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Students' Digital Literacy in Identifying and Verifying AI-Generated Information

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***Abstract*— The rapid development of generative Artificial Intelligence (AI) has transformed the ways in which students access, produce and evaluate information for academic purposes. Although AI-powered tools offer speed and convenience, they may also generate inaccurate information, fabricated references and biased content. This raises concerns about the reliability of AI-generated information and highlights the growing importance of digital literacy among students. The present study aims to examine undergraduate students' ability to identify AI-generated content, evaluate its credibility and verify factual information through reliable sources. It also seeks to explore the challenges students encounter while using AI-generated information in their academic activities. The study is expected to provide insights into students' digital literacy competencies and emphasise the importance of critical thinking, independent judgement and responsible information use in the age of artificial intelligence.**

Keywords— AI-Generated Information, Artificial Intelligence, Digital Literacy, Higher Education, Information Verification, Undergraduate Students

I. INTRODUCTION

The increasing availability of information through artificial intelligence has changed the way students approach academic learning and information gathering. Generative AI applications such as ChatGPT and Google Gemini can provide explanations, summaries, academic content and references in response to users' questions. While these tools offer convenience and support learning, the information they produce is not always accurate or reliable. They may generate incorrect facts, misleading explanations or references that do not exist. Such responses, often described as AI hallucinations, can appear convincing because they are presented in clear and well-organised language.

One of the major concerns associated with this development is the ability of students to distinguish reliable information from inaccurate or misleading content. Unlike conventional search engines, which generally provide links to existing sources, generative AI systems produce direct responses to users' queries. This may make it difficult for students to recognise whether the information is supported by authentic evidence. Furthermore, the growing presence of AI-generated text, images and videos across digital platforms has made the evaluation of online information increasingly challenging.

In this situation, digital literacy becomes particularly important. It involves more than the ability to operate digital devices or access online resources. It also requires individuals to examine information critically, assess its credibility and verify its accuracy before accepting or using it.

Traditional methods of evaluating online information, such as checking the author's credentials, publication date and source, remain relevant. However, students must also understand the limitations of AI-generated content and develop the habit of cross-checking information through independent and credible sources.

The uncritical acceptance of AI-generated information may influence students' academic practices and their approach to knowledge acquisition. When information is accepted without proper examination, students may unknowingly include inaccurate content in their assignments, rely on fabricated references or develop an excessive dependence on AI-generated responses. Therefore, the ability to identify questionable information and verify its accuracy is an important competency for responsible participation in digital learning environments.

Although generative AI is increasingly being used in higher education, the extent to which students possess the necessary skills to identify and verify AI-generated information requires further examination. Educational institutions also need to consider how digital literacy can be strengthened to prepare students for the challenges associated with emerging technologies.

In this context, the present study examines students' digital literacy in identifying and verifying AI-generated information. It focuses on their awareness, information-evaluation abilities and verification practices, with the broader aim of understanding how students engage with AI-generated content in academic settings.

II. OBJECTIVES

1. To examine students' awareness and understanding of AI-generated information.
2. To examine students' ability to verify the accuracy and credibility of AI-generated information.
3. To suggest educational measures for strengthening digital literacy in the age of artificial intelligence.

III. RESEARCH METHODOLOGY

The present study adopts a descriptive and qualitative research methodology based entirely on secondary sources of data. The descriptive approach is used to examine and explain students' digital literacy in identifying, evaluating and verifying AI-generated information. The qualitative approach focuses on understanding the concepts, issues, challenges and existing discussions related to the use of Artificial Intelligence in education.

The study relies on secondary sources, including books, academic journals, research articles, published reports, government documents and online publications of recognised organisations such as UNESCO. Relevant literature on digital literacy, information verification, generative Artificial Intelligence and higher education will be reviewed and analysed.

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IV. REVIEW OF RELATED LITERATURE

The development of digital literacy has been widely discussed in educational research, particularly in relation to information access, evaluation and responsible technology use.

The Association of College and Research Libraries (2016), through its Framework for Information Literacy for Higher Education, emphasises that information literacy involves understanding how information is produced, valued and used. The framework highlights the importance of critically evaluating information sources and recognising the authority and context of information.

Wineburg and McGrew (2017), through their work on lateral reading, demonstrated the importance of consulting multiple sources to evaluate the credibility of online information. Their research provides a relevant foundation for understanding why students should independently verify AI-generated claims rather than relying exclusively on the responses provided by a single platform.

