Media and Information Literacy (MIL) of College Freshmen of a Public Higher Education Institution (HEI) in Cagayan Valley Philippines: Towards A Proposed Library Media and Information Literacy Instruction Program

Dolores M. Ricardo-Cayaban
Nueva Vizcaya State University
Bambang, Nueva Vizcaya
dolly_ricardo@yahoo.com

ABSTRACT

Utilizing the quantitative and qualitative research approaches particularly the techniques of survey and open-ended statements, this study gathered information on the college freshmen media and information literacy levels specifically on the components of access, evaluation, and creation. It also compared their media and information literacy skills across components and as a whole and gathered direct experiences on the challenges encountered by students across media and information literacy (MIL) components. The results revealed that the students obtained very low ratings in almost all the items of the MIL test with percentages below 74%, described as did not meet expectations. When compared across sub-areas per domain, significant differences were obtained. However, when compared across the three MIL components, no significant difference was noted. The students also encountered myriad challenges in media and information literacy. The inability to recognize the author's ideas within a given text, difficulty in searching for and retrieving internet information, difficulty in using automated catalogs, difficulty in using electronic sources for secondary information like databases, and the problem with consulting and using electronic resources as a primary source were among the top five problems students identified as barriers with regards access. On evaluation, some challenges included inadequate knowledge of the laws on the right use of information and intellectual property, difficulty in assessing the quality of information sources, inadequate knowledge of the typology of scientific resources, problems in choosing between different media devices, based on their function, and difficulty in interpreting media messages. On creation, some challenges comprised inadequate installation of needed computer programs, inadequate knowledge of creating creative academic presentations, inadequate skills in creating media content, inadequate technical expertise, inadequate library database managers, and inadequate expertise in using bibliographic reference managers. Thus, the proposed media and information literacy instructional program crafted in this study was deemed relevant as it considered the salient findings of this study.

Keywords: *access, evaluation and creation of information, information literacy, media and information literacy, media literacy, social media*

Introduction

We are now living in the 18th year of the 21st century, and we in the academic world have not only seen the profound changes but also have experienced ourselves these changes brought about by the ICT-driven world or our wired environment or digital world. Indeed, we are mesmerized by the break-neck speed of convergence and scientific breakthroughs of the different information technologies which we simply and nonchalantly call now as social media.

The impact and foothold of social media, however, have become so fast, so astonishing and so extensive that it is now a daily staple in our 21st-century life. How social media has permeated the lives of Filipinos is shown by Pew Research Center (2018) when it reports that social networking is one of the most active web-based activities in the Philippines as Filipinos are seen as the most active users on social network sites such as Facebook, Instagram, Snapchat, and Twitter. This extensive use of social networking websites has made the Philippines to be known as 'The Social Networking Capital of the World'. So ingrained as to become part of Filipino cyberculture, social networking is now used by the Philippine government as a form of election campaign material, a tool in criminal investigations, as well as, other economic activities.

Further, in the report of Gudia (2018) stated in Rappler, for three years now "Filipinos are still on top when it comes to social media usage on any device, averaging almost four hours every day or three hours and 57 minutes a day, to be specific" (para. 9). This report confirms the prevalence, pervasiveness and unmitigated use of the internet and social media by Filipinos. But focusing on the worldwide use of the internet by children and the youth, UNICEF (2017) stated authoritatively that "Digital technology has already changed the world – and as more and more children go online around the world, it is increasingly changing childhood" (p.1).

UNICEF (2017) also pointed out that the most vulnerable children to online harms include girls, children from poor households, in communities with a limited understanding of different forms of sexual abuse and exploitation, those out of school, differently-abled children, and who suffer depression or mental health problems and those from disadvantaged groups. But these challenges, difficulties, harms, and even violence to internet users, as stressed by UNICEF, are usually the consequences of unguided digital access and lack of awareness on the proper use of these technologies. Moreover, as UNESCO pointed out, the capacity of users to make effective and ethically responsible use of these technologies is not guaranteed by the technologies themselves. Hence, the effective and ethical use of these technologies is now a crucial dimension of citizenship in this digital age (UNESCO, 2011c).

In addition, spurred by the P21 Century Learning and UNESCO's initiative on media and information literacy, the 2013 K to 12 Curriculum, and the 2017-2022 PDP, this researcher, being a librarian and former Library Science professor, looked into the MIL competencies of college freshmen of both campuses of the Nueva Vizcaya State University (NVSU). Having learned the vision, mission, and philosophy of this university, the researcher has been all the more encouraged and impelled to do this research undertaking.

NVSU is an institution of higher learning in the country whose vision is to become a premier university in a global community and its philosophy, is to become a potent and viable institution of higher learning. These vision and philosophy are being realized with all its resources (human, physical, financial, etc.) geared towards the achievement of its mission: to develop an empowered, productive, and morally upright citizenry through high-quality, innovative, and relevant

instruction, research, extension, and entrepreneurship programs adhering to international standards. Moreover, NVSU is mandated "to provide access to more affordable, good quality education for the poor and the disadvantaged to ensure equity of access to higher education while at the same time serving as instruments of development in their regional and national contexts" (Roadmap for Public Higher Education Reform by CHED).

It can be presumed by experience and through observation that most of the students on both campuses of NVSU belong to the poor and the disadvantaged. Conversely, such socioeconomic status of learners hurts their academic performance as shown by numerous studies whether in underdeveloped or highly developed countries (Anday, 2014; Barry, 2006; Considine & Zappala, 2002; Majoribanks, 1996). This is one major challenge that confronts students since not all are capable of having ICT gadgets at home. While it is true that there are a lot of ICT materials or gadgets available outside the home at the moment, other challenges along this line include the following: (a) students in the locale do not have the financial capability to immerse in these ICT gadget or materials; (b) their skills are found wanting compared to others who have their gadgets or materials; (c) given that once in a while, they can afford to surf the net and use multimedia materials, these activities are seldom or rarely done because they really cannot afford the fees due to financial problems.

The foregoing ideas are affirmed by the studies of Livingstone (2004) who elucidated some challenges to media literacy brought by the new information and communication technologies. Accordingly, these problems included: (a) the skills or competency-readiness of students; (b) the resources available to schools particularly on ICTs; (c) the knowledge and skills of teachers; and (d) the socio-economic backgrounds of students who shall pay much higher matriculation to avail of these materials. These were also confirmed in the study of Schilder et al. (2016) whose findings revealed that lack of teacher preparation, teacher training, lack of control over assessment, and expensive and time-consuming quality assessments are only some of the challenges in media and information literacy.

