolinguistic Barriers

One of the most unique challenges faced by DIL in the Arab world is the relationship between Modern Standard Arabic (MSA), spoken dialects and the overwhelming presence of the English language in academic publications. Most of the research skills learning are taught in MSA or English and students come across and disseminate misinformation mostly in the colloquial dialect on social media platforms. This code-switching phenomenon may also result in pedagogical disconnection because students acquire and learn how to evaluate texts written in a formal code, while they may have a different formal code in the information, they use daily.

In addition, there are very few fact checking websites, lateral reading guides and AI detection websites that are in other languages than European languages or English. To do this, some fact-checking organizations have sprung up in the Arabic world, including Misbar (Jordan/UAE), Fatabyyano (Saudi Arabia), and Kashif (Egypt), but these groups are poorly resourced and little known among the majority of university students (Newman et al., 2025). They are very rarely employed in the university curricula Kirad (2025).

3.4 Gender and Access to Resources

According to the Arab Youth Survey, about 78% of the Arab youth (18-24) get their main source of news from social media as WhatsApp and TikTok rank in the second and third places, respectively, for the main source of news for the Arab youth. Unfortunately, just 22% said that they would check sources regularly before sharing content online Abou Zahr (2026). There is also a gender imbalance with female university students saying they are mainly exposed to information in closed groups on WhatsApp where external influence that can spread misinformation is filtered.

The dynamics suggest that the strategy that can be adopted in Arab universities in relation to DIL interventions may not be 'one size fits all'. Teaching needs to be platform agnostic, recognizing the social processes of sharing information in family and community networks, and the gender-based aspects of information access and assessment of credibility.

4. AI-Driven Misinformation Dynamics in the Arab Information Environment

4.1 Generative AI, Synthetic Media, and Multimodal Disinformation

The democratization and public release of advanced generative artificial intelligence (GenAI) platforms—including ChatGPT, Gemini, and Claude—have engineered a qualitative and asymmetric

shift in the regional misinformation threat landscape. Historically, the creation of highly persuasive digital deception required substantial technical expertise, temporal investment, and financial resources. Recent studies have further warned that generative language models may facilitate automated influence operations and large-scale disinformation campaigns, thereby increasing the complexity of contemporary information threats (Goldstein et al., 2023).

The Arab information environment has become particularly susceptible to these multimodal dynamics: Geopolitical Crisis Exploitation: Generative AI has been used in situations of regional crises such as the Gaza crisis and the current conflict in Sudan to produce fake news, synthetic satellite images, and localized deepfakes made in Arabic and spread as quickly as possible via Arabic-language WhatsApp networks. Weaponization of high-trust figures: As Arab culture and institutions exhibit high levels of trust in religious officials, political leaders, and media personalities, they have become targets of deepfake impersonation. Political and religious deepfakes in very precise local Arabic dialects have been made over TikTok and YouTube since 2022, and by 2026 it has become a full-scale multimodal disinformation operation based on real-time synthetic video and voice-cloning technologies, with its ability to manipulate reality and people's perception in an easy way thanks to the immediacy of modern synthetic video generation.

4.2 Algorithmic Amplification, Engagement Optimization, and Content Moderation Gaps

Besides the volume of synthetic content, the systemic production of misinformation is greatly accelerated by the proprietary recommendation algorithms that govern the most popular social media platforms. These platforms are built on highly customized personalization algorithms to maximize user engagement, dwell time, and viral retention, not content quality or factual truth. The Emotional Engagement Tax: The research shows that fake, sensationalized, and emotionally charged messages lead to higher engagement rates on digital networks. Hence, these algorithms are programmed to emphasize and amplify fake/unverified Arabic content, isolating university students in a closed algorithmic echo chamber. Sovereign Content Moderation Deficits: These algorithmic disadvantages are not only compounded by the fact that many global platforms are not transparently managed, but they are also deeply unequal. The major tech conglomerates do not allocate sufficient resources to Arabic-language content moderation. The lack of sensitivity to local political issues, regional context, and a variety of national dialects allows fake information to spread rapidly on platforms that do not have the linguistic or technical capacity to properly moderate it for the local environment. The challenge is even more acute since AI systems are now able to manipulate social media content and influence public opinion through the use of specific online communication strategies and messaging tactics (Rahman, 2025).

