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The Influence of Information Literacy towards Students' Academic Performance

Wan Nor Haliza Wan Mokhtar, Yanty Rahayu Rambli, Jemauri Ajerama Anak Jemat, and Norhayati Hussin

School of Information Science, College of Computing, Informatics and Mathematics, UiTM Selangor Branch, Puncak Perdana Campus, 40150 Shah Alam, Selangor Malaysia

Email: yanty@uitm.edu.my

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Abstract. This study investigated the influence of information literacy on the academic performance of Master's students in the Faculty of Information Management. UiTM Puncak Perdana Campus, Selangor, Malaysia. The study applied a quantitative approach and adopted a survey method. The data collected were analysed by using SPSS software Version 26. The study revealed that most respondents are well versed in searching Skills, retrieval skills, and evaluating Skills. Therefore, this paper recommends educational courses in the form of workshops to be presented to students on the topics related to searching, critical thinking, using the suitable methodologies for studying (including writing essays), as well as research attitude (including conducting research). Besides that, this study suggests that future studies should be conducted in the context of students' academic performance by using other skills such as study and research skills with different populations and institutions.
Keywords: Information literacy, students' academic performance, searching skill, evaluating skill, information management.

1 Introduction

Information literacy is usually characterized as students' abilities to ethically search, analyse (evaluate), use, and share knowledge in higher education contexts (Soltani & Nikou, 2020). The Framework for Information Literacy in Higher Education (Framework) is based on the premise that information literacy as an educational reform movement can only achieve its full potential if a more affluent, more sophisticated collection of fundamental principles is developed. The six concepts that anchor the frames are presented alphabetically, i.e., authority is constructed and contextual,

information creation as a process, information has value, research as inquiry, scholarship as conversation, and searching as strategic exploration (ACRL, 2016).

Academic librarians and their partners in higher education associations have developed learning outcomes, tools, and resources that some institutions have used to infuse information literacy concepts and Skills into their curricula in the fifteen years since the Information Literacy Competency Standards publication for Higher Education was published. Students can develop information literacy abilities as part of their critical thinking skills during library teaching sessions and when they use library resources and services. Many educational institutions have established information literacy skill programs to educate students with the required knowledge and abilities to be successful information consumers, owing to the emphasis on these Skills (Onuoha, 2017). Therefore, this study is intended to highlight the influence of information literacy on students' academic performance.

2 Literature Review

2.1 Information Literacy Skill

Concerns about false news have reignited interest in media literacy in many forms. Prevailing assumptions hold that literacy interventions can assist audiences in becoming "inoculated" against the negative consequences of false information. An empirical study by Jones-Jang, Mortensen, and Liu (2021) examines whether people with higher literacy levels (media, information, news, and digital literacies) are better at detecting false statements and which of these literacies are most important. It is revealed that information literacy, but not other literacies, considerably enhances the chance of spotting false news articles. Female respondents appeared to be more discerning than males in evaluating Internet sources, and males appeared to be more confident in the credibility and accuracy of the results returned by search engines. This is according to a study by Taylor and Dalal (2017), which evaluated a subset of student information literacy skills in relation to Internet information sources. Moreover, Rieh et al. (2019) presented a study that used librarian role-playing to see how capable college students are of demonstrating their information literacy skills while acting as an academic librarian, and the results showed that the role-playing method could help students develop metacognition about their search behavior.

Chan (2016) presents the results of a standardized exam of information literacy administered by a university library in Hong Kong, which revealed that students' information literacy skills improved throughout the course of their studies. In a focus group with 12 undergraduate students, Dawson, Hsieh, and Carlin (2012) discovered that many students are unaware of the functions of various types of sources and search tools. Many students appeared to confuse journal databases with the online catalog after receiving instruction, and they were unsure which tool could assist them in locating journal articles. The usage of encyclopedias is unclear, and many students are unaware of the difference between popular and scholarly publications.

2.2 Information Literacy in Academic Perspectives

Furthermore, a study by Lanning and Mallek (2017) analysed a variety of factors from current university students' high school experiences, such as demographic, educational, and economic factors, as well as current standing and grade point average (GPA), to assess the students' information literacy skill in relation to a 1000-level information literacy course that is part of the university's general education requirement. Finally, according to regression studies, only current university GPA and standardized test scores have any effect on information literacy test results.