Hence, this study generally assessed the level of media and information literacy (MIL) competencies of college freshmen of the Nueva Vizcaya State University (NVSU) to come up with a proposed library MIL instruction program. Specifically, the study determined the competency level of media and information literacy among freshmen across colleges of NVSU in terms of Access, Evaluation, and Creation. Also, this study determined the significant difference in the respondents' level of media and information literacy competencies across components as a whole. Moreover, this study determined the challenges encountered by the college freshmen in MIL across components which was the basis of the proposed Library MIL Instruction Program for the college freshmen.

Methodology

This study made use of a combination of quantitative and qualitative research approaches particularly the techniques of survey. The research instrument was developed by the researcher herself after adopting some questions from the Beille Test of Information Literacy for Education (B-TILED) (Beile, 2005) and adding open-ended statements, particularly for the challenges being encountered by the students. The research instrument was pilot-tested after it was subjected to an item analysis test. The final instrument gathered information on the Nueva Vizcaya State

University college freshmen to determine their competency level in media and information literacy in the domains of Access, Evaluation, and Creation.

The domain on access has four (4) component abilities: the ability to recognize the need for information (with 7 items or questions); the ability to search (with 8 items/questions); the ability to access (with 8 items) and ability to retrieve information and media content (8 items). These items or questions are numbered continuously. The domain on evaluation with three (3) component abilities includes the following: ability to understand (10 questions), ability to assess (9 questions), and ability to evaluate information and media content (8 questions). The domain on creation with three (3) component abilities. The ability to create with 8 questions, the ability to utilize with 10 questions, and the ability to monitor information and media content with 9 questions.

This study also compared the students' media and information literacy skills across domains and as a whole and gathered direct experiences on the challenges encountered by students across MIL domains. Based on the salient findings, it was the ultimate goal of this study to craft an MIL Instructional Program for college entrants. Data were gathered and analyzed using SPSS 21 software.

Results and Discussion

Section 1. Competency Level of College Freshmen of the Nueva Vizcaya State University in Media and Information Literacy in terms of its Various Components

A. Level of MIL Skills on Access

1. Ability to Recognize the Need for Information

Overall, the computed mean percentage of 65.53 in the respondents' skill to recognize the need for information is rated as very low which is described as having not met the expectation. The desired expectation from a freshman college student to demonstrate the ability to recognize the need for information is not shown by the respondent students which showed that respondent students experienced difficulty in determining what information or pieces of information are needed in a given topic. It is, however, noteworthy that in this category, two questions were rated high with percentages of 88% for question number 1 and 87% for question number 2. However, question 7 of this component has a computed percentage of 76% with a rating described as low. This particular item asked the student respondents to give the first contact information that they could give when communicating online to unknown people or in filling out details on a website. The correct answer here is the first name. This may mean that the student respondents are not inclined to give personal details when communicating online with someone they are not familiar with. Of the seven questions in this ability, four items were rated very low with the computed percentages below 74. These were literacy test items numbers 3, 4, 5, and 6.

It was also found that the top problem encountered by the students under the access component was their ability to recognize the author's ideas within a given text. Accordingly, they find it difficult to spot or distinguish the major ideas that the author has imparted. This could

mean that the problem may be associated with the student's comprehension skills - the way they comprehend the author's ideas in a given information or media content.

To survive in today's world, everyone must be able to read with understanding. Comprehending simple texts such as transportation documents which include travel directions and road instructions, bills, and contracts is greatly demanded by everyday living. The effect of not being able to comprehend could be disastrous (e.g. instructions on a bottle of medicine or chemical warnings) (Lastrella, 2010). With the ability to comprehend, people are able not only to live safely and productively, but also continue to develop socially, emotionally, and intellectually. Since reading is a very significant language skill for students, they need to overcome the demands that reading in school and the bigger society places on them. There are cases, for example, where students fail entrance tests in colleges and universities because of the lack of reading comprehension (Yale, 2011 in Lastrella, 2010). This shows that there is an urgent need to develop and further enhance the student's ability to recognize the need for information by giving necessary instructions, class demonstrations, and applications on how to use the different sources and media of information.

2. Ability to Search

In terms of the ability to search still under the domain of access, all eight items were rated very low as shown from the computed percentages below 74%. Thus, in this ability to search, the students had been found unable to meet the expectations required of a freshman student.

Of these eight items under this ability, it is noted that question 9 was rated the highest with 68.20% but still considered as having a very low ability. This item asked where to get a free copy of a book or article that their library does not have. The correct answer here is Google Scholar which shows that a good number of the respondents are familiar with using the Google search.

The lowest obtained rating of 26.08% was question number 10 which asked the respondents to identify the best strategy to locate three recent scholarly sources for effective instruction techniques in teaching English as a second language for students. The correct answer for this item is to search an education database for journal articles. This seems to point out that even when students are exposed to using different gadgets on the internet to search for their assignments or research work; it is not a guarantee that they are proficient or capable in searching needed or required information. This is a similar finding in the study of Anafo and Filson (2014) that "many students today are over-reliant on search engines such as Google to find information when researching topics, they often overlook quality academic resources available from libraries" (p. 3). In a more detailed description further confirming the finding of this study, Singh (2015) pointed out that there are students who have acquired the basic computer skills to send electronic mail, navigate the web, and share files, but they are not able to effectively search the internet or effectively use library E-resources for academic research. He stressed that this is where information literacy skills are essential to be successful in their academic activities and if all students are allowed to follow such literacy programs, they will certainly face fewer difficulties while writing papers.

It was also found that one of the challenges encountered by the respondents is about searching for and retrieving internet information. Some students shared that they still have difficulties accessing the internet to find the relevant or suitable information that they need.

Others commented on the difficulty of accessing the net due to slow connectivity and that there is too much information or hits to choose from.

3. Ability to Access

For the seven items in this sub-area, item no. 20 was rated the highest with 62.10% but which is of the seven questions in this component ability, item no. 20 was rated the highest with 62.10% but still falling under the description of very low. In this particular item, the student respondents were asked to type the information in the search box and then click what button to use when they only know the year of the publication of the book. The answer is the year button. It can be inferred that a good number of students are very particular about the year of publication of the resources or books that they are reading or searching about.