4.3 The Vulnerability of University Cohorts as Active Consumers and Producers

In these fragmented information ecosystems, Arab university students in general are not merely passive recipients of digital content: They are co-producers, amplifiers, and disseminators. A study has revealed a significant gap in digital defense mechanisms: Unverified dispersals: In Jordan and Egypt, for example, 61 percent of the undergraduate students in universities are already sharing digital content online; they

do not have a source-verification procedure. The Synthetic Perception Deficit: Furthermore, 44% of students in that study report an inherent difficulty in distinguishing between authentic, human-generated content and the sophisticated AI-generated text or media. This dual reality is a very clear reason to embed information and AI-aware, high-level information skills at the top level of education: This is the reality that we should add to our higher education curriculum.

4.4 Technical Asymmetries in Arabic AI Content Detection

The structural vulnerability of Arab academia is fundamentally cemented by severe technological inequities in the global artificial intelligence research and development sector. Automated tools engineered to detect synthetic text and AI-generated outputs—such as GPTZero, Originality.ai, and institutional Turnitin modules—are predominantly trained on massive, high-resource English-language datasets.

The False-Positive Crisis: When deployed against complex Arabic-language texts, these detection engines exhibit severe systemic inaccuracies, yielding false-positive and false-negative rates exceeding 35%. This accuracy deficit stems from the highly complex morphological structure of the Arabic language and the vast typographical variations across different regional dialects.

The Structural Research Gap: This technical limitation is not merely a software glitch; it reflects a profound global imbalance in AI R&D funding that consistently marginalizes low-resource and non-European languages. For Arab higher education institutions, this structural deficit means that Western-centric commercial detection tools are fundamentally inadequate for enforcing academic integrity or combating digital misinformation. Consequently, universities cannot rely on imported automated solutions; they must instead champion sovereign institutional investments dedicated to developing native Arabic-specific natural language processing (NLP) verification frameworks.

5. A national innovation strategy for Arab universities: sustainable building process.

5.1 The Framework principles will be taught during this lesson.

We set forth a culturally responsive Digital Information Literacy Framework for Arab Higher Education (DILF-AHE) inspired by the ACRL Framework (2016), and Long and Magerko's (2020) AI literacy competencies. The five principles are used to organize the framework:
Contextual sensitivity: teaching is tailored to the context of student's information environments, including through the exercise of sensitivity to platform, dialect and social context.
Support for AI-awareness: Skills explicitly include generation of AI content, detection of AI-generated content and critical evaluation of AI-generated content.
Curriculum integration: DIL is not taught as a separate library instruction or just in one module but is integrated throughout the curriculum.
Community orientation: The framework recognises that information is shared in the context of the family and the community and takes into account these.

Iterative assessment: There is formative assessment of competency development throughout the degree programme, instead of one summative assessment.

5.2 Core Competency Domains

Competencies are organized into four domains, which are interconnected in the DILF-AHE:

Domain 1 Evaluating and verifying sources. Pupils learn how to assess sources of information for their credibility, authority and accuracy, including those found online and on social media, academic databases and AI generated information. In addition to becoming a method that has been shown to help users evaluate the credibility of information quickly, instruction in lateral reading, which involves opening up new browser tabs and comparing claims with other sources, is prioritized (Wineburg & McGrew, 2019).

AI Literacy and Synthetic Media Detection is in Domain 2. Students learn the concept of how an LLM generates text, the concept of deep-fake technologies and how to critically utilise the tools currently available to detect deep fakes. This domain also covers the epistemological dimensions of the use of AI in research, such as assessing the quality of summaries generated by AI of academic literature, citations hallucinations, and academic writing with AI support.

This is part of Domain 3: Algorithmic Awareness and Platform Literacy. Students explore in detail how algorithms and mechanisms of personalization, filter bubbles and content ranking to engage' affect their exposure to information through social media. Platform-specific instruction focuses on the unique information dynamics of WhatsApp groups, TikTok for You pages and YouTube recommendation feeds as seen by the Arab users, thereby creating instruction appropriate for each platform.

Domain 4 – Ethical Information Practice and Civic Responsibility. Students explore the ethical issues of sharing information such as the risks of spreading information they don't know to be accurate in family and community contexts. This area is based on Islamic teachings of scholars.

As culturally resonant, responsible models of information practice, culturally competent elements of indigenous information systems and practices (IIPs) and information media.

5.3 Implementation Pathways

The DILF-AHE could be achieved in three complementary ways, that can be used by universities either singly or in combination depending on their capacities:

Standalone DIL Module. A two-credit undergraduate course, taught by a trained library and information science faculty, which is dedicated to all four competency areas and is offered in the first year of the undergraduate course. The pathway is suitable for institutions which have existing information literacy programmers.

Discipline-Embedded Integration. DIL competencies are integrated in various discipline modules, in all faculties. Students in medical studies, for instance, interact with AI misinformation in health communication contexts, while engineering students explore the misinformation problems of algorithms in technical reporting, and humanities students delve into the deepfakes in the context of historical documentation and archival authenticity. This pathway takes a faculty professional development, but results in more contextual and transferable learning.

