Pre-service Teachers' Perception on the Impact of e-Resources on Undergraduate Research Completion

Sittie Aliah B. Pangandaman
Mindanao State University, Marawi City, Philippines
aliahpangandaman21@yahoo.com

Sittie Ainah M. Mangata
Mindanao State University, Marawi City, Philippines
ainah.mangata@gmail.com

Dr. Wardah D. Guimba
Mindanao State University, Marawi City, Philippines

Prof. Roseniya G. Tamano
Mindanao State University, Marawi City, Philippines
roseniya.tamano@msumain.edu.ph

Mr. Abubakar S. Mama
Mindanao State University, Marawi City, Philippines

KEYWORDS

e-Resources, e-Library, Pre-service Teacher, Research Writing, Undergraduate

ABSTRACT

This study aims to investigate the perception of the One hundred and twenty pre-service teachers on the role of e-Resources to their research writing through measuring their level of awareness, knowledge, ease-of-use of e-Resources. It also determines if these factors are significantly related to the perceived impact of the e-Resources on the undergraduate students' research writing and it also identify the problems and difficulties they had encountered in accessing the e-Resources of the MSU-Main library. A research made questionnaire, which was validated with the usage of the Cronbach Alpha, and interview were both used in gathering the required data for this study. The findings had shown that the respondents are extremely aware of the e-Resources in the e-Library as a result of the Library Orientation. They are knowledgeable of the e-Resources in the e-Library. Moreover, the respondents had agreed on the ease of use of the e-Resources in the e-Library and that e-Resources have a positive impact on their research writing in terms of conceptualization of the topic, references related to the studies and literature, and methodology. However, it was identified that the research students had some problems and difficulties in accessing the e-Resources in the e-Library, such as; the fluctuating internet connection and the absence of staff that facilitate and accommodate students. Lastly, the level of awareness, knowledge, and ease-of-use of the undergraduate student have a high significant relationship with the perceived impact of e-Resources on undergraduate students' research writing. Valuable recommendations are forwarded based on the findings of this study.

Introduction

Sources of information have become varied and diverse in today's information-driven economy. The introduction of technology has changed every aspect of life. It has even influenced education, particularly how research is done, especially in retrieving information. Due to modernization, electronic resources have been the new addition to libraries. It is a source that has made it easier for students and researchers alike to gain information the fastest way. However, some, if not most, researchers and students are not aware of the shift from print to electronic. This leads many students to very limited sources when they are looking for a printed material as most of the information has been published in an electronic format. In relation to this, it is a puzzle whether students are aware and knowledgeable of the existence of this new form of resources in the library, or whether this new form of information resources is beneficial to their academic research writing.

According to Pawar and Moghe (2014), the development of computer and network technology is changing the education pattern and transforming the teaching and learning process from the traditional physical environment to the digital environment. This new technology has always been of interest for libraries both for the potential of increasing the

Objectives of the Study

The primary focus of this study is to determine the perception of pre-service teachers on the role of e-Resources in their research writing. To be more specific, this study aimed to answer the following questions:

1. What is the level of awareness of the respondents on the e-Resources of the e-Library?

2. What is the knowledge of the respondents on the e-Resources of the e-Library?

3. What is the ease-of-use of the respondents on the e-Resources of the e-Library for their research writing?

quality of service and for improving efficiency of operations. At present, libraries of all kinds whether public, research academic or special libraries are overwhelmingly looking forward to adopt new technologies mostly on the use of e-resources due to its potential for cost savings in operations and the management of collections and Patrons.

This prompted a new age of the library as it became a sign for other libraries in other places to update their own facilities. Electronic resources (e-resources) have become a sign of the modern age and are an invaluable tool for teaching, learning, and research (Sejane, 2017). Libraries in developed countries are thus leveraging the benchmark of full electronic library operations, providing quicker and multiple access to limitless streams of information resources, simply referred to as electronic resources or popularly known as e-resources (Simon and Ogom, 2015).

With this taken into all account, empirical studies have shown a result that the use of these resources is considered to be very low (Yebowaah and Plockey, 2017). Therefore, this study was conducted to determine whether students or researchers are aware and knowledgeable on how to use the e-Resources which were offered in the main library of the Mindanao State University-Marawi and whether it helps them in their research writing.