UNESCO (2023), in its guidance on generative AI in education and research, draws attention to the opportunities and risks associated with the use of generative AI in educational settings. It emphasises the importance of human agency, critical judgement, ethical considerations and appropriate educational guidance in the use of these technologies.

V. CONCEPTUAL UNDERSTANDING OF DIGITAL LITERACY IN THE AGE OF AI

Digital literacy refers to the ability to access, understand, evaluate and use information through digital technologies. It is not limited to knowing how to operate digital devices or use online platforms. Rather, it also involves the ability to judge the quality of information, recognise its relevance and determine whether it can be considered reliable. In an increasingly digital world, these skills are essential for making proper use of the vast amount of information available online.

The growing use of generative AI has brought new challenges to the concept of digital literacy. Earlier, much of the emphasis was placed on searching for information, selecting suitable sources and assessing the credibility of online content. However, generative AI tools provide information directly in the form of answers, explanations and summaries. Although these responses are often presented in clear and convincing language, they may contain incorrect or misleading information. Students therefore need to be more careful while using AI-generated content and should not accept every response as accurate without further examination.

In this context, digital literacy requires students to develop certain abilities that will help them use AI-generated information more carefully and responsibly. Three important areas are discussed below:

A. Identifying AI-Generated Information

With the increasing use of artificial intelligence, students need to understand how AI-generated content differs from information obtained through other sources. They should be aware that written responses, images and other forms of digital content can be created with the help of AI. However, recognising AI-generated content is not always easy, as it may closely resemble material produced by human beings.

AI-detection tools are also not entirely reliable and may sometimes produce incorrect results. Therefore, students should develop an awareness of AI-generated content and its limitations rather than depending entirely on automated detection tools.

B. Evaluating the Credibility of Information

Access to information does not necessarily mean that the information is accurate or trustworthy. Students need to examine the content they receive from AI tools by considering whether the facts are correct, the explanations are reasonable and the claims are supported by reliable evidence. They should also be able to recognise statements that appear doubtful or inconsistent. Such evaluation helps students avoid accepting information simply because it is presented confidently or in well-organised language.

C. Verifying AI-Generated Information

Verification involves checking whether the information provided by AI tools is correct by comparing it with other reliable sources. Students can do this by referring to textbooks, academic journals, research publications, official websites and other authentic materials. For instance, when an AI tool provides a historical fact, statistical figure or academic reference, students should check it against an original or trustworthy source before using it in their academic work. Developing this habit can help students identify errors, avoid misleading information and make better use of AI-generated content.

VI. ROLE OF DIGITAL LITERACY IN ACADEMIC LEARNING

Digital literacy has become an important part of students' academic lives as the use of digital technologies and artificial intelligence continues to grow in education. Students now depend on various digital resources, such as online libraries, educational websites, e-books and AI-powered applications, to support their learning. However, simply having access to these resources is not enough. Students must also possess the ability to understand, examine and make proper use of the information they obtain.

1. Identifying AI-Generated Information: Digital literacy helps students understand the nature of AI-generated content and recognise that information available through AI applications may differ from that obtained from conventional sources. It also creates awareness of the limitations of AI tools and the need to examine their responses carefully.

2. Improving Access to Learning Resources: Digital literacy enables students to explore different educational resources available through online platforms, digital libraries and academic websites. It helps them gather relevant information, clarify difficult concepts and gain a wider understanding of their subjects.

3. Promoting Independent Learning: Digital literacy encourages students to explore topics beyond their classroom lessons and prescribed textbooks. It helps them search for relevant information, develop their own understanding and take greater responsibility for their learning.

4. Developing Critical Thinking and Analytical Skills: The ability to examine information, compare different opinions and question doubtful claims is an important part of digital literacy. These practices encourage students to think independently, analyse information and make informed academic decisions.

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5. Improving Information Evaluation and Verification: Students often receive information from different websites, online platforms and AI applications. Digital literacy helps them examine the accuracy and reliability of such information and check it against textbooks, academic publications and other trustworthy sources before using it in their academic work.

6. Encouraging Responsible Use of AI in Education: Digital literacy helps students understand the benefits as well as the limitations of AI-powered applications. It encourages them to use these tools for learning support and academic assistance without allowing them to replace their own understanding, efforts and judgement.

7. Strengthening Academic Communication and Collaboration: Digital literacy enables students to share information, exchange ideas and work together through digital platforms. It supports online discussions, group assignments and other collaborative learning activities, providing opportunities for greater academic interaction.

