



The Role of Information Literacy in Improving Students' Abilities in the Digital Era

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ABSTRACT

Information Literacy is an essential competency for students in facing challenges in the digital era. These capabilities include identifying information needs, accessing, evaluating, and using information ethically. Students will be able to master digital information literacy if they are used to using information appropriately. To get used to the correct use of information, students need to learn about how to use it appropriately. Therefore, digital information literacy is important to be taught to students through courses in college. Unfortunately, not all study programs in higher education include information literacy courses in their curriculum. This research aims to examine the role of information literacy in improving students' academic abilities in the digital era. The method used is a literature study by analyzing various journals and books. The results of the study show that information literacy contributes significantly to improving critical thinking and problem-solving skills. and student self-study. Collaboration between libraries, lecturers, and educational institutions is needed to develop effective information literacy programs.

INTRODUCTION

The development of information technology has brought significant changes in various aspects of human life, including higher education. Students, as agents of change, are required to maximize the use of technology in the learning process. In this digital era, information is available in large quantities and can be accessed at any time. However, this ease of access is not always accompanied by the ability to evaluate and utilize information effectively.

Information literacy is an essential competency for students to support learning, research, and self-development. Without adequate information literacy, students are at risk of using inaccurate sources, falling into hoaxes, or committing plagiarism. Unfortunately, not all students have a good understanding or strong information literacy skills, as many still struggle to evaluate credibility, organize information logically, or distinguish between valid and invalid sources.

Therefore, strengthening students' information literacy is an urgent need in higher education. This paper aims to examine the importance of information literacy in the digital era by describing its basic concepts, challenges faced by students, and strategies for strengthening information literacy in higher education. The expected outcome is to contribute to improving education quality and enhancing students' competence in facing the increasingly complex and dynamic information landscape.

THEORETICAL REVIEW

Definition of Information Literacy

The concept of information literacy is widely recognized in the field of library and information science. According to the American Library Association (ALA), information literacy refers to a set of skills that enable individuals to identify when information is needed and to effectively search, evaluate, and use information. The Association of College and Research Libraries (ACRL) formulated five main competencies of information literacy: (1) identifying information needs, (2) accessing information, (3) evaluating information, (4) using information, and (5) understanding issues related to information.

Importance of Information Literacy in Higher Education

Information literacy allows students to recognize information needs, critically evaluate sources, and apply information ethically. In the higher education context, information literacy is not only essential for academic assignments but also for supporting lifelong learning and self-development. Its absence can hinder academic performance and increase risks of plagiarism or misinformation use.

Current Challenges in Student Information Literacy

Despite its importance, studies reveal that students' information literacy is still relatively low. Dewi (2020) reported that many students rely heavily on internet sources without carefully considering their accuracy. A Kominfo survey (cited in Sujana & Rachmatin, 2019) showed that Indonesia's digital literacy level is in the medium category with a score of 3.47. When broken down into sub-indexes such as information and data literacy, communication and collaboration,

security, and technological capabilities, all remain below 4, which indicates that improvement is needed.

Gaps and Opportunities

These findings suggest that information literacy must be integrated into higher education curricula, either as a dedicated course or embedded across academic activities. Strengthening this competency is a strategic effort to prepare students to critically navigate digital information and to contribute effectively to academic and professional settings.

METHODOLOGY

This research uses a qualitative approach with the library research method, which aims to examine in depth the concept of information literacy and its role in improving students' abilities in the digital era. Literature studies are chosen because they allow to dig up and analyze a variety of relevant scientific sources, both in the form of reputable journals and academic books. This method is very suitable for use in conceptual studies that focus on understanding and interpreting existing theories and practices that develop in the world of higher education.

The first step in the implementation of this method is to identify sources that are relevant to the research topic. After the source collection stage, conduct a content analysis of the documents that have been collected. This analysis aims to identify the main themes, as well as the relationships between concepts related to information literacy and their influence on improving students' abilities.

In addition, it compares findings from various sources to see the consistency of results, identify research gaps, and evaluate approaches that have been applied in various higher education institutions. The entire research process is carried out systematically and structured in order to produce conclusions that are valid and scientifically accountable.

RESULTS AND DISCUSSION

The Benefits of Information Literacy for Students

Students with information literacy skills are able to search, manage, and convey information in an effective way. Information literacy helps them understand the broader academic context, improve the quality of assignments and papers written, and support the research process systematically. Students will also be able to avoid plagiarism because they understand the importance of citing sources correctly.

The standards committee of the *Association of College and Research Libraries* (ACRL) has formulated information literacy competency standards for higher education. There are five main standards of information literacy in the academic context in higher education. These standards include a wide range of lists of abilities that are used to assess the extent to which a person understands information. This standard is also used by librarians and faculties in designing student learning evaluation methods that are in line with the mission of their

respective higher education institutions. The five standards according to ACRL (2000) are as follows:

1. Students who have information literacy are able to identify the type and scope of information needed.
2. Able to find and obtain the information needed effectively and efficiently.
3. Able to critically assess the information obtained.
4. Able to convey information that has been collected well.
5. Able to understand various current issues related to information.

