



The Digital Information Literacy Skill Level on College Student (Case: Final-Year College Student)

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Abstract

Nowadays information obtained from digital media is easily accessible through various platforms. People can get information through online simply at the touch of their finger. However, this information can only be useful if the person has sufficient skills in digital information literacy. Information literacy can be defined as a skill to access and evaluate information effectively in solving a problem or in making decisions (Verzosa, 2009). Digital information literacy skills are important for academicians, especially for final year college students. These students have to conduct a research as their final project to achieve a bachelor's degree. In addition, many university also require this research to be published in well-known journals. To achieve these goals, these university students need good digital information literacy skills. The aim of this study is to find out the level of digital information skills of these students. The findings of this study can be useful as input for universities to improve their student's digital information literacy skills in order to produce a high quality research. This study uses a descriptive quantitative approach and also use The Seven Pillars of Information Literacy which was developed by SCONUL (Standing Conference of National and University Libraries). This study shows that overall digital information literacy skills of these students are at a strong level. They can search for information using a various keywords and identify information needs according to their research topic. However, information and skills about research papers outside their own university are lacking. These students can only produce research papers based on what is listed in their university's final research writing guidelines.

Keywords: *College Student; Digital Information literacy; Media Literacy; SCONUL*

A. The Background

Digital era makes obtaining information simply at the touch of a finger. Supported by the rapidly growing information and communication technology (ICT), the scope of information sources expand without time and space limitations. However, without a good management information skill, the information that has been obtained could not be optimally utilized. In fact, researchers are often get caught up in accusations of stealing other people's idea or plagiarism for not being able to process information based on research ethics. This is very crucial for academicians, especially in their activity on making research papers. Making a scientific paper is a mandatory requirement for final year college

students to achieve a bachelor's degree. College students must have a good information literacy skills to be able to produce a research paper that is acceptable in the academic world. This is because more and more universities also require that their student's research to be published in well-known journals. Therefore, a strong information literacy skills are needed to produce high quality research paper.

Information literacy can be defined as a skill to access and evaluate information effectively in solving a problem or in making decisions (Verzosa, 2009). This includes the ability to manage information, sort out appropriate sources for reference, and use the information in accordance with applicable ethics. The presence of internet today has change student learning activities, especially in the activities of finding informations sources. Students no longer go to the library, instead simply use internet access on their digital devices to get various information they need. This situation has predicted since the amount of information in digital format is far exceeds than the amount of information in print format in certain locations.

Information literacy as the ability to seek, evaluate, and use the needed information effectively is not a new skill that emerged recently. The needs to master this skills have been around for decades, but now there are differences in the form of information and how to get information needed. In the past, the form of information presented was dominated in printed form, such as books, newspapers, printed journals, etc. However, in this digital era, information is presented in various digital form such as e-books, e-journals, internet websites, online news, etc. In other word, it can be said that although the need of information literacy skill has existed for decades, the skills resuired today continue to evolve and become more complex as time goes by.

Based on the result of short interviews with several final year college student who were assigned to make research paper, most of them use the internet as the main source to find the information they need. However the large number of websites on the internet makes it difficult for them to determine the right source of information to be used in their research. This is because not all information from internet sources can be trusted as a reference in scientific work. Moreover not all of the information in the internet is accurate, students must be critical internet user to be able to get the appropriate information. Knowledge about information literacy emphasizes on a person's skill in searching for information. The skill to seek and obtain information are supporting factor and a facility to support an effective and effecient learning process. Mastering the information literacy skill is important to support the online learning process. Digital Information literacy skills are important ini this digital era, because people are faced by various online information sources.

Information obtained from digital media is easily accessible through various platforms. However, this information can only be useful if the person has sufficient skills in digital information literacy. There are still many universities that still unaware of the importance of information literacy skills. Adapted from he research conducted by Jonner Hasugian, Hasugian stated that for universities that implement a competency-based curriculum, student competence in digital information literacy in very important. This is because these universitites must be responsive with changes around their environment, so it is necessary to equip their students with information literacy skills. Thomas & Jacobson (2005) stated that information literacy is an important component in student learning. Currently information literacy is the main key in independent learning or Student Center Learning (SCL). Furthermore, Karisiddappa & Rajgoli (2008) stated that information literacy has become an important concept since entering information age. Information literacy has a general purpose, which is to support students from all levels of education to be able to access, to select, and to use resource information effectively (Jiyane, 2010).