Besides that, Anandhalli (2018) discovered that information literacy is one of the most critical predictor factors for degree college students' academic success. A study by Banik and Kumar (2019) showed that increasing students' information literacy competence by one unit can raise their GPA by 0.012. As a result, the study recommends that nursing students enhance their information literacy skills to improve their academic performance. Information literacy abilities were found to be favorably connected to both students writing scores and final course grades (Shao & Purpur, 2016). Students excelled in information evaluation and identifying needs but struggled with legal/ethical concerns and information usage. As a result, giving all students an information literacy education is critical to providing a foundation for more balanced academic success (Bartol et al., 2018).

2.3 Proposed Basic Framework

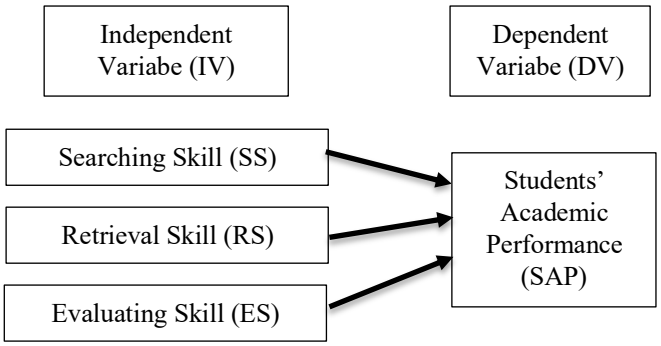

Figure 2.1 Framework designed for this study

This framework is developed based on previous studies (Mohd Idzwan et al., 2011; Onuoha, 2017) and the Big 6 Model, developed by Eisenberg and Berkowitz (2001), to investigate the influence of information literacy on students' academic performance. The variance in the dependent variable was students' academic performance, which could be explained by the three independent variables: Searching Skill, Retrieval Skill, and Evaluating Skill, which are components of information literacy typically taught by Malaysian academic libraries in their respective literacy courses. Searching skills and Evaluating Skills were derived from Mohd Idzwan et al. (2011) studies, while Retrieval Skill was originated from Onuoha (2017) research.

3 Research Methodology

3.1 Research Approach

This study employed the quantitative approach, which was executed through the survey method. The questionnaire was developed in a Google Form and was distributed to the respondents through student emails and WhatsApp applications. The target population was a Malaysian public university in the state of Selangor namely Universiti Teknologi MARA (UiTM) Puncak Perdana Campus. One hundred ninety-six postgraduate students from all six Master's programs of the Faculty of Information Management, UiTM Puncak Perdana, Shah Alam, Selangor participated in this stud.

3.2 Population, Sampling & Data Collection

The total population consisted of 196 postgraduates from all six Master's programs of the Faculty of Information Management, UiTM Puncak Perdana, Shah Alam, Selangor. Since the data collection was conducted through a questionnaire, this study used probability sampling. This study adopted the simple random sampling technique from the probability sampling as the sample size was generated using the Raosoft calculator and was selected from the sampling frame. It has shown that the sample size was 138 respondents. Besides that, the adoption of this method was reliable as it eliminated sampling bias. The hypothesis produced by this research measured the research. This research questionnaire was distributed from early December 2021 until January 2022 via students' emails and WhatsApp applications.

To ensure projections and draw meaningful conclusions, the primary data collected from the sample population via a structured questionnaire were analysed using statistical tools to get the data related to Frequency, Percentage, and Regression Model from the Statistic Package for Social Science (SPSS) Version 26.

4 Data Analysis and Findings

4.1 Response Rate

This study recorded a satisfactory response rate of 70.4%, where a total of 138 respondents participated from the total population of 196 Master's students of the Faculty of Information Management, Universiti Teknologi MARA, Puncak Perdana Campus, Shah Alam, Selangor.

The analysis included all items from all constructs under investigation and was restricted to a single factor. The results indicated that a single factor accounted for only 48.119% of the total variance, representing that the collected data is free of common method variance (Those having a Cronbach Alpha value of more than 50% will not be considered further).

4.2 Frequency Analysis

This section presented the frequency analysis of the respondents' demographic information, i.e., gender, age, program code, and semester.