4. What is the perceived impact of the use of e-Resources on the respondents, undergraduate research writing in terms of:

   a. Conceptualization of the topic;

   b. References on related studies and literature; and

   c. Methodology?

5. What are the problems and difficulties encountered by the students in accessing the e-Library?

6. Is the level of awareness, knowledge, and ease-of-use of the undergraduate student significantly related to the perceived impact of e-Resources on their research writing?

Literature Review

Electronic Resources

Electronic resources are resources in which information is stored electronically according to Haridasan and Khan (2009). However, this technological advancement has not changed a significant deal with the information that researchers needed but only in the way in which it is being delivered or accessed (Pool, 2009). Pawar and Moghe (2014) also added that an electronic resource is defined as a resource which require computer access or any electronic product that delivers a collection of data, be it text referring to full text bases, electronic journals, image collections, other multimedia products and numerical, graphical or time based, as a commercially available title that has been published with an aim to being marketed. There are different types of e-Resources, such as e-Journal (Full text & bibliographic), e-Books, online databases, websites, CD ROM, diskettes, and other portable computer databases.

Level of Awareness on the use of e-Resources

The rapid innovation of the world's technology had played a great role in influencing all aspects of learning life. Tao (2008) concurs that with the advancement of computer and networking technologies, there is a significant growth in the availability and use of e-resources. The internet, online databases, e-journals, e-books and various e-resources can be accessed through computers, and other electronic devices.

Knowledge on the use of e-Resources

Availability of information does not mean it is necessarily accessed and used by users. This is confirmed by Kinengyere (2007) as she found that availability of information does not necessarily mean actual use because the users may not be aware of the availability of such resources, do not know how to access them, or do not know what the resources offer. Ray and Day (1998), as cited by Kinengyere (2007), noted that the main factors affecting students' access to electronic information and using them were limited time and lack of effective information retrieval skills.

Ease-of-use of e-Resources

According to Soni, Gupta, and Shrivastava (2018), their survey also revealed that 86.4% of their respondents had also felt the easiness in accessing the e-resources of from their library. Thus, they had concluded that the user-friendly features of e-resources are attracting more and more users towards libraries. It not only improves the quality of research but also make faculty and students more confident after having access to large number of e-resources and databases to their desktop and to keep themselves up-to-date in their relevant subject field. Features of e-resources are making users heavily dependent to get required information timely.

Impact of e-Resources

Kaminer (1997), as cited by Ani, Ngulube, Onyancha (2017) claimed that the use of electronic resources would enable scientists to be more productive in their research. He attributed this to the fact that, with electronic resources, access to information is faster, which invariably promotes efficiency in the research process and would definitely lead to an increase in research productivity. Furthermore, Khan and Dominic (2012) conducted a survey to assess the perceived impact of electronic resources on the research productivity of academic staff in the engineering colleges of Moradabad, India. The results of that survey revealed that 50% of the respondents agreed on the productive impact of electronic resources on their research process.

Problems and Difficulties in accessing e-Resources in e-Library

There are also factors that hinder the researchers from using e-resources. One of these factors is the poor internet connectivity. As supported by Ankrah and Atuase (2018), 72.6% of the population of their respondents in the study had affirmed that one of the greatest challenges that they encounter in accessing e-resources is the poor internet connection. Second is the lack of devices, like computers provided for the researchers to use in accessing the e-resources. This can be reinforced by the study of Soni, et al (2018) who found that 27.3% of their respondents are dissatisfied of accessing the e-resources from their university due to inadequate number of computers.

Last is the lack of basic skill. Togia and Tsigilis (2010) mentioned that due to lack of basic skills of researchers in accessing the e-resources, most of them are ignorant and unaware to this electronic resource.

Relationship between e-Resources and Research Writing Productivity

A study of the perceived effect of accessibility and use of electronic resources on research productivity by Vakkari (2008) showed a positive relationship between electronic resources and research productivity. Vakkari also found that the relationship varies from discipline to discipline. This was also supported by Nicholas, Williams, Rowlands, and Jamali (2010), electronic resources have made a tremendous impact on the research productivity of scholars in the United Kingdom, a view common in developed countries.