The results of the literature study show that information literacy has a significant role in improving various aspects of students' abilities in the digital era. First, information literacy supports the improvement of critical thinking skills. Students who are illiterate are able to critically evaluate information sources, distinguish between valid and invalid information, and avoid the spread of false information. This is especially important considering that students are often exposed to a variety of information from social media, websites, and other digital platforms. This critical thinking ability is also the basis for making appropriate and data-driven decisions.

In addition, information literacy allows students to develop independent learning skills. Students who are able to recognize their information needs can actively look for relevant learning resources, either in the form of journals, digital books, scientific articles, or other online sources. This ability encourages students to not only rely on teaching from lecturers, but also to become active and critical independent learners. In this context, information literacy is an important foundation for creating lifelong learners.

The use of digital technology is also an important aspect of information literacy. Students who have these competencies are able to take advantage of various digital tools such as academic search engines, electronic databases, reference management software, and online learning platforms. Mastery of these tools allows students to access information more quickly, efficiently, and accurately. In addition, understanding copyright and the ethics of using information is also part of information literacy, which is no less important. This can help students avoid the practice of plagiarism and improve academic integrity.

The academic quality of students also shows a significant increase in line with the increase in information literacy. Students who have information literacy skills can summarize scientific assignments and careers more systematically, present arguments supported by data, and write with appropriate references. As a result, they not only obtain better academic grades but are also better prepared to continue their studies or enter the world of work that demands analytical and problem-solving skills.

In terms of collaboration and communication, information literacy strengthens students' ability to work in teams, contribute to academic discussions, and communicate ideas effectively through digital media. This is especially relevant in project-based learning and online learning systems that are now increasingly commonly used in various universities. Students who are able

to access, Evaluating, and disseminating information effectively will be more confident and play an active role in learning.

Furthermore, information literacy encourages students to make decisions based on data and evidence. In the midst of today's digital information complexity, this ability has become vital. Students who have a strong foundation in information literacy will be more thorough in analyzing data, comparing various sources, and formulating logical and accountable conclusions.

Thus, information literacy not only serves as a technical tool, but also as a cognitive foundation that allows students to develop essential intellectual skills. Therefore, universities need to pay special attention to the development of student information literacy, both through curriculum integration, training organized by libraries, and cross-departmental collaboration.

The Challenges of Information Literacy in the Digital Era

The development of digital technology has changed the way individuals, including students, access and use information. On the one hand, access to various sources of information is becoming easier and faster. But on the other hand, this convenience presents a new challenge in information literacy, namely a person's ability to recognize information needs, search, evaluate, and use information appropriately and responsibly. Unfortunately, there are still many students who do not have adequate information literacy skills, and this condition is influenced by several challenges faced in their academic lives.

One of the main challenges is the low skill in evaluating information sources. Students often take information for granted without verifying the authenticity, credibility, accuracy, and relevance of the information sources used. This is further exacerbated by the large amount of unverified information that is widely circulated on the internet, especially through social media and personal blogs. A study by Head (2013) found that new students tend to trust Google search results that appear first, rather than conducting an in-depth search of credible academic sources or scientific journals.

In addition, students also show a high dependence on search engines, especially Google, as the main source of finding information for academic purposes. This phenomenon is known as Google-centric behavior, where students tend to only take information from the first page of search results without considering its validity. Purwanto (2020) noted that this pattern has an impact on the low quality of references used in academic assignments, because students rarely explore scientific databases or other reliable sources such as digital libraries.

The next challenge is the weak ability of students to manage and organize the information obtained. Although information can be easily accessed, many students are not used to filtering and organizing information according to academic needs in a systematic manner. The information obtained tends to be left scattered without patterns, making it difficult to write scientific and formulate structured arguments. CILIP (2018) states that the ability to store, classify, and manage information is an integral part of information literacy that is often overlooked during the learning process.

Another aspect that is also a big challenge is the low awareness of students on information ethics. Many students do not fully understand the importance of copyright, use licenses, and correct citation techniques. As a result, the practice of plagiarism still occurs frequently, either consciously or unconsciously. ACRL (2015) emphasizes that understanding of information ethics must be the basis in every academic activity, and without this understanding, students will have a hard time positioning themselves as responsible users of information.

Finally, the distraction-laden digital environment is also a challenge. Students live in the midst of a torrent of social media notifications, short videos, and various other forms of online entertainment, which often interfere with their concentration while searching or analyzing information. Rosen et al. (2013) in their research showed that digital multitasking has a negative impact on the quality of information processing, because students' focus is easily divided and it is difficult to maintain attention for a long time.

Strategies to Improve Student Information Literacy

In the digital era marked by information floods, information literacy skills are a key ability that must be possessed by students. Information literacy includes not only the ability to find information, but also to evaluate, manage, and use it ethically and effectively. Unfortunately, various studies show that the literacy level of students is still relatively low. Therefore, a strategy is needed to improve information literacy skills in higher education.