Thus, digital literacy has an important place in present-day education. It helps students access learning resources, develop independent understanding, examine the reliability of information and make responsible use of digital technologies. With the growing use of artificial intelligence in education, these abilities are particularly important in helping students become informed, responsible and independent learners.

VII. MAJOR CHALLENGES OF AI-GENERATED INFORMATION AMONG STUDENTS

The growing use of Artificial Intelligence in education has brought several concerns regarding the accuracy and reliability of the information provided by AI tools. Although these applications make information easily accessible, students may face difficulties in judging whether the content is correct and suitable for academic use. Some of the major challenges are discussed below:

1. Inaccurate Information: AI tools may sometimes provide incorrect facts, outdated details or misleading explanations. Since such information is often presented in a clear and convincing manner, students may accept it without questioning its accuracy. This can result in the use of incorrect information in assignments and other academic activities.

2. Lack of Information Verification: Students may rely on AI-generated responses without comparing them with textbooks, research articles or other trustworthy sources. When information is used without proper checking, there is a greater possibility of accepting and sharing incorrect or misleading content.

3. Overdependence on AI Tools: Frequent use of AI applications for preparing assignments, making notes and obtaining explanations may gradually encourage students to depend too much on these tools. Such dependence may reduce their involvement in independent reading, analysis and problem-solving, which are important for meaningful learning.

4. Incorrect or Fabricated References: AI applications may sometimes provide references that contain incorrect publication details or refer to books, articles and journals that do not actually exist. Students who use these references without checking the original sources may face difficulties in maintaining the accuracy and credibility of their academic work.

5. Difficulty in Recognising AI-Generated Content: AI-generated text can often resemble human-written material in its language, structure and presentation. As a result, students may find it difficult to determine whether particular content has been produced by artificial intelligence or written by a human. This makes the identification of AI-generated information a challenging aspect of digital literacy.

VIII. SUGGESTIONS FOR IMPROVING STUDENTS' DIGITAL INFORMATION LITERACY

The growing use of Artificial Intelligence in higher education calls for appropriate measures to strengthen students' digital information literacy. The following suggestions may help students use AI-generated information more carefully, effectively and responsibly.

1. Organising Digital Literacy and AI Awareness Programmes: Higher education institutions should organise workshops, seminars and training programmes to familiarise students with AI applications, their uses and limitations. Such programmes can help students understand the possibilities of receiving incorrect or misleading information from AI tools.

2. Encouraging Information Verification: Students should develop the habit of checking AI-generated information against reliable sources such as textbooks, academic journals, research publications and official websites. This will help them identify inaccurate information and avoid depending entirely on unverified responses.

3. Developing Critical Thinking Skills: Teachers should encourage students to question AI-generated responses, examine different viewpoints and judge the accuracy of the information provided. Classroom discussions, assignments and practical activities can help students develop independent thinking and informed judgement.

4. Integrating Digital Literacy into Higher Education: Digital information literacy should receive greater attention in higher education curricula. Students should be provided with opportunities to learn about information evaluation, source verification and the responsible use of emerging technologies as part of their academic activities.

5. Promoting Responsible and Ethical Use of AI: Students should be guided to use AI applications as supportive learning tools rather than substitutes for their own understanding and academic efforts. Educational institutions should also establish clear guidelines regarding plagiarism, proper referencing, acknowledgement of AI assistance and ethical use of AI-generated content.

IX. CONCLUSION

The growing use of Artificial Intelligence has changed the way students access and use information for academic purposes. AI-powered tools provide quick responses and support students in understanding different subjects and completing academic tasks. However, the possibility of receiving inaccurate, misleading or unreliable information makes it important for students to examine AI-generated content carefully.

Digital information literacy plays an important role in addressing these concerns. Students need to develop the ability to recognise AI-generated content, assess the reliability of the information and verify its accuracy through trustworthy sources.

These skills can help them avoid accepting incorrect information and make better decisions while using digital resources for academic work.

The discussion emphasises that digital literacy should go beyond basic knowledge of digital devices and applications. It should also include critical thinking, independent learning, information evaluation and an understanding of the ethical use of technology. Teachers and educational institutions have an important role in developing these abilities through appropriate guidance, classroom activities and digital literacy programmes.

Ultimately, artificial intelligence should be used as a support for learning rather than as a substitute for students' own understanding and judgement. Developing digital information literacy will help students make responsible use of AI-generated information, maintain academic integrity and become more informed and independent learners in the changing educational environment.

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