The lowest obtained rating in this ability to access was tested item no. 17 with a 28.10% percentage. In this item, the respondents were asked to click the button in the search box when they only knew the name of a journal. The correct answer is entered button as the main word or the keyword is the main title of the journal. This seems to indicate that students do not know what keywords are. Main words in journal titles are usually the search terms used in searching for particular journals that are available in the library. Unfamiliarity with journal titles by the students could also mean that journals on both campuses are not present or are not being subscribed to by the libraries on both campuses.

Furthermore, the result indicates that students do not adequately know how to access information using the Online Public Access Catalog through the Koha database. It can be inferred that these students were not exposed to using OPAC or that they have not experienced using such in the school they graduated from despite the presence of OPAC in all senior high schools in the country.

The above finding is also the valid observation of Mulla and Chandrashekara (2009) in their study of undergraduate students on the use of OPAC. They found that the students can hardly use effectively the OPAC in their library. The above finding also corroborates that of Singh's (2015) study which found that students are not able to effectively search the internet or effectively use library E-resources for academic research.

4. Mean for Ability to Retrieve Information and Media Content

In terms of the ability to retrieve information and media content under the domain of access, all eight questions were rated very low with computed percentages below 74%.

With these very low ratings, the students were not able to meet the expectation in this skill – the ability to retrieve information and media content. They were found wanting in this component ability in the domain of access.

Question number 25 obtained the lowest rating with 33%. In this item, the students were asked which combination of keywords would retrieve the greatest number of records in an online database. The correct answer is cognition and emotion. The result was contrary to their answer to item 26 because the students did not know what a Boolean search/database search is and also did not know the modifiers they were supposed to use when doing this type of searching.

Based on the results, the majority of the students were not aware of how the resources are

categorized and systematized in their libraries; consequently, it can be inferred that the students did not readily use their libraries and the available resources. This exhibits their lack of know-how in information retrieval. Information retrieval (IR) is finding material (usually documents) of an unstructured nature (usually text) that satisfies an information need from within large collections (usually stored on computers). It can be construed that with this change of easy and speed of access, much less the abundance of information, the students just rely on the first information they get from their internet searching just to comply with their subject requirement. This jives with what Osharive (2015) observed that students devote more attention and time to social media than they do to their studies. The above findings are similar to those of Anafo and Filson (2014) when they studied university students in Ghana. Their study revealed that the "majority of respondent students did not know how to search for information from the library catalog and that these students failed to distinguish between library catalog and bibliographic database" (p. 12).

Based on the findings, students should be given very extensive instruction to develop effective search strategies to access information and media content. Specifically, said instruction should include the following topics: the different library resources and how to properly and systematically search information from these resources, the use of online public access catalogs, and how these resources are being classified and organized to cultivate their skills in this domain of information literacy.

B. Level of MIL Skills on the Domain of Evaluation

1. Ability to Understand

The overall result shows that the students cannot understand the computed mean percent of 49.92. They still do not meet the expectation of being able to understand the needed content in media and information sources.

Question number 33 got the highest correct responses with 60.23% among the six questions asked. This particular item queried the students on what an article abstract is. The question that got the lowest correct response is item 31 with 42.92%. In this item, the students were asked to identify the process when a message is transformed into an understandable sign and symbol system.

Understanding information and media content is a skill under the domain of evaluation in information literacy. Aside from knowledge (e.g., vocabulary, domain, and topic knowledge), understanding in the context of information literacy includes among others, the basic skills of comparing facts, distinguishing facts from opinion, being aware of timing (new/news/obsolete), identifying underlying ideologies and values, and questioning how social, economic, political, professional, and technological forces shape media and information content. In this respect, the result of the study revealed that comprehending information is a very difficult task for these students as this ability to understand involves interrelated abilities.

This implies that the respondent students direly need to be improved on their ability to understand information. From this perspective alone, organizations like the Center for Media Literacy (CML), UNESCO and its global initiatives that include the Global Forum for Partnerships on Media and Information Literacy (GFPMIL), the Partnership for 21st Century Skills, The

National Association for Media Literacy Education (NAMLE), library associations and institutions must strengthen their resolve for people to become 'information literate' and to survive and compete in an emerging Information Society (Horton, 2007).

2. Ability to Assess

In this ability to assess, the students did not meet the expected ability for college freshmen. The computed mean percentage of 49.32 was again very low.

Of these six questions, it is noted that question 41 had the highest correct responses with 52.75% when the respondents were asked to characterize best scholarly research. The correct answer is reviewed by experts for publication. Question 39, on the other hand, obtained the lowest rating of 45.61% where the students were asked to identify which is a secondary source from the given options.

Based on the result of this component ability, the students find it difficult to assess or validate the recognized information that they need. It is likewise, hard for them to start a search strategy in the process of seeking information for a topic or problem. Moreover, they are not also aware of what primary sources are as well as the characteristics of a research paper which is important knowledge and abilities for neophyte college students and a novice in doing research work. This finding can be corroborated by the respondents' admission as stated in their encountered challenges which are: the lack of knowledge on the existence of scientific papers or journals; slow in seeking and exploring journal articles via the internet, as well as, evaluating the usefulness of found articles and information.

Hence, there is immediacy in enhancing the student's ability to assess the right information sources to use, print or electronic. Students need to be instructed or be appropriately challenged to see the relevance and importance of information; to make information understandable to them; and, to make them knowledgeable in assessing information that is accurate, relevant, and comprehensive for meaningful learning in this domain of information literacy.

3. Ability to Evaluate Information and Media

All the computed percentages are below 74, described as very low in the six queried items; and, the overall computed mean of 51.11 for the ability to evaluate information and media is far below the ability of what is expected for college freshman students.

Of the six queried items in this ability, item 48 had the highest correct responses from the respondents with a rating of 59.42%. In this item, the students were asked to identify which criterion is not accepted in evaluating a website. Conversely, item 47 obtained the lowest percentage of correct responses from the respondents with 42.92%. Based on the overall finding, it is inferred that the respondent students are deficient when evaluating information as this ability involves checking the quality of information (accuracy, relevance, currency, reliability, and completeness) and checking the quality of gathered information from different formats, online and printed text. Neither can the respondent students distinguish primary from secondary and tertiary sources of information. Moreover, the term 'fair use' seemed to be new to them; hence, they were not properly informed or knowledgeable of the copyright law which can further be construed that they have equally poor knowledge or understanding of plagiarism.