Table 4.1 Frequency analysis of participants according to gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	41	29.7	29.7	29.7
	Female	97	70.3	70.3	100.0
	Total	138	100.0	100.0	

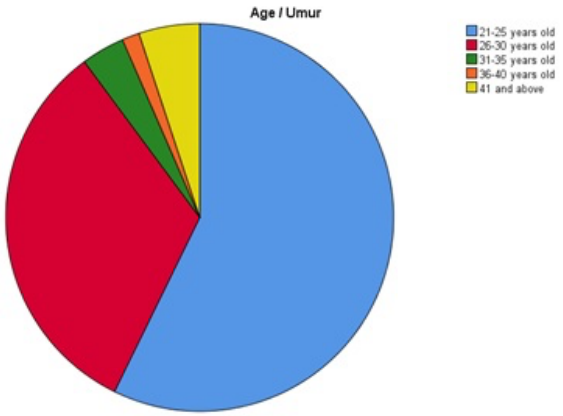

Figure 2.1 Framework designed for this study

Table 4.1 shows that the majority of respondents were female, which carried 97 (70.3%) of the sample size, while the remaining were from the male category, consisting of 41 respondents, equal to 29.7 % of the overall respondents. From Figure 4.1, the majority of respondents were aged between 21-25 years old (57.2%), followed by those aged 26-30 years old (32.6%) and aged 41 years old and above (5.1%). The remaining respondents were from the age group of 31-35 years old and 36-40 years, equal to 3.6% and 1.4% respectively.

4.3Descriptive Statistic Variable

This section discussed the descriptive statistics for the research sample. Descriptive statistic was used to describe and summarise data. It includes measures of variable average values (mean, median, and mode) and variable dispersion (variance, standard deviation, or range). As a result, tables were used to provide descriptive profiles of research variables in this study.

4.4 Descriptive Statistics of Independent Variable

The descriptions of Independent Variables or factors that influence the dependent variable, were Searching Skill, Retrieval Skill, Evaluating Skill, while Students' Academic Performance was the outcome of those elements.

Table 4.2 Overall Mean Scrore of Independent Variables

Independent Variables	Overall Mean Score
Searching Skill	4.22
Retrieval Skill	4.28
Evaluating Skill	4.04

The list of the independent variables with the highest overall mean in the descriptive analysis is shown in Table 4.2. It shows that Retrieval Skill has the highest overall mean score (4.28), followed by Searching Skill (4.22), and Evaluating Skill (4.04), respectively.

4.5 Descriptive Statistics of Dependent Variable

Here are the descriptive statistics of dependent variable, Students' Academic Performance. The results are as below:

Table 4.3 The descriptive statistics pf Students' Academic Performance (SAP)

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
SAP1	138	4	1	5	4.09	.048	.560	.314
SAP2	138	4	1	5	4.10	.046	.544	.296
SAP3	138	4	1	5	4.07	.053	.624	.389
SAP4	138	4	1	5	3.97	.052	.615	.379
SAP5	138	4	1	5	4.54	.060	.706	.498
Valid N (listwise)	138							

Table 4.4 Questions for Students' Academic Performance

	Questions	N	Range	Mean	Std. Deviation	
SAP1	1. Ability to search for needed information has impacted my academic performance in a good way.	138	4	4.09	.048	.560
SAP2	2. Ability to locate and use information resources has a great effect on my academic performance.	138	4	4.10	.046	.544
SAP3	3. My ability to evaluate information from various sources has improved my knowledge.	138	4	4.07	.053	.624

SAP4	4. Ability to identify potential sources of information and develop search strategies has helped me solve complex academic problems.	138	4	3.97	.052	.615
SAP5	5. My information literacy skill have impacted my academic performance in a good way.	138	4	4.54	.060	.706
Valid N (listwise)		138				
Overall mean		4.15				

Table 4.3 shows the descriptive statistics for students' academic performance. The result was good as the N value = 138, which corresponds to 138 total questionnaires for all items. These indicate that the respondents have answered all questions. The statistics in Table 4.4 shows that Question SAP5 received the highest mean score of 4.54, which mean most of the respondents agree and strongly agree that their information literacy skill has impacted their academic performance in a good way. Meanwhile, the lowest mean score of 3.83 goes to Question ES1, which means most of the respondents were feeling neutral about their ability to filter a large amount of information. Thus, most of the respondents agreed that their information literacy skill had impacted their academic performance in a good way.

5 Conclusion and Recommendation

The purpose of this study was to investigate the influence of information literacy on the academic performance of a Master's student at the Faculty of Information Management, Universiti Teknologi MARA, Puncak Perdana Campus. Many previous studies have shown a significant positive influence between information literacy and students' academic performance. Therefore, the influence of information literacy on students' academic performance cannot be underestimated. Additionally, these students also possessed very good information literacy skills, which they used to search, retrieve and evaluate resources, whether it is written or in an online format.