One of the main strategies is to integrate information literacy into the higher education curriculum. Information literacy should not be considered as additional material, but rather as an integral part of the learning process. Each study program can incorporate elements of information literacy into relevant courses, such as research methods, scientific writing, or information technology. The Association of Higher Education and Research Libraries (ACRL, 2015) emphasizes the importance of a curricular approach in strengthening information literacy, so that students can automatically understand how to formulate information needs, search for sources, and evaluate and use them appropriately.

In addition to curriculum integration, information literacy training and workshops are also important steps. This training can be facilitated by campus libraries or educational institutions by involving librarians, lecturers, and practitioners in the field of digital information. Trainers can cover topics such as academic source search techniques, the use of scientific databases, reference management using applications such as mendeley or Zotero, to the skills of evaluating the credibility of sources. According to Lloyd (2005), interactive and repetitive training is very effective in increasing students' awareness and information skills in a practical way.

The use of digital libraries and academic databases is also a very important strategy. Students need to be directed to actively access scientific journals, e-books, institutional repositories, and other reliable sources. Thus, they don't just rely on search results from Google, but can use valid academic information to support their assignments and research. Julien and Genius (2011) show that

access to adequate scientific information resources, accompanied by appropriate guidance, will significantly improve information literacy skills.

In the context of the digital era, it is also important to instill an understanding of information ethics. Students should know the importance of copyright, open licenses such as Creative Commons, and how to properly cite sources. Education about information ethics can prevent plagiarism and form an honest and responsible academic attitude. Hobbs (2010) stated that understanding the ethical aspects of information is an essential part of digital literacy, because the unethical use of information can damage a person's academic integrity.

Another strategy is to encourage collaboration between lecturers, librarians, and students in the learning process. This collaboration can take the form of cross-role teaching teams that jointly design learning modules, project assignments, and assessments that encourage critical use of information. Gross and Latham (2012) emphasize that this kind of collaboration can help bridge the gap between the information literacy skills needed and the reality of students' abilities.

The Role of Universities and Libraries in Improving Student Information Literacy

In the digital era marked by the information explosion, universities have an important responsibility in equipping their students with information literacy skills. Information literacy is a basic competency that includes the ability to recognize information needs, search, evaluate, and use information ethically and effectively. In the context of higher education, the mastery of information literacy not only supports academic success, but also prepares students to face the world of work and social life that demands critical thinking skills and information-based decision-making.

Universities as educational institutions play a strategic role in creating a learning ecosystem that supports the development of information literacy. One of the main roles is to integrate information literacy materials into the curriculum. Courses such as research methodology, academic writing, or even general courses can be a medium to train students in searching for and using information critically. The Association of College and Research Libraries (ACRL, 2015) emphasizes that a systematic curricular approach is very effective for instilling information literacy as part of higher-level thinking skills.

In addition to the curriculum, universities also need to encourage collaboration between lecturers and librarians in compiling teaching modules or academic assignments that encourage the use of scientific information sources. Lecturers can guide students in analyzing literature and integrating search results into their writing, while librarians provide technical training in database search, reference management, and resource evaluation. Gross and Latham (2012) show that cooperation between educators and librarians can improve the quality of students' understanding of the information they use.

Libraries as learning support units have an equally important role. In the digital era, libraries are not only a place to store books, but also a center for

information resources and digital literacy. College libraries generally provide access to scientific journals, institutional repositories, as well as international databases such as ProQuest, JSTOR, and ScienceDirect. However, the availability of resources alone is not enough. Libraries must actively provide information literacy training, workshop, and consultation services to students. Julien and Genuis (2011) stated that students who received direct training from librarians showed a significant improvement in information search and evaluation skills.

In addition, libraries also play a role in shaping students' understanding of information ethics. Through training on plagiarism, copyright, and correct citation techniques, libraries help students understand their academic responsibilities as users of information. Hobbs (2010) emphasized that awareness of the ethical use of information is a crucial part of information literacy, which must be instilled from an early age in the campus environment.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the literature review that has been conducted, it can be concluded that information literacy is an important foundation in improving various abilities of students in the digital era. Information literacy not only facilitates access to and use of information, but also strengthens critical thinking skills, independent learning, collaboration, and academic integrity. In the midst of the ever-growing flow of digital information, students who have good information literacy competencies will be better prepared in face academic and professional challenges. They are not only capable of becoming consumers of information, but also responsible and ethical producers of information.

Based on these conclusions, it is recommended that higher education institutions actively integrate information literacy programs into curricula and learning activities. Libraries as campus information centers should expand their role through the implementation of regular information literacy training, debriefing to lecturers as literacy facilitators, and providing access to quality digital information sources. Collaboration between lecturers, librarians, and campus management is needed to create a learning ecosystem that supports the sustainable development of student information literacy.

FURTHER STUDY

Future research on information literacy in higher education should explore the effectiveness of different instructional models and integration strategies within diverse disciplinary contexts. Longitudinal studies could assess how information literacy competencies influence students' academic performance, research productivity, and professional readiness over time. Comparative analyses between institutions with established literacy programs and those without would provide valuable insights into best practices and scalability. Additionally, investigating the role of emerging technologies – such as AI tools, digital libraries, and collaborative platforms – may reveal innovative approaches to fostering critical, ethical, and sustainable information use among students in the digital era.

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