This relationship was profoundly revealed by Mgobozi and Ocholla (2002) who conducted a comparative study to investigate the relationship between the use of electronic journals by academic staff at the University of Natal and the University of Zululand in South Africa and their research productivity. According to the study, when asked about whether there is correlation between use of electronic journals and research productivity, some 29% indicated a correlation whereas 13% indicated no correlation and others were undecided.

I.   METHODS AND MATERIALS

This study used mixed methods design, particularly sequential explanatory. Correlation and interview were used to gather and analyze data from the 120 research students of the College of Education, particularly those who were enrolled in the course Educ 198 (Methods of Research) in the second semester of the academic year 2017-2018 and the first semester of the academic year 2018-2019, and the students enrolled in Eng Ed 199 (Language Research). Since, they are the current research students that have a repeated exposure for their research completion. In the sequential explanatory design, the quantitative data through survey were collected and analyzed first. It is then followed by the qualitative data collection through interviewing five (5) randomly selected students from the same sample. This was done to specifically determine what kinds of problems and difficulties were encountered by the research students in accessing the E-library for their research writing and also support the other analyzed result to the other research questions.

The selected locale of the study is the College of Education of the Mindanao State University-Main Campus in Marawi City, Philippines. The participants of the study were the one hundred twenty (120) College of Education research students, specifically those enrolled in the course Educ 198 (Methods of Research) in the second semester of the school year 2017-2018 and the first semester of 2018-2019

The researchers used research made questionnaire and interview as the instruments in gathering data. The contents of the instruments are constructed by the researchers with the guide of various related studies. The questionnaire went through validation and reliability test using Cronbach alpha before it was administered.

The researchers used Percentage, Frequency, and Somer's D to analyze the data gathered using Quantitative method. The data gathered from the questionnaire were analyzed and synthesized using the needed statistical tools and were given corresponding interpretations. The data gathered using the questionnaire were supported by the data gathered from the interviews. The transcribed answers from interview were analyzed and synthesized to support the findings from the quantitative data. Thematic analysis was used to consolidate and synthesize the responses of the interviewed students in organizing the main ideas and themes from the responses of the interviewed student to align their responses as a support to the findings from the data gathered from quantitative data.

II. RESULTS AND DISCUSSION

Problem 1. What is the level of awareness of the respondents on the e-Resources of the e-Library?

Table 1–Level of Awareness of the Respondents on the e-Resources on the e-Library

INDICATORS	NOT AT ALL AWARE (1)	SLIGHTLY AWARE (2)	SOMEWHAT AWARE (3)	MODERATELY AWARE (4)	EXTREMELY AWARE (5)	WEIGHTED MEAN	REMARKS
1. I am aware of what e-Resources are.	0 (0.0%)	8 (6.7%)	10 (8.3%)	38 (31.7%)	64 (53.3%)	4.32	Extremely Aware
2. I am aware that MSU library has e-Resources that could cater to my research needs.	3 (2.5%)	8 (6.7%)	8 (6.7%)	39 (32.5%)	61 (50.8%)	4.24	Extremely Aware
3. I am aware of the value of e-Resources for my research	2 (1.7%)	8 (6.7%)	14 (11.7%)	38 (31.7%)	57 (47.5%)	4.18	Moderately Aware
4. I am aware of how to access the e-Resources in the MSU Library	2 (1.7%)	6 (5.0%)	15 (42.5%)	51 (42.5%)	45 (37.5%)	4.10	Moderately Aware
Grand Weighted Mean						4.21	Extremely Aware

Table 1 presents the frequency, percentage, weighted mean, and the corresponding remarks. As shown, the respondents are extremely aware of what e-Resources are (m=4.32) and that MSU library has e-Resources that could cater to their needs in their research writing (m=4.24). This shows that the respondents are already aware of e-Resources before entering e-Library and are aware of the beneficial features that the e-Resources can bring to their research writing. Coincidentally, this result is expected because based on the respondents' profile, many respondents are eighteen to twenty (18-20) years old, or the prime age of the Generation Z, who are born and brought up with the current technology. They are digital-centric and technology is their identity as they were born along with its transition; thus, they had experienced beneficial

features that this technology offers (Gaidhani, Sharma, and Arora 2019).