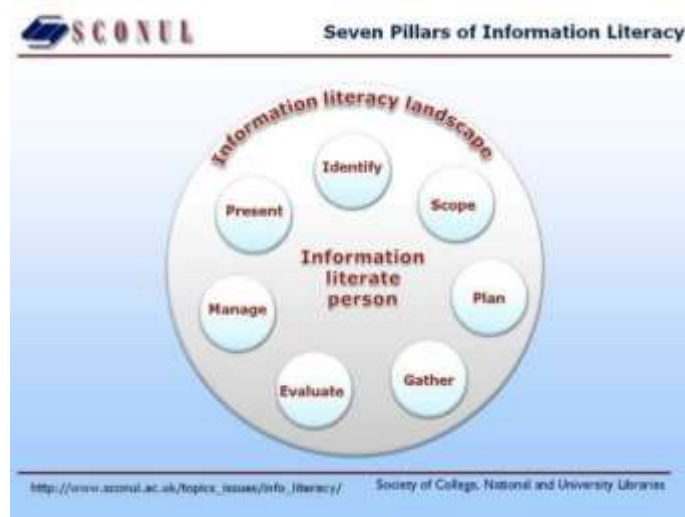
Educational institutions have opportunities and challenges to prepare academics to meet the demands of this information age. Educational institutions needs to identify what needs to be known and what need to be done to develop information literacy skill to produce high quality graduates. According to Vellaichamy (2017), quality graduates are graduates who are able to think critically, able to slove problems, have global and multicultural perspectives, have readiness in work envirotnment, and also

become a good citizen. In order to meet global demands, in this digital era with the rapid development of ICT, skills and abilities to manage information are highly needed students, especially final year college students. Therefore, this study aims to find out the level of digital information skills of these students. The findings of this study can be useful as input for universities to improve their student's digital information literacy skills in order to produce high quality researches and also high quality graduates. These skills are needed to produce graduates who are able to compete in the 4.0 era.

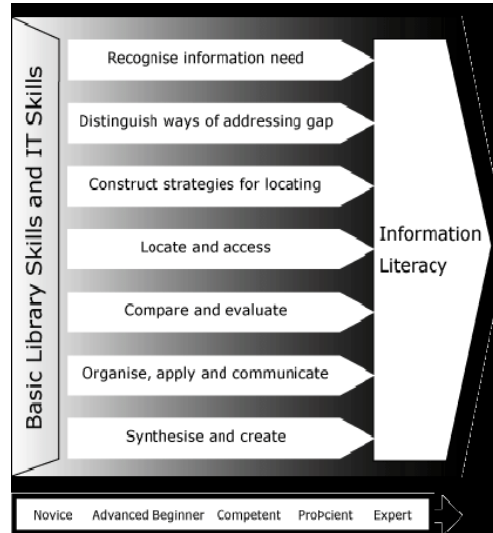
B. Research Theory

Information Literacy Model: The Seven Pillars of Information Literacy

The Seven Pillars of Information Literacy developed by SCONUL (Standing Conference of National and University Libraries) in England on 1999. This model has seven competency levels, which include abilities to recognize information need, abilities to distinguish ways and addressing gap, abilities to develop strategic ways to locate information needed, abilities to locate and gather information needed, abilities to compare and evaluate information, abilities to recognize, to apply and to communicate information to others according to the prevailing ethics, and also abilities to synthesize and to construct information based on information obtained to contribute in creating new knowledge for others.



This information literacy model is constructed circularly and is based on a person's information literacy experience. This means proficiency, background, and experience each person will affect their response toward the development of information literacy. The circular form of this model shows that acquiring information literacy is not a linear process. Theoretically, someone's information literacy in several levels or ability may develop simultaneously and independently, although practically there is a high correlation between each ability. Each level is further explained with a series of statements related to certain ability or competence. This is done to show that if a person's information literacy skill are at a strong level, they can show it through the various abilities that they can do. The name of the pillars in this model can be a guide in mapping the level of a person's information literacy skills. To show the level of information literacy skills, these pillars can also be arrange as follows:



The Seven Pillars of Information Literasi as one of the information literacy model determines the skill level of a person's ability through skill improvement, from basic information literacy skills until the skill to understand and use information effectively. In general, The Seven Pillars of Information Literacy can be divided into two competency groups, which are:

1. Competence to determine the location of the information needed and how to access it, and
2. Competence to understand also to use the information obtained.