In their responses to the challenges and difficulties in evaluating resources, the respondent students shared that they are not aware of the criteria when evaluating a book or journal article. This connotes that the information that comes first in their reading may already be a good source, valid, trustworthy, and authoritative writing. The difficulty and challenge the students encountered in assessing the quality of information sources bespeaks again of their poor foundation in the basic communication skills which are skills studied in their senior high communication arts subjects.

A similar but more focused study on the research process and plagiarism to help international students in a certain university was undertaken by Chen and Van Ullen (2011). He found the following: these students had the most difficulty on how to adequately paraphrase a passage; they were unable to identify commonly used citation styles; they had difficulty in identifying elements of citations and recognizing a bibliography. Furthermore, students had difficulty with citation of sources: why there is a need to cite, when to cite, and how to cite. What this study showed is that the respondents in the present research are not an isolated case as far as citation is concerned. This shows that this is a common inability for the present day.

The foregoing findings all the more point to the necessity of instructing the freshman students about evaluating information. This should be emphasized in the students' learning to help them improve and enhance their abilities to understand, assess, and evaluate information and media content. It was also found by Chen and Van Ullen (2011) that after the workshop that was integrated into the study, students' understanding of why, when, and how to cite as well as how to adequately paraphrase increased substantially.

It is, likewise, essential that students should know and be taught about basic provisions of intellectual property law so that they can appreciate the importance of copyrighted works and be forewarned about intellectual dishonesty called plagiarism, which is a misconduct or a crime if one were convicted.

C. Level of MIL Skills on Creation

1. Ability to Create

In this ability to create information and media, the students did not again meet the expectation required of them as freshman students as the total computed mean percentage for all questions was a mere 48.32 which is described as very low.

Among the eight queried items, it can be noted that item 54 got the highest rating with a percentage of 60.12. In this specific item, the students were asked to select the correct transcription of the information in the bibliographic entry of citation using the APA format, the given source being a thesis or research study. This means that the students are more familiar with how to cite a manuscript as a reference source of information than other types of reference sources like books, internet access, and journals. It can also be noted that item 51 obtained the lowest percentage of 25.14 where they were asked to select the correct transcription with newspaper as the given source. The result implies that the students have minimal know-how in citing information from newspapers.

Based on the above results, it can be inferred that students do not adequately know how to do proper reference citations in a review of related literature based on a given source. This

ability to cite information or ideas from different sources is a topic in communication arts which, no doubt, has been taken by the students in secondary schools in the country. This is also a topic taken in basic research subjects which most students have to study and learn. Thus, it is baffling to know that they lacked this necessary skill of citation. This finding is validated by Chen and Van Ullen's (2011) study as she found that the subjects of her study had difficulty in the aspect of when to cite, how to cite, and why to cite. It can be inferred also that when students were asked to do their assignment or research, they were not required to cite sources and to properly document them.

The above finding might be one of the skills that Samson (2010) mentioned in his study that there are some skills in an information literacy course that are not being taught in English 10 and Komunikasyon 2 classes even when the subject students of his study have obtained the basic skills in writing and undertaking research. He pointed out as his inference that these skills are not enough to make individuals information literate.

2. Ability to Utilize

All the computed percentages are below 74, described as very low in the seven questions asked of the respondents. The results show that the students are deficient in the ability to utilize information sources as gleaned from the computed mean percent of 47.94. They still do not meet the expectation of being able to utilize needed media and information content.

Of the six query items on the ability to utilize information sources, item 59 got the highest percentage of 60.40. In this particular item, the students were asked to identify what they needed to be able to properly find in a book on a library shelf. The correct answer is the call number. The lowest, however, is item 61 with an obtained percentage of 25.30. The glaring difference in the computed means of these two items does not carry any significance because these are still below the ability expected of college freshmen. The result indicates that they are not inclined to use or refer to the resources available in their libraries.

From the findings of this study as corroborated by the preceding statement, it is inferred that the ability to utilize information sources is not enhanced by simply having computer skills and that "a student's search of the literature typically lacks rigor, and students are prone to selecting the first few references they find, regardless of quality or relevance to the topic" (Freeman & Balta, 2010, p. 1).

3. Ability to Monitor Information and Media Contents

It is evident from the results that the respondent students did not meet the expectation of being able to monitor information and media contents as indicated by the computed mean of 54.74 percent.

Question 66 obtained the highest rating of 60.60%. In this particular item, the students were asked to rationalize how they would know that the research or thesis has undergone a thorough review and evaluation of other studies. The item that obtained the lowest correct responses from the respondents with a rating of only 42.50% is item number 68 where the students were asked to identify what to read if they should read a novel.

The findings in this table further substantiate the student's inadequacy in the basic abilities

of creation and even in this component's ability to monitor information and media contents. It is equally strange to know that even if senior high school students are required to submit a research output before they can graduate, their abilities in most areas of information literacy are almost nil among the respondent students.

This result can be proven by some of the student's comments on the challenges that they encountered on how to use the information correctly, especially when these ideas are borrowed, how to cite the authors properly, how to do the bibliographic entry, how to paraphrase the author's ideas correctly and how to do a thematic arrangement or logical arrangement of borrowed ideas. Some students also mentioned that they upload their writings and works without validating the data or information or without checking the correctness of what they have done.

Using the framework developed by the Center of Media and Literacy kit (CML MediaLit Kit), students are expected not only to gain knowledge about the content of contemporary media but more importantly, to learn and practice the skills needed in navigating one's way in a global media culture. These skills, as emphasized by CMLMediaLit), include the ability to create. For example, the Center stated that when people create (or communicate) messages, they can 'write' their ideas, using words, sounds and/or images effectively for a variety of purposes, and they can make use of various technologies of communication to create, edit and disseminate their message: make use of brainstorming, planning, composing and revising processes; use writing and oral language effectively with mastery of rules of language usage; create and select images effectively to achieve various goals; and use technologies of communication in the construction of messages.