Furthermore, the respondents are only moderately aware of the value of e-Resources for their research writing (m=4.18) and are moderately aware of how to access the e-Resources in the MSU library (m=4.10). This reveals that though the respondents are aware of how the e-Resource can help their research writing, still most of them could not fully recognize the value of e-Resources for their research writing. This may be due to their lack of familiarity on how to access the e-Resources in the e-Library.

Thus, there is still a need for wide propagation of e-Resources and user instruction to all students of the university.

The findings in Table 1 can be supported by the statements of the respondents in the interview. Four (4) of the respondents show their awareness of e-Resources. The Table 4.2 shows the awareness of the respondents on e-Resources as they were able to define and describe e-Resources. Respondents B, C, D, and E agrees based on their responses that e-Resources are resources in a form of electronics and are resources for research.

Table 2–Source of Awareness of the Respondents

SOURCES OF YOUR AWARENESS OF THE E-RESOURCES OF THE UNIVERSITY LIBRARY	FREQUENCY	PERCENTAGE
a) Library Orientation	85	70.8%
b) Friends/Colleague	67	55.8%
c) Lectures/Workshop/Seminar	57	47.5%
d) Social Media	14	11.7%

*Multiple Responses

Table 2 shows the frequency and percentage of respondents accumulated by the sources of awareness on e-Resources of the University library. The findings show that the majority of the respondents said their source of awareness is the Library orientation. This corresponds to 70.8% of the sample. Moreover, 55.8% said they became aware of e-Resources because of friends/colleagues, 47.5% said because of lecture/workshop/seminar, and 11.7% reported social media as source. This implies Library Orientation has reached more audience and informed more students about the availability of e-Resources in the library.

Henceforth, the findings show that the respondents are extremely aware of the e-Resources in the e-Library. The researchers agree with the overall result because, though there are fluctuations on the remarks, majority of the respondents reported high awareness on e-Resources in the e-Library. However, this does not overrule the problems revealed by the results. Thus, the e-Library management needs to widen their propagation of e-Resources and improve accessibility

Problem 2. What is the knowledge of the students on the e-Resources of the e-Library for their research writing?

Table 3–The knowledge of Students on the e-Resources of the e-Library

INDICATORS	STRONGLY DISAGREE (1)	DISAGREE (2)	NEUTRAL (3)	AGREE (4)	STRONGLY AGREE (5)	WEIGHTED MEAN	REMARKS
1. The e-books, e-journal, and other types of e-Resources needed for my research is available in the e-Library.	0 (0.0%)	3 (2.5%)	10 (8.3%)	61 (50.8%)	46 (38.3%)	4.25	Extremely Knowledgeable
2. Internet is a requirement for the library users to access the e-Resources.	0 (0.0%)	2 (1.7%)	18 (15.0%)	42 (35.0%)	57 (47.5%)	4.25	Extremely Knowledgeable
3. Computers, Smartphones, and tablet devices are the specific devices to access and download information in the e-Library.	3 (2.5%)	5 (4.2%)	11 (9.2%)	50 (41.7%)	50 (41.7%)	4.17	Moderately Knowledgeable
4. The e-Resources of the University library can be accessed online.	5 (4.2%)	7 (5.8%)	11 (9.2%)	43 (35.8%)	54 (45.0%)	4.12	Moderately Knowledgeable
5. The database/website, which was created by e-Library that could be accessed outside the premises of MSU e-Library, is very helpful and convenient.	4 (3.3%)	6 (5.0%)	12 (10.0%)	60 (50.0%)	38 (31.7%)	4.02	Moderately Knowledgeable
Grand Weighted Mean						4.16	Moderately Knowledgeable

Table 3 presents the gathered data on the knowledge of students on e-Resources of the e-Library for their research writing. The findings revealed that the respondents are extremely knowledgeable that the types of e-Resources they need for their research writing is available in e-Library (m=4.25) and that Internet is a requirement for the library users to access the e-Resources (m=4.25). This result is consistent with the results in the Table 1 which revealed the extreme awareness of the respondents toward e-Resources. Thus, it is not a coincidence that the respondents are also extremely knowledgeable of the availability of various e-Resources in the e-

Library and the importance of the Internet as a basic requirement for library users to access e-Resources.