After taking into consideration how these students possessed very good information literacy skills, it is recommended that educational courses in the form of workshops be presented to students on topics such as searching, having a critical mind, using correct methodologies for studying (including writing essays), applying research attitude (including conducting research), and so on. Besides, for the greater interest of the student community, more credible online information sources related to specific subject areas should be subscribed by the university library to fulfill the information needs of the users, especially the students, researchers, and academic staff of the university.

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Paper Contribution to Related Field of Study

This paper contributes to the body of knowledge on information literacy towards student's academic performance especially in Malaysian context.

References

Anandhalli, G. (2018). Impact of Information Literacy Skill on the Academic Achievement of the Students: A Case Study of Anjuman Degree College, Vijayapura. IMPACT: International Journal of Research in Humanities, Arts and Literature (IMPACT: IJRHAL), 6(3), 1–16. http://www.impactjournals.us/journals.php?id=11&jtype=2&page=54

Association of College and Research Libraries (ACRL). (2016). Framework for Information Literacy for higher education.

Association of College and Research Libraries. (2000). Information literacy competency standards for higher education. Community and Junior College Libraries.

Banik, P., & Kumar, B. (2019). Impact of Information Literacy Skill on Students' Academic Performance in Bangladesh. International Journal of European Studies, 3(1), 27.

Bartol, T., Dolničar, D., Podgornik, B. B., Rodič, B., & Zoranović, T. (2018). A Comparative Study of Information Literacy Skill Performance of Students in Agricultural Sciences. Journal of Academic Librarianship, 44(3), 374–382. https://doi.org/10.1016/j.acalib.2018.03.004

Chan, C. (2016). Institutional Assessment of Student Information Literacy Ability: A Case Study. Communications in Information Literacy. 10, 50–61. http://dx.doi.org/10.15760/comminfolit.2016.10.1.14

Dawson, P. H., Lei Hsieh, M., & Carlin, M. T. (2012). Quantitative/Qualitative Analysis of Assessing Student Information Literacy Skill: The Power of Librarian-Faculty Collaborations. Qualitative and Quantitative Methods in Libraries (QQML), 1(March), 35–42.

Jones-Jang, S. M., Mortensen, T., & Liu, J. (2021). Does Media Literacy Help Identification of Fake News? Information Literacy Helps, but Other Literacies Don't. American Behavioral Scientist, 65(2), 371–388. https://doi.org/10.1177/0002764219869406

Lanning, S., & Mallek, J. (2017). Factors Influencing Information Literacy Competency of College Students. Journal of Academic Librarianship, 43(5),

443–450. https://doi.org/10.1016/j.acalib.2017.07.005

Mohd Idzwan, M. Salleh, Ahmad Faiz, A. H., Raja Abdullah, R. Y., & Zulkarnain, Y. (2011). Measuring The Effect of Information Literacy on the Undergraduates' Academic Performance in Higher Education. International Conference on Social Science and Humanity, September, 506–510. https://doi.org/10.13140/2.1.3390.0804

Onuoha, A. E. (2017). Impact of Information Literacy Skill on Academic Performance of Students of Federal Polytechnic, Ede, Osun State, Nigeria. 8(3), 1–13.

Rieh, S. Y., Bradley, D., Brennan-Wydra, E., Culler, T., Hanley, E., & Kalt, M. (2019). Librarian role-playing is a method for assessing student information literacy Skills. Proceedings of the Association for Information Science and Technology, 56(1), 227–236. https://doi.org/10.1002/pra2.18

Shao, X., & Purpur, G. (2016). Effects of Information Literacy Skill on Student Writing and Course Performance. Journal of Academic Librarianship, 42(6), 670–678. https://doi.org/10.1016/j.acalib.2016.08.006

Soltani, S., & Nikou, S. (2020). An assessment of academic library services: international and domestic students' perspectives. Library Management, 41(8–9), 631–653. https://doi.org/10.1108/LM-04-2020-0071

Taylor, A., & Dalal, H. A. (2017). Gender and information literacy: Evaluation of gender differences in a student survey of information sources. College and Research Libraries, 78(1), 90–113. https://doi.org/10.5860/crl.78.1.90