Forgas et al. (2005) did a review of existing literature on plagiarism and disclosed that this act has increased over the years even forwarding the notion that ICT itself, has created vastly expanded opportunities to plagiarize, given the range of resources now accessible via a desktop. But what is worrisome is the researchers' discovery that many, not only students, plagiarize because of research ignorance. They wanted to avoid plagiarism but were not competent enough a researcher to cite their sources properly. These writers were simply unfamiliar with good research practice. A novice researcher may not understand, for example, that appropriating another's ideas, not just copying words, without due credit is plagiarism. Research ignorance is often the cause of first-time offenses, especially from educational cultures that do not consider plagiarism seriously.

Hence, the students truly need re-enforcement of knowledge to make them cope with the rigors of college education. This is in the form of an enhanced MIL instruction program that is tailored to their situation as college students. It should now be kept in mind that information literacy is one of the most important factors that lead to educational success as there is a significant positive relationship between information literacy and students' academic performance (Blake, et al. , 2017; Laskin & Zoe, 2017; Soleymani, 2014).

Section 2. Comparison in the College Freshmen Level of Media and Information Literacy across competencies per domain and as a whole

A. Comparison Across the MIL Skills of Access

Using the Friedman Test, the four component abilities in the domain of access were compared based on the performance of the students. Results show that the overall obtained p-value was less than .05 indicating that at least a pair or more of the four abilities under access showed significant differences. This means that when the students' level in one component skill was compared to other component skills, significant differences were noted as shown by the obtained p values which are less than .05.

When the ability to recognize the need for information was compared to the ability to search, access, and ability to retrieve information, the computed p values were less than .05, indicating significant differences in favor of the component skill of recognizing the need for information. The students thus, performed better in the sub-area of recognizing the need for information. This implies that they performed well in recognizing the need for information, as gleaned from their performance. It was only in this domain that they got a high score meaning a very satisfactory performance.

Similarly, when the ability to search was compared with the ability to access and ability to retrieve information and media content, the computed p values were at .0001, indicating significant differences in favor of the ability to search. The students thus, performed better in the area of ability to search.

This means that students' exposure to using internet when they do searches has something to do with their performance in this aspect. In the study of Wang et al. (2017), they mentioned that Internet search engines, which have powerful search/sort functions and ease of use features, have become indispensable tools for many individuals.

However, when the four skills or abilities in the domain of access were compared, the students performed better in the ability to recognize the need for information. This implies further that student respondents performed well on the ability to recognize the need for information when compared to the skills or abilities to search, access, and retrieve information and media content.

In the study of Rubin (2004), he suggested the 'principle of least effort' in which "people will seek the most convenient source to meet their information needs even when they realize that this source may produce information of lower quality than other sources" (p. 45). This means that information seekers readily accept information that requires less effort on their part but in effect, they compromise its dependability as good information. He also mentioned some barriers to information seeking and one of these falls under physical aspects. He said that the location of a library may affect library use. He had equated this to the distance of the library from the user or the difficulty of locating where the library is.

Vickery and Vickery (2004) agreed with Rubin in his statement, "Whenever any amount of user travel is necessary, some barriers to access is created that may have the effect of limiting demand" (p.77). This means that distance is a barrier. Users tend to do away with using the library if it requires them to travel to its location; thus, the demand for the information is low.

Meyers et al. (2007) added that other physical barriers such as lack of information sources or the means to retrieve are factors that discourage or hinder information seeking. In Barriers to Information (1994), Harris and Dewdney integrating previous research on information-seeking behavior develop these six general principles. These principles are: (a) information needs arise from the help-seeker situation; (b) the decision to seek help or not seek help is affected by many factors; (c) people tend to seek information that is most accessible; (d) people tend to first seek help or information from interpersonal sources, especially from people like themselves; (e) information seekers expect emotional support; and (f) people follow habitual patterns in seeking information (Meyers et al., 2007).

Apart from accessibility issues, users may also encounter problems inside the library. Ifidon (2000) stated one of these, which is, the unavailability syndrome. According to her, this syndrome is yet another problem that inhibits efficient and effective service to users. Ifidon (2000) citing Unomah (1986) identified six major factors explaining users' frustrations inside the library. These are (1) failure of the library to acquire the desired item; (2) failure of the user to locate an item on the shelf even though it is listed in the catalog; (3) failure of the user to locate the properly shelved item on the shelf because of the user's carelessness; (4) failure of the user to locate an item in the catalog even though it was acquired; (5) failure on the part of the library staff to properly keep and display records of books that are in the bindery; (6) restricted access to certain collections such as the research collections whose use is open to only final year students and researchers.

It should be noted, however, that the unavailability syndrome must not be blamed on the library staff alone. According to Awana (2000), the unavailability syndrome could be attributed to user error. By this, he meant that the book may be available but that the user did not consult all appropriate search strategies for the location of the materials, especially the catalog. In many instances, some users may walk straight to the shelf to find a needed material. But when the materials are not there, they will not ask questions or find answers from the librarian (Awana, 2000).

B.   Comparison Across the MIL Skills of Evaluation

Using the Friedman tests, the three sub-skills or component abilities were compared based on the performance of the students. Results show that the overall obtained p-value was less than .05 indicating that at least a pair or more of the four sub-skills of evaluation compared showed significant differences, that is, when the students' level in one sub-skill was compared to other sub-skills, significant differences were noted as the obtained p values were less than .05.

It is evident that when the ability to understand was compared with the ability to evaluate information and media, the computed p-value was less than .05, indicating a significant difference between the two in favor of the ability to evaluate information and media. This could mean that the students performed better in the ability to evaluate information and media.

Similarly, when the ability to assess was compared to the ability to evaluate information and media, the computed p-value was less than .05 indicating a significant difference in favor of ability to evaluate information and media. The students performed better in the latter than the former.

Based on the results this means that among the three sub-skills in the evaluation domain of MIL, students performed better in the area of ability to evaluate information and media than in the areas of ability to understand and ability to assess information.

An essential part of online research is the ability to critically evaluate information. This includes the ability to assess the level of accuracy, reliability, and bias about the information. Donald (2016) revealed in his study that middle school students are more concerned with content relevance than with credibility, rarely attending to source features such as author, venue, or publication type to evaluate reliability and author perspective. When they do refer to source features in their explanations, their judgments are often vague, superficial, and lacking in reasoned justification.

C. Comparison Across the MIL Skills of Creation

Using the Friedman tests, the three sub-skills were compared based on the performance of the students. Results show that the overall obtained p-value was less than .05 indicating that at least a pair or more of the three component abilities on creation when compared showed significant differences, that is, when the students' level in one sub-skill was compared to the other sub-skills, significant differences were noted as the computed obtained p values were less than .05.