Furthermore, the respondents are only moderately knowledgeable that computers, smartphones, and tablet devices are the specific devices to access and download information in the e-Library (m=4.17); that the e-Resources in the university library can be accessed online (m=4.12), and the database or website, which was created by e-Library, that could be accessed outside the premises of MSU e-Library is very useful (m=4.02). These results affirm the findings in Table 1 about the moderate awareness of the respondents on how to

access e-Resources in the e-Library. The respondents are not totally familiar with accessing the e-Resources; thus, they are also moderately knowledgeable of specific devices used to access and download information in the e-Library.

Nevertheless, the researchers can confirm that the respondents are moderately knowledgeable on the e-Resources in the e-Library for their research writing. This result is in line with the responses of the respondents being interviewed. The respondents' statements agree that e-Library contains variety of e-Resources for their research and it is cost-free.

Problem 3. What is the ease of use of the respondents on how they use the e-Resources of the e-Library for their research writing?

Table 4 –The ease of use of the respondents on e-Resources of the e-Library for their research writing

Indicators	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Weighted Mean	Remarks
1. Accessing e-Resources in the library is easy.	0 (0.0%)	0 (0.0%)	18 (15.0%)	55 (45.8%)	47 (39.2%)	4.24	Strongly Agree
2. It requires the fewest steps possible to accomplish what I want to research.	0 (0.0%)	1 (0.8%)	22 (18.3%)	56 (46.70%)	40 (33.3%)	4.13	Agree
3. The database/website that holds the e-Resources is user friendly.	0 (0.0%)	3 (2.5%)	22 (18.3%)	57 (47.5%)	38 (31.7%)	4.08	Agree
4. I can access and use e-Resources without written instruction.	4 (3.3%)	10 (8.3%)	28 (23.3%)	46 (38.3%)	32 (26.7%)	3.77	Agree
5. I don't notice any inconsistencies as I use it.	3 (2.5%)	11 (9.2%)	40 (33.3%)	50 (41.7%)	15 (12.5%)	3.53	Agree
Grand Weighted Mean						3.95	Agree

Table 4 presents the gathered data regarding the ease of use experienced by the respondents in their use of the e-Resources in the e-Library for their research writing. The findings show that only item one (1) incurred a remark of Strongly Agree. This corresponds to the thirty-nine percent (39.2%) of the respondents who strongly agreed that accessing e-Resources in the Library is easy. This represents that the respondents experienced ease in accessing e-Resources in the e-Library. Moreover, the rest of the items gained a remark of Agree. Specifically, they agreed on the statements that the database/website that holds the e-Resources is user-friendly, that it requires fewest steps possible to accomplish what they want to research, and that they can access and use e-Resources without written instruction, and that they did not notice any inconsistencies as they use it. This shows that the respondents did experience the ease-of-use of the e-Resources in e-Library but not to the extreme. This can be related to the findings in Table 1 about how the respondents are not much familiar with accessing e-Resources in e-Library. Thus, the respondents were not able to totally grasp the ease-of-use that the e-Resources offer.

Nonetheless, the respondents generally agreed that they experienced the ease-of-use of e-Resources in the e-Library for their research writing. This can be reinforced by the positive responses of the respondents in the interview. Respondents A, B, D, and E generally agreed that the e-Library provides variety of e-Resources helpful for their research. Furthermore, Respondents C and E agreed with the ease-of-use of the e-Resources in the e-Library for their research writing because it is '*cost free',* which is a great help for them.

Problem 4. What is the perceived impact of e-Resources on their research writing in terms of Conceptualization of topic, Accumulation of Related Literature, and Methodology?