Co-Curricular/Digital Intervention. DIL instruction is provided via the use of online micro-modules as well as mobile optimized learning materials in colloquial Arabic dialects, and in collaboration with student facing learning platforms like university LMS portals and WhatsApp chatbot services. This is the optimum option to create reach and accessibility, especially for students attending non-residential and distance learning schools.

6. Policy Implications and Recommendations

To successfully implement a strong DIL framework in Arab universities, coordinated efforts are necessary at the institutional, national, and regional levels. The following recommendations are aimed at university administrators, ministries of higher education, and regional organizations like the Arab League Educational, Cultural and Scientific Organization (ALECSO).

6.1 Institutional Recommendations

Universities should establish dedicated Information Literacy Centers that are manned by faculty who are knowledgeable in library science and digital media. Such centres should be spread across departments so that DIL instruction is not restricted to library services. Curriculum reviews should always involve DIL competency mapping so that graduates can get the skills required in each of the four competency areas of the DILF-AHE. Most importantly, faculty need to be trained as information-literate practitioners. A survey of university faculty in Egypt and Jordan found that only 29% felt confident in teaching students to assess AI content. Faculty development programs should include hands-on training in AI detection tools, lateral reading strategies and techniques to lead discussions on critical information.

6.2 National-Level Recommendations

Higher Education ministries need to include DIL competency standards within national higher education quality frameworks. This would require accredited institutions to deliver information literacy instruction systematically. Funding should prioritize Arabic-language DIL resources, such as open educational resources (OER) that institutions can use in different contexts. National fact-checking organizations should work with university systems to provide real-world verification while professional fact-checkers contribute to classroom learning (Newman et al., 2025).

6.3 Regional and Technology-Sector Recommendations

Regionally, ALECSO should create a pan-Arab DIL curriculum standard that considers national differences while establishing common competency benchmarks. Collaborative funding for Arabic-language AI detection tools, like initiatives such as the Global Disinformation Index, will help address the significant technical gap outlined in Section 4.3. Tech companies like Meta, Google, and TikTok, which have platforms widely used in the Arab world, should be engaged in regulatory discussions to improve Arabic-language content moderation, enhance algorithm transparency, and support partnerships with universities for digital literacy education. This aligns with the global indicators reported by Freedom House (2023), which warn against the repressive power of artificial intelligence in digital environments.

Study Limitations

The present study is conceptual in nature and is based largely on a review and synthesis of existing literature, policy reports and theoretical frameworks related to digital information literacy, artificial intelligence literacy and misinformation in higher education. The results and recommendations in this study should not be regarded as empirical evidence in the field of Arab universities but rather we are attempting to provide a framework and recommendations as a context based on existing literature and international models to identify problems and areas of potential research and support such theoretical perspective for empirical studies that can be done to validate and improve the proposed framework in various areas of Arab higher education. Therefore, the findings and recommendations in this study should be understood as theoretical predictions and not empirically proven. Moreover, since our research does not include original data collection, the study is not directly based on the sample demographics, sampling procedures or sample selection and we do not have direct evidence about sample characteristics and sampling practices in the Arab universities, so we should be cautious in generalizing the results to different higher education systems in the Arab world. Future work is necessary to test and analyze the effectiveness of our findings in Arab universities in the context of different Arab university settings in order to evaluate the effectiveness of our proposed framework.

Conclusion

The rise of AI-driven content, the amplification through social media and the lack of information literacy in Arab universities poses a serious and increasing threat to the knowledge health of Arab societies. The current DIL frameworks in Arab higher education are not sufficient to combat the misinformation challenges of the AI age, this article argues. The Digital Information Literacy Framework for Arab Higher Education (DILF-AHE) proposed here offers a clear, culturally responsive way to translate AI-aware information literacy into university curriculum. By incorporating competencies such as source verification, detecting synthetic media, understanding algorithms and ethical information practices and connecting instruction to the actual behaviors and language contexts of Arab students, we are moving away from generic thinking and toward a truly contextualized way to teach. But the costs of doing nothing, and social, political and public health problems of unchecked AI-driven misinformation, far

outweigh the costs of investing in these solutions. Arab universities both have the opportunity and duty to train a generation of critically literate graduates who are at the helm of the information process and will be able to navigate and improve the information environment. Future research should also focus on the long-term effects of DIL interventions in Arab universities and the validation and implementation of the Arabic-language information literacy assessment tools and the comparison of various national higher education systems in the Arab world.

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