When the ability to create was compared with the ability to monitor information and media content, the computed p-value was less than .05 indicating a significant difference in favor of the latter than the former.

Similarly, when the ability to utilize was compared with the ability to monitor information and media content, again, the computed p-value was less than .05, indicating a significant difference in favor of the latter over the former.

When the three abilities under the MIL domain of creation were compared, students performed better in the ability to monitor information and media content than in their ability to create and ability to utilize information and media content. It can be inferred that the individual student can develop the ability to monitor news stories and demonstrate better news analysis skills. It is to be noted that this sub-area of information literacy requires a higher order of thinking from the freshman students.

D. Comparison Across the Three MIL Domains as a Whole

It is evident that there is no significant difference across the three MIL Domains, the computed p-value being greater than .05.

The pairwise comparison shows that skills in access, evaluation, and creation, as a whole, do not vary at all. The students were on equal footing relative to the major skill domains.

Based on the results one could infer that while there was no significant difference overall across the three domains, the students differed in the various sub-skills under each domain. This means that the MIL instruction program that should be crafted in this study should concentrate on the component abilities or the sub-skills rather than as a whole or per domain. The MIL instruction program must be able to highlight the sub-skills under the domains of access, evaluation, and creation to improve the student's overall skills in media and information literacy.

In the literature reviewed by Buckingham (2016) for his study on the levels of functional literacy of children and young people including their access, understanding, and creativity of media sources, he disclosed that in terms of access, the respondents already possess quite high

levels of functional literacy because the respondents' good skills and competencies in accessing media content using available technologies and associated software. He also showed that older children respondents are generally aware of regulatory mechanisms and systems of guidance, and take these into account in seeking to make their own decisions. Moreover, his findings also indicated that a large majority of young people show some awareness of risks relating to sexual dangers on the internet; but they are less aware of potential economic risks. Several studies in this area conclude that education in media literacy may be a more effective strategy than blocking or filtering.

Section 3. Challenges Encountered by the College Freshmen about Media and Information Literacy

A. Challenges on Access

The topmost problem of the respondent students is their ability to recognize the author's ideas within a given text (61.05%, rank 1). Accordingly, they find it difficult to spot or distinguish the major ideas that the author is trying to impart. This could mean that the problem may be associated with the student's comprehension skills – the way they comprehend the author's ideas in a given information or media content.

Comprehension, according to Marquez (2008), is the major purpose of reading because, without comprehension, reading is a meaningless activity regardless of the age or ability of the reader. There are levels of reading comprehension, namely: literal level (reading the lines), inferential or interpretive level (reading between the lines), and critical level (reading beyond the lines). Recognizing the author's ideas belongs to the literal level of comprehension which indicates that comprehension among the respondent students is really poor. Marquez also arrived at the following conclusions: (1) Parents' monthly income and educational attainments have contributed to the reading performance of the students; (2) The kind of materials that the respondents read enhanced their ability to comprehend a text; (3) The respondents' attitude towards reading differed from each other; (4) The availability of reading materials at home and in school; and (5) The student's curiosity to learn enhanced their reading comprehension. Taking a parallel perspective from said conclusions, it would also point out that the respondents in the present study had poor comprehension skills because of similar factors mentioned in the conclusion of Marquez' study.

The second problem is about searching for and retrieving internet information (11.70%, rank 2). Some students shared that they still had difficulties accessing the internet to find relevant or suitable information that they needed. Others, however, commented on the difficulty of accessing the net due to slow connectivity.

A parallel research work studying the utilization of online information resources by undergraduate students was the focus of Ugwu and Orsu's (2016) research undertaking. They disclosed that there are direct and indirect factors that are considered challenges by their respondents. Among the greatest direct factors underlying students' challenges with the use of online information were the lack of browsing skills, low internet bandwidth, and insufficient ICT infrastructure; while, the indirect factors included lack of internet access at home, absence of

online assignments, lack of motivation to use online information and majority of the students not having personal laptops.

The third problem is the use of automated catalogs (11.00%, rank 3). Accordingly, they were not informed or taught how to use the automated catalogs because they are used to the manual card catalogs.

The best example of an automated catalog is the online public catalog or OPAC and databases which may be stand-alone or internet-based like the Koha software. Mulla and Chandrashekara (2009) their study of OPAC use at the libraries of some engineering colleges, found the following two major constraints: (1) Lack of awareness of between user community; and (2) OPAC not being a user-friendly software. Thus, the study highlighted the need for an education program module for users to promote the effective usage of OPAC.

The fourth problem is about using electronic sources for secondary information like databases (10.80%, rank 4). Some students' comments were about a lack of knowledge of existing databases that the school has. Many of them do not know if there are databases that they could use to help them in their research or studies. Or if there are databases, they do not know how to use these to generate available information that they need.

Kumar and Kumar (2012) found that easy and understandable content pages are the most desired by the users; site feasibility is directly proportional to users' interaction, and the retrieval techniques vary from subject to subject. This paper affirms that the databases should be selected based on their retrieval aspects and their online features. The publisher of online databases cannot overlook the retrieval features in the databases. Easy and simple retrieval features can fetch more subscribers for the vendors and publishers. This is a comprehensive study that provides statistical data on the searching/retrieval problem of online databases in different central universities in India.

Barroso et al. (2003) revealed that students considered the use of bibliographic databases as a challenge. The respondents struggled even in choosing alone which databases to search, in learning about the idiosyncrasies of working with each database, in developing a list of search terms, and in refining inclusion criteria regarding which studies to include in the meta-synthesis.

The fifth and last problem in this domain is consulting and using electronic resources as a primary source (9.24%, rank 5). Accordingly, the students also had difficulties in using electronic means as a major source of information. The current e-library is not adequate to cater to the needs of all students – lacking computers, slow internet connectivity, and inadequate electronic journals for accessibility of published and peer-reviewed materials.

The problems and/or difficulties the respondent students encountered in their search for information were also the identified problems found in the study of Mahwasane and Mudzielwana (2016) as their findings disclosed that their respondents lacked proper knowledge of information retrieval skills and lack of Information Communication Technology (ICT) skills in accessing information in the library. Their respondents also revealed that there was insufficient user education given to them. Hence, Mahwasane and Mudzielwana (2016) forwarded the recommendation that information literacy skills training be compulsory for first-year students to become information literate so that they can advance to a higher level of education less strenuously. They also suggested that Library Education should also form part of the university curriculum and that ICT specialists who are focused on library issues should take an active part in said library education program.