Table 5.1–The perceived impact of the respondents on the use of e-Resources on their research writing in terms of Conceptualization of the topic

INDICATORS	STRONGLY DISAGREE (1)	DISAGREE (2)	NEUTRAL (3)	AGREE (4)	STRONGLY AGREE (5)	WEIGHTED MEAN	REMARKS
1. The e-Resources had provided a lot of suggestions for the conceptualization of my research.	0 (0.0%)	2 (1.7%)	11 (9.2%)	58 (48.3%)	49 (40.8%)	4.28	Strongly Agree
2. e-Resources helped me determine which area or subject I want to study.	0 (0.0%)	4 (3.3%)	18 (15.0%)	56 (46.7%)	42 (35.0%)	4.13	Agree
3. The e-Library website enables me to have access to online guides to information about my subject interest.	1 (0.8%)	3 (2.5%)	14 (11.7%)	63 (52.5%)	39 (32.5%)	4.13	Agree
4. The e-Resources had given me ideas on formulating my	1 (0.8%)	2 (1.7%)	17 (14.2%)	72 (60.0%)	28 (23.3%)	4.03	Agree

	research problem.						
5.	The e-Resources assisted me in identifying which gap of the subject interest I should fill in my study.	0 (0.0%)	4 (3.3%)	23 (19.2%)	69 (46.7%)	24 (20.0%)	3.94 Agree
Grand Weighted Mean						4.10	Agree

Table 5.1 presents the data on the perceived impact of the use of e-Resources on their research writing in terms of the conceptualization of their topic. As shown, forty-point eight percent (40.8%) of the respondents strongly agreed that e-Resources provided a lot of suggestions for the conceptualization of their research. Moreover, the remaining indicators are rated as Agree as by forty-six point seven to sixty percent (46.7%-60.0%) of the respondents. Specifically, they agreed that e-Resources helped them determine which area or subject they want to study; that e-Resources assisted them in identifying which gap of the subject interest they should fill in their study; that e-Resources had given them ideas on formulating their research problem, and that e-Library website enable them to have access to online guides to information about their subject interest.

The findings show that the respondent use of e-Resources had a significant impact on their research writing, especially in the conceptualization of their topic. During the interview, the respondents generally agreed that e-Resources in e-Library is helpful in their research as it provides variety of resourceful information that supports their research writing.

Table 5.2–The perceived impact of the respondents on the use of e-Resources on their research writing in terms of Related Literature and Studies

INDICATORS	STRONGLY DISAGREE (1)	DISAGREE (2)	NEUTRAL (3)	AGREE (4)	STRONGLY AGREE (5)	WEIGHTED MEAN	REMARKS
1. The e-Library provides access to a wide range of electronic resources in my subject area.	0 (0.0%)	3 (2.5%)	15 (12.5%)	49 (40.8%)	53 (44.2%)	4.25	Strongly Agree
2. The e-Resources result	0	0	21	54	44	4.19	Agree

	STRONGLY DISAGREE (1)	DISAGREE (2)	NEUTRAL (3)	AGREE (4)	STRONGLY AGREE (5)	WEIGHTED MEAN	REMARKS
from search engines are usually related to what I'm looking for.	(0.0%)	(0.0%)	(17.5%)	(45.0%)	(36.7%)		
3. The e-Resources from MSU e-Library had helped in framing and supporting my research.	0 (0.0%)	2 (1.7%)	21 (17.5%)	56 (46.7%)	41 (34.2%)	4.13	Agree
4. Some of the e-Resources available in the e-Library are useful and related in my study.	0 (0.0%)	2 (1.7%)	19 (15.8%)	63 (52.5%)	36 (30.0%)	4.11	Agree
5. The e-Resources I have retrieved from MSU e-Library enables me to read general background of the subject of my research.	0 (0.0%)	5 (4.2%)	21 (17.5%)	66 (55.0%)	27 (22.5%)	3.97	Agree
Grand Weighted Mean						4.13	Agree

In the findings shown on Table 5.2 above, 44.2% of the respondents strongly agreed that the e-Library provided access to a wide range of electronic resources in their subject area. Moreover, forty-five to fifty-five percent (45.0%-55.0%) of the respondents agreed with the remaining statements to wit: the e-Resources result from the search engines are usually related to what they are looking for; the e-Resources from MSU e-Library helped in framing and supporting their research; that the e-Resources they had retrieved from the e-Library enable them to read general background of the subject of their research; and that some of the e-Resources available in the e-Library are useful and related in their study.