The first four pillars are part of basic information literacy skills which aim to locate and access the information needed. Further explanation of these four pillars are:

- Pillar one : Recognizing information needs, knowing what is already known, knowing what is still unknown, and identifying gaps between what is already known and what has not yet known.
- Pillar two: Distinguish ways to address gaps, knowing which source of information have the greatest potential to meet satisfying need of information.
- Pillar three: Constructing a strategy to determine the location of information, knowing how to develop and improve an effective search strategy.
- Pillar four: Determining the location and accessing information, knowing how to access information sources, and checking applications to access and provide feedback on information

C. Research Method

This study uses the constructivism paradigm that intended to understand the reality of human experience. Researchers want to know the students's experiences in using digital media as a tool to get the information needed. This study uses quantitative approach because researchers want to know the level of student's digital literacy information skills. The type of this study is descriptive research. According to Sugiyono (2003), descriptive research is research conducted to determine the value of independent variable, either a single variable or combined with other variables.

D. Data Collection Technique

The data collected in this research were collected through questionnaires. The Type of questionnaires distributed in this research is digital online questionnaires. This was done due to the Covid-19 pandemic which made it difficult to meet the research samples in person. The steps taken in data

collection are, first create a questions which are then converted to an online form. Then, we invited the final year students to meet us online via google meet application. The last step is to fill out the questionnaire together at the same time, in this way researchers can give direction and also explanation of the question given in the questionnaire. This steps are done so that the respondent can understand the question well to support valid data acquisition.

E. Population and Sample

Population in this research were final year college students in the 2020-2021 school year. The sampling technique used in this research was simple random sampling technique. This technique was used because the respondents are considered homogeneous. What these respondents have in common is that all of these respondents are in the final year of their study and are currently in the process of thesis writing, also the respondents is writing a thesis for the first time. In other words, the respondents in this research had no previous experience in thesis writing. The number of samples taken in this research is one hundred respondents.

F. Data Analysis Technique

Data analysis techniques in this research include data reduction, data display, and drawing conclusions. Data reduction is needed in a research, this data reduction aims are to summarize, select and focus on the main or fundamental aspects of the data. With data reduction, researchers can prioritize which data is important for the research. The next step is data display, in quantitative research the data can be displayed in tables of graphs. This research use descriptive percentage data display. This descriptive percentage was processed by dividing the frequency with the number of respondents multiplied by 100%. The final step is drawing conclusion, this step is done by drawing a conclusions based the data obtained.

G. Result and Discussion

This research was conducted to find out the level of digital information skills of final year college students by using The Seven Pillars of Information Literacy Model developed by SCONUL. This model consists of seven levels of digital information literacy skills, which are identify, scope, plan, gather, evaluate, manage, and present. This research uses a likert scale questionnaire with positive statement, 5 points for always, 4 points for often, 3 points for sometimes, 2 points for rarely, and 1 point for never. This questionnaire has been filled in by one hundred respondents. The highest points is at the always answer, which is at $5 \times 100 = 500$ points. Meanwhile the lowest points is as the never answer, which is at $1 \times 100 = 100$ points. The interpretation of the final points is as follows:

0% - 20 % = very weak

21% - 40 % = weak

41% - 60 % = enough

61% - 80% = strong

80% - 100 % = very strong

IDENTIFY

IDENTIFY (Recognize Information Need)		Average score	Interpretation
1	I can identify lack of knowledge in my subject area.	65%	Strong
2	I recognize a need for information to achieve a specific goal	74%	Strong
3	I can identify a search topic & define it using simple terms	69,8%	Strong
4.	I can identify concepts & terms related to the information I need	59,2%	Enough
5.	I can make boundaries between information that match and doesn't match with the topic I'm working on	66%	Strong
6.	I can modify the need for information in search process	68%	Strong

Respondents's skill in identifying information needs are at a strong level. They are able to properly identify information needs according to the research that they do. In addition, the skills to sort and modify information required during the process of searching information are also at a strong level. However, skill to recognize scientific concepts or terms still need to be developed.