Aside from the insufficient ICT infrastructure, Sejane (2017) disclosed in his study that this information technology (IT) infrastructure is not updated, further revealing the following challenges: budget cuts, low internet bandwidth, shortage of staff, and high cost of subscription fees. It also found that the respondent students exhibited inadequate searching skills in accessing and using e-resources in the institution's libraries.

B. Challenges on Evaluation

On the skills or abilities belonging to the domain of evaluation, the first challenge that the respondent student revealed is the barrier to knowing the laws on the right use of information and intellectual property (11.00%, rank 1). Accordingly, the students acknowledged being able to use the information correctly, especially when these ideas are borrowed, how to cite the authors properly, how to do the bibliographic entry, how to paraphrase the author's ideas correctly, and how to do a thematic arrangement or logical arrangement of borrowed ideas. These remarks necessitate some basic lessons on correct in-text citation and reference citation, how to improve paraphrasing skills and coherence in writing.

Citing sources or referencing is an important part of academic writing that a writer uses. Citations strengthen observations and points of view. It validates findings while acknowledging the writer or source of information, thus, avoiding intellectual dishonesty or plagiarism. This is a challenge that most students encounter in their academic work because of poor or improper citation of reference works, inconsistencies in reference citations, and the use of different citation styles.

To corroborate the problems cited by the students, the study of Lamptey (2012) found that even postgraduate students had problems in mastering reference style formats because of the citation variations. Students tended to rely on books, lecturers, or librarians for assistance in ensuring the accuracy of citations in their work. Students were not able to identify the citation format they used, and they could not cite references for books and journal articles with confidence. Similarly, Kargbo (2010) found that undergraduate students faced difficulties in citing references in their academic work and that they were inconsistent in the way they cited.

The second problem is assessing the quality of information sources (10.80%, rank 2). Accordingly, the students shared about how to evaluate the reliability of the resource materials, the authenticity or validity of the claims or arguments, and the scholastic standing of the articles. These feedbacks give one the idea that the students would like to be enhanced in their abilities to evaluate the truthfulness of the ideas of authors, discover the basis for factual data, and how scholarly are the materials written using primary and secondary source validation.

In 2008, researchers used a hoax website for the endangered tree octopus to test students' information evaluation skills. Forty-seven (47) out of 53 of the 7th graders, identified by their schools as 'higher performing online readers,' believed the hoax site (Leu, et al., 2008). After students were told the site was a hoax and given an explanation for why the information was unreliable, most still could not produce proof or an explanation for why the octopus site was false, and some continued to insist the information was accurate. In a national survey of youth aged 11-18, Metzger et al. (2015) found that students who reported discussing credibility evaluation with parents or teachers were more likely to believe a hoax website. Are the problems surfaced by Wineberg and McGrew's (2016) studies solely reflective of outdated

training or something else? What was lacking for the students in Leu et al.'s and Metzger et al.'s studies to enable more accurate evaluation? A difficulty in answering these questions is the dearth of rigorous research pairing media literacy education with outcomes (Buckingham, 2003; Kuiper et al., 2005; Lemish, 2015).

The third problem is about knowing the typology of scientific resources (10.10%, rank 3). The students shared that they still lacked knowledge on the existence of scientific papers or journals, how to seek and explore them via the internet, and how to evaluate their usefulness.

Likewise, an annual survey of adult media literacy in the UK found that a majority of respondents (67%) reported engaging in practices such as comparing information across websites, evaluating credibility, and checking the name of the website. Yet half of the cohort did not know how search engines were funded, and one in five believed the listing of a website in search results indicated accuracy (Ofcom, 2016). The study also found that less than half of respondents could distinguish advertisements in Google search results. These results conformed with earlier studies that found adults were confident in their search skills but unable to discern between commercial and non-commercial results (Fallows, 2005).

In Donald's (2016) study, more than 30% of students reasoned that the fake account was more trustworthy because of the included graphic elements in said account. These students are more focused on social media posts rather than on their sources. Despite the students' fluency in social media, they are not aware of the basic rules for verifying digital information. The study also found that in evaluating website credibility, the students are easily swayed to believe the website because of the polished 'About' pages and the mentioned links to reputable news organizations without very much skepticism or doubts about the contents of the site.

The fourth and fifth problems are in choosing between different media devices, based on their function (9.82%, rank 4.5) and in interpreting media messages (9.82%, rank 4.5). Some comments shared their inability to determine which media devices they can use for specific assignments and how the messages in these media devices can be coherently written to form one cohesive argumentative paper or essay. It was, therefore, apparent that some of the skills can be tied to the skills of writing and comprehending reading materials.

C. Challenges on Creation

The first problem is installing computer programs (8.90%, rank 1). Some student comments under this problem were about the inadequate installation of computer programs to make easy access to needed electronic journals like pdf formats, etc. The files were also downloadable but one cannot save the data using their flash drives. Printable versions were also accessible but there were no printers installed. Some of the comments of these students are not on the installation of computer programs but on downloading information on the internet. Installing computer programs is taken in a specific subject that most students have not taken or studied.

Livingstone (2004) explicated some challenges to media literacy brought by the new information and communication technologies. The first problem that he mentioned was the skills or competency-readiness of students. This is related to basic computer literacy which includes among others installation of the program, hardware requirements, and compatibility issues on hardware and software.

The second problem is about creating creative academic presentations (7.40%, rank 2)

where some comments were about how to transform the data into interactive presentations, how to present the information using PowerPoint presentations, and what to present given the bulky information.

The study by Omariba (2012) found that most of the instructional technologies were available but inadequate in terms of quantity. Not all the instructional technologies were easily accessible for both teachers and students for teaching and learning processes. The study also revealed that the use of instructional technologies depends on their availability, on how these technologies enhance learning, knowledge, and skills, responsive to syllabus requirements, among others. The study also discovered that the teachers' academic and professional qualifications had little influence on how successfully they used instructional technologies for teaching and learning. Finally, teachers and students faced several challenges such as teachers having limited skill in the use of some instructional technologies, inadequate instructional technologies, inadequate funds, and lack of support from the school's administration, whereas students revealed among others lack of accessibility and overcrowded classrooms which needed resolutions.