The result implies that the respondents agreed that the use of e-Resources had an impact on their research writing, especially in the accumulation of related literature and studies for their research writing. It signifies that the e-Resources facilitated them in collecting and collating references for their study.

Table 5.3–The perceived impact of the use of e-Resources on research writing in terms of Methodology

INDICATORS	STRONGLY DISAGREE (1)	DISAGREE (2)	NEUTRAL (3)	AGREE (4)	STRONGLY AGREE (5)	WEIGHTED MEAN	REMARKS
1. The e-Resources I have retrieved had given me suggestions on which is the most appropriate research design to use for my study.	0 (0.0%)	2 (1.7%)	19 (15.8%)	61 (50.8%)	38 (31.7%)	4.13	Agree

		STRONGLY DISAGREE (1)	DISAGREE (2)	NEUTRAL (3)	AGREE (4)	STRONGLY AGREE (5)	WEIGHTED MEAN	REMARKS
2.	The e-Library resources enable me to think carefully of the process of conducting my research.	0 (0.0%)	2 (1.7%)	18 (15.0%)	63 (52.5%)	37 (30.8%)	4.13	Agree
3.	The MSU e-Library resources had given me ideas on which statistical tools and data analysis to use on my research.	0 (0.0%)	5 (4.2%)	31 (25.8%)	47 (39.2%)	37 (30.8%)	3.97	Agree
4.	Skimming and scanning a lot of related e-Resources had made me critically think on what I should do, and should I not do when I conduct my study.	0 (0.0%)	2 (1.7%)	26 (21.7%)	66 (55.0%)	26 (21.7%)	3.97	Agree
5.	e-Resources from MSU e-Library had played a great role in conceptualizing the method on how I should conduct my study.	0 (0.0%)	3 (2.5%)	23 (19.2%)	66 (55.5%)	28 (23.3%)	3.99	Agree
Grand Weighted Mean							4.04	Agree

Table 5.3 shows the data gathered on the perceived impact of the use of e-Resources on research writing in terms of the methodology. The result shows that all indicators are agreed by the respondents. Particularly, of Fifty-point eight percent (50.8%) of the respondents agreed that the e-Resources had given them suggestions on which research design is the most appropriate for their study. They also agreed with the following indicators: the e-Resources enabled them to think carefully of the process of conducting their research, gave them ideas on which statistical tools and data analysis to use in their research, made them critically think on what should and should not do when they conduct their study, and played a great role in conceptualizing the method on how they should conduct their study.

Problem 5. What are the problems and difficulties encountered by the students in accessing the e-Library?

Table 6–Problems and Difficulties encountered by the Researcher in accessing the e-Library

INDICATORS	STRONGLY DISAGREE (1)	DISAGREE (2)	NEUTRAL (3)	AGREE (4)	STRONGLY AGREE (5)	WEIGHTED MEAN	REMARKS
1. The internet connection used in accessing the e-Resources, of e-Library, is always	11 (10.0%)	44 (40.0%)	35 (31.8%)	15 (13.6%)	5 (4.5%)	2.63	Neutral

unsteady and slow.							
2. The e-Library staffs are always not present to facilitate the problems of the users.	18 (16.4%)	53 (48.2%)	25 (22.7%)	13 (11.8%)	1 (0.9%)	2.33	Disagree
3. The e-Resources of the MSU e-Library is not very easy to access.	24 (21.8%)	56 (50.9%)	21 (19.1%)	8 (7.3%)	1 (0.9%)	2.15	Disagree
4. The e-Library staffs are not very friendly and accommodating.	25 (22.7%)	58 (52.7%)	19 (17.3%)	3 (2.7%)	5 (4.5%)	2.14	Disagree
5. The e-Library is not open most of the time	35 (31.8%)	42 (38.2%)	25 (22.7%)	5 (4.5%)	3 (2.7%)	2.08	Disagree
Grand Weighted Mean						2.26	Disagree

Table 6 presents the problems and difficulties encountered by the students in accessing the e-Library. Based on the findings shown above, 40% of the respondents disagreed that the internet connection used in accessing e-Resources of the e-Library is always unsteady and slow and 31% were neutral. Moreover, thirty-eight to fifty-three percent (38%-53%) of the respondents disagreed with the following indicators: the staffs are not present to facilitate the problems of the users, they are also not very friendly and accommodating, the e-Resources are not easy to access, and the e-Library is not open most of the time.