SCOPE

SCOPE (Distinguish ways and addressing gap)		Average score	Interpretation
1	I know what I don't know to identify any information gap.	76%	Strong
2	I can identify which types of information will best meet the need.	68.8%	Strong
3	I can identify the available search tools, such as general and spesific subject resources at different levels	70.4	Strong
4.	I have source for credible or reliable information for my research needs.	59%	Enough
5.	I have access for updated or latest information for my research needs.	60.4%	Enough
6.	I can identify different formats in which information may be provided.	64.2%	Strong

In this pillar, it can be seen that the ability of respondents in various identifying information such as identifying the most propriate information, identifying relevant sources, and identifying information formats are at a strong level. Respondents can also identify information gaps between the information that still unknown and information that they already have or known. Even though, the access to latest or updated information as well as access to credible and reliable information still need to be developed.

PLAN

PLAN (Strategic ways to locate information needed)		Average score	Interpretation
1	I can define the scope of search question clearly and in appropriate language.	68.4%	Strong
2	I can define a search strategy by using appropriate keywords and concepts, defining and setting.	69.6%	Strong
3	I can select the most appropriate search tools.	70.2%	Strong
4.	I can identify appropriate search techniques to use as necessary.	60%	Enough
5.	I can identify other alternative ways of gaining information if previous strategy failed.	50%	Enough
6.	I can identify many source of information, to better suit the research topic.	71.4%	Strong

From the data above, it can be seen that at the planning level, the skill of the respondents are mostly at the strong level. There is a strong ability to in to suitable keyword and search tools. Moreover, respondents show a strong cpability in determining the scope of appropriate information. However, the skills to seek information through various types of techniques were still not strong enough. Respondents's skills are not sufficient to use alternative strategies, if the previous main strategy failed.

GATHER

GATHER (Ability to locate and gather information needed)		Average score	Interpretation
1	I can use the library catalog, to find the required information.	66.8%	Strong
2	I can find documents written by particular author by searching for 'author name / document title / keyword / topics.	67%	Strong
3	I can use bibliography to find other documents on the same topic.	73%	Strong
4.	I can use Google Scholar to explore scientific articles that relevant to my research.	74%	Strong
5.	I can read or download the documents I need via online	77%	Strong
6.	I can identify whether or not my information needs have been fulfilled.	60.2%	Strong
7.	I use Boolean operator (OR) to find more documents Through online search.	34.8%	Weak
8.	I use Boolean operator (AND) to narrow my online searches of topics.	43.2%	Weak
9.	I use Boolean operator (NOT) to avoid documents that are not relevant to my search topic.	30.8%	Weak
10.	I know how to get latest information on mu research topic.	61.6%	Strong
11.	I can ask other people (expert) help to get information I need	43.2%	Weak
12.	I can use a range of retrieval tools and resources effectively.	45.2%	Weak

The gather pillar includes the ability to search adn gather information needs. It can be seen from the data abvoe that the skills to find relevant information by searching for the author's name and topic are

at a strong level. The skills in finding information through various searching tools such as library catalogs, Google scholar, and also ability to download online document are also at a strong level. However, the ability to use Boolean operator that can expanded, narrowed, and limited information based on needs is still at a weak level. This caused the activity of finding and gathering information needs has not been done effectively. In addition, the ability to ask expert's assistance according to the field of study is also weak. Also the skill level in using journal access provided by the university is at a weak level.

EVALUATE

EVALUATE (Compare and evaluate)		Average score	Interpretation
1	I can select information according to my criteria need.	74.6%	Strong
2	I can assess the credibility of information source	71.8%	Strong
3	I can assess the accuracy of the data obtained	61%	Strong
4.	I can understand the key points from the academic literature that I have found.	70.4%	Strong
5.	I can read argumnets critically from academic journals.	52.4%	Weak
6.	I can make connection between information obtained and searching strategy conducted.	64%	Strong
7.	I know when to stop searching for required information.	64.6%	Strong

After the required information has been gathered, the next pillar is evaluation. At this pillar, the skills to assess the credibility of information and to assess the use of information by comparing many kinds of informations that have been collected are at a stong level. Respondents are able to sort and determine which information id the most valuable. However the skills to read information from academic journals critically still need to be developed.