The third problem is about creating media content (6.90%, rank 3). This is about how to translate or transform one's creation as additional media content for others to use. Accordingly, some students uploaded their writings and works without validating the data or information or without checking the correctness of what they had done.

Bulger and Davison (2018) shared some factors that may contribute to the failure of media literacy. Accordingly, they explained that seemingly all media education is good but the largest challenge is funding and attention for more media literacy programs. Media literacy has long focused on personal responsibility, which can not only imbue individuals with a false sense of confidence in their skills (Sanchez & Dunning, 2018), but also put the burden of monitoring media effects on the audience rather than media creators, social media platforms, or regulators. Moreover, focusing on the obvious benefits of media literacy education may contribute to unsystematic evidence collection. The analysis of Jeong et al. (2012) showed that media literacy education is generally effective and further improves as the amount of instructional time increases. A study by Wineberg and McGrew (2016) of middle school students, high school students, and college students, found that while the majority felt confident in their evaluation skills, all age groups were more likely to select a false website than an accurate one. In addition, 80% of middle schoolers believed a native advertisement was a real news story. When determining credibility for a website, college students skipped the "About Us" pages, where they were most likely to find background information.

The fourth problem is about using media devices in a technical sense (6.70%, rank 4). The students voiced that while others were good at manipulating the computer, a lot of them did not have the expertise to use various media devices. Thus, even if they have the information, the problems on how to present and maximize the use of relevant media devices to make the presentations outstanding are minimally done.

While many students still lack the necessary abilities to use these ICT tools, many are proficient in using them. Siddiquah and Salim's (2017) findings revealed that the students who had computers and internet facilities at home and the universities were experts at simple skills like MS Word, and MS PowerPoint, searching and browsing at internet, social networking, email, file attachments, and computer games. However, they showed lesser skills in using digital libraries, discussion forums, and blogs. Other findings were more time spent on computers for

recreational and other purposes than for academic purposes; slow speed of computers, signal problems with the internet, virus threat, poor working condition of computers, load shedding, and lack of access to the internet.

The fifth and sixth problems are about using database managers (4.80%, rank 5.5) and using bibliographic reference managers (4.80%, rank 5.5). Accordingly, many students still find difficulty in using database managers and in using bibliographic reference managers. Thus, they did not know how to correctly make in-text and bibliographic references.

Reflecting on the various problems experienced by the students on media and information literacy and the findings of this study on their MIL skills, it is very evident that the respondent college freshmen are experiencing multifaceted problems in their academic activities. These findings and challenges are indicative of weaknesses or deficiencies in self-directed learning skills that are essential for a successful college education and degree. But such formative skills, comprehension, and understanding which would have been developed in their basic education are indicative of deeper deficiencies in the educational system of the country. Thus, the proposed media and information literacy instructional program crafted in this study was deemed relevant since it considered the salient findings of this study.

Conclusions and Recommendations

Based on the findings of this study, the following conclusions were derived: The college freshmen of Nueva Vizcaya State University at this point do not adequately possess the knowledge and skills in media and information literacy. They are still way below the expected or acceptable MIL skill levels. In addition, the college freshmen varied in their MIL skills across the component abilities in the domains of access, evaluation, and creation but were found to be similar across components. Also, the college freshmen experienced multifaceted challenges in media and information literacy, hence a Media and Information Literacy Program is deemed needed in the locale of this study to enhance the knowledge and skills on access, evaluation, and creation of the college freshmen of the studied Higher Education Institution (HEI). Further, the present college freshmen of Nueva Vizcaya State University should be appropriately guided to enhance and improve their knowledge and skills in media and information literacy. On Access – ability to recognize the need for information; ability to search; ability to access; and ability to retrieve information and media content; On Evaluation – ability to understand; ability to assess; and ability to evaluate information and media; and On Creation – ability to create; ability to utilize; and ability to monitor information and media content. On the other hand, the significant differences that existed across the sub-skills of access, evaluation, and creation should be addressed by the proposed MIL Instruction Program to properly handle and tackle said deficiencies in the student's abilities to access, evaluate, and create media and information resources. Moreover, the challenges confronted by college freshmen can be resolved through the personal will and determination of students to intellectually enhance themselves, peer support through mentoring, institutional support mechanisms in the execution of peer tutoring, librarian and teachers' mentoring, the initiative of the school administrators to provide needed facilities, databases, ICT materials, and internet connectivity to the institution's library, and the guidance of the school librarians through MIL tutoring, mentoring, and formal instructions.

In line with the holistic integration of the Library MIL Instruction Program, the School

administrators must include this MIL instruction program in the academic calendar as part of the formal training of college entrants to be spearheaded by the NVSU librarians with the cooperation and active involvement of the Languages Department of the institution. Likewise, there should be an institution-wide information-dissemination activity done to inform the school community of the MIL program to widen the base of support, the MIL Instruction Program can be transformed as an Information Education Campaign (IEC) material in the form of flyers and program leaflets of the University, NVSU librarians and faculty members must commit to the program by enhancing their knowledge and skills in MIL by attending conferences and workshop and similar capability building in this aspect to convey the expected deliverables, the MIL program crafted in this study is strongly recommended for use in the locale since it considered the salient findings of this study, and the Media and Information Literacy Instruction Program proposed in this study should be presented to the administrators and be discussed for holistic integration and implementation in an appropriate academic activity of the studied institution.

It is also highly recommended that the Department of Education in its K to 12 program enhance the teaching of MIL by (a) training extensively and intensively teachers on how to teach the course as a separate subject; (b) requiring the MIL teachers to join and be actively involved in the recently formed MIL organization in the country; (c) training social science and science teachers on how to integrate MIL in their subjects; (d) providing the much needed appropriate computer hardware, software, internet connection and e-resources including their proper maintenance. Likewise, for future researchers, this study will serve as a basis for further study on the use of media and information in the school and in other environments as well as using these media in classroom teaching, on media and information literacy instruction skills of librarians and faculty, as their foundation in delving into variables not investigated such as analysis, use and communication; or in investigating specific areas of MIL not covered, involving other students not included in this study using the same instruments to cross-validate the findings of this research work, and in the conduct of similar studies in other state colleges and universities in the country to further validate the findings of this research study.

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