Furthermore, the results shown in Table 6, it can be said that the respondents did not encounter many problems and difficulties in accessing the e-Library.

In line with this, Borgohain and Barman (2016) noted that accessing the e-Library will only work only if sufficient numbers of computers and network systems are in place, and the users have the ability to work with the tools. So far, the respondents of the study had positive experiences in their use of e-Resources in the e-Library. Thus, the services of the MSU Main Library have been satisfactory for the respondents.

However, during the interview, respondents A, B, and C complains about the poor internet connection. In support of this, Bhatt and Rana (2011) also identified that one of the most common problems with accessing e-Resources is low speed connectivity to the internet. Furthermore, the transcript of the interview also has also shown that respondents B

and C also complains about not enough space to accommodate users and the absenteeism of the staff.

Problem 6. Are the level of awareness, knowledge, and ease of use of the undergraduate student significantly related to the perceived impact of the e-Resources on the undergraduate student's research writing?

Table 7–Correlation between the Level of Awareness of the researchers on e-Resources and the impact of the e-Resources on their research writing

IMPACT	SOMER'S d VALUE	p-VALUE	REMARKS
a) Conceptualization	0.368	0.000	Highly Significant
b) Related Literature and Studies	0.417	0.000	Highly Significant
c) Methodology	0.357	0.000	Highly Significant

Table 7 shows the correlation analysis results between the impact of the e-Resources on the undergraduate student's research writing and awareness in terms of conceptualization, related literature and studies and methodology. As shown, the obtained p-values are less than 0.05 level of significance set beforehand. This means that there is a highly significant relationship between their awareness of e-Resources and their perceived impact of e-Resources on research writing. Hence, the awareness of the students on e-Resources has an impact on their research writing. As found by, Rehman and Ramzy (2004), libraries are extensively used for research needs and that e-Resources are an inevitable tool for the respondents in their research process (Borgohain and Barman, 2016).

Table 8–Correlation between the Level of Knowledge of the researchers on e-Resources and the impact of the e-Resources on the undergraduate student's research writing

IMPACT	SOMER'S d VALUE	p-VALUE	REMARKS
a) Conceptualization	0.426	0.000	Highly Significant
b) Related Literature and Studies	0.551	0.000	Highly Significant
c) Methodology	0.420	0.000	Highly Significant

Table 8 presents the results of correlating the respondents' level of knowledge on e-Resources and their perceived impact of e-Resources on conceptualization, related literature and studies, and methodology. It can be seen that the obtained p-values are less than 0.05. This means that there is a highly significant relationship between the two variables correlated. As Ankrah and Atuase (2018) revealed, when users have the ability and enough knowledge on a particular information resource, their access to such information resources increases. Another research finding by Bowden (1994), as cited in Ankrah and Atuase (2018), revealed that users who are trained in information gathering and who have greater computer skills are more likely to utilize e-resource services. This means that the respondents' knowledge of e-Resources can greatly contribute to their success in research writing.

Table 9–Correlation between the ease-of-use experienced by the researchers on e-Resources and the impact of the e-Resources on the undergraduate student's research writing

IMPACT	SOMER'S d VALUE	p-VALUE	REMARKS
a) Conceptualization	0.440	0.000	Highly Significant
b) Related Literature and Studies	0.498	0.000	Highly Significant
c) Methodology	0.537	0.000	Highly Significant

Table 9 reveals the correlation analysis outputs between the respondents' ease-of-use of the e-Resources and their perceived impact of e-Resources on conceptualization, related literature and studies, and methodology. Based on the findings, the obtained p-values are less than 0.05. This means that there is a highly significant relationship between the said variables. Thus, the ease-of-use of e-Resources does affect their research writing from conceptualization to methodology. The major benefit of electronic resources in the university library is the ease of access to needed information and it promotes efficacy in information dissemination for research purposes