MANAGE

MANAGE (Ability to organize, apply, communicate)		Average score	Interpretation
1	I can use software to organize references, citations, and bibliographies (Example: Mendeley; EndNote)	45.6%	Weak
2	I include source information on every citation I put in my research.	76.4%	Strong
3	I can quote form online sources in APA style (American Psychological Association)	65.6%	Strong
4.	I can quote from printed source in APA style (American Psychological Association)	62.8%	Strong
5.	I can cite source of information in a style other than APA (Example: MLA, Chicago, IEEE, etc)	37%	Weak
6.	I can make bibliography according to the appropriate format.	76.4%	Strong
7.	I avoid plagiarism in my research.	79.8%	Strong
8.	I obbey the standards of academic integrity in using information for my research.	78%	Strong
9.	I pay attention to information copyright in presenting the information obtained.	75.2%	Strong
10.	I copied information from internet blogs without citing the source.	39%	Weak

The manage pillar shows respondents ability to manage various information that they have sorted. The data above shows that the respondents understand the citation ethics. This can be seen from a strong level of skill in making quotes from various source (online and printed). Although the citations that thy made were still done manually since the skill to use software for citing is at weak level. In addition, it can be seen that the respondents only know how to cite source of information in APA (American Psychological Association) style.

PRESENT

PRESENT (Synthesise and create)		Average score	Interpretation
1	I can use the information and data obtained to solve and answer my research problems.	70.6 %	Strong
2	I can make summary of the information obtained.	70.8%	Strong
3	I can combine new information with my knowledge, according to the context.	69.8%	Strong
4.	I can analys and present data accurately in my research.	64.2%	Strong
5.	I can paraphrase the information obtained in my own words.	69.8%	Strong
6.	I can make a synthesis from complex information that i get from various sources.	55.6%	Weak
7.	I can present information and data obtained accademically according to the required form.	59.8%	Weak
8.	I can deliver information and data obtained verbally clearly	6.7%	Strong
9.	I can choose the relevant publication platform to distribute my research result.	58.8%	Weak

The last pillar is presenting the information obtained. In this pillar, it can be seen that the respondents were able to present a variety of information (old and new information) obtained. The skills to summarize and paraphrase information obtained is at a strong level. However the skill to synthesize various informations is still at a weak level. In addition, the skills to select and to publish the research findings through well known academic journals still need to be developed.

Conclusion

The aim of this research is to find out the level of digital information skills of final year college students. Based on the data obtained through questionnaire, mostly the digital information skills of these students are at a strong level. These students are able to seek for required information according to the problem and research objective. They can also determine the gaps between relevant and irrelevant information. However, the data show that their searching information technique are still limited. They realize that the source of information wide outside their searching area, such as asking expert for information, but they do not have access to do so. In all of the SQONUL pillars, the digital information literacy skill of this student are seen only able to master the general skill, they are able to do the research by basic technique. These students felt that they did not have access to seek further information needed. Furthermore, there is lack of knowledge about research conducted outside from their university thesis. These students only know how to write academic paper on the style use by their university. They did not know various ways of quoting and also did not know academic journals outside from their university. Information about research conducted outside from the university thesis is insufficient, so that they could not get the latest information that is spread in academic journals. Another consequence, these students do not know other channels to publish their research finding in well-know academic journals.

The lack of information about research conducted outside university thesis research makes these students have no alternative strategies to find the information needed if the main strategy fails. These students can only find the information need by entering the keywords they know. The skill in using Boolean operator to expand, narrow, and limit information based on needs is still at a weak level. This caused the activity of finding and gathering information needs has not been done effectively. Apart from the lack of skill in using Boolean operators, skill in using software to help them thesis are also lacking. In doing citation, these students still use the manual thesis and citation writing guidelines. These students still unable to use citation software such as Mendeley or EndNote. The last pillar of present is still not mastered by these students. These students felt that they were unable to synthesize various complex information obtained. This is because the ability of these students in reading information critically is still lacking and still needs improvement to be able to produce a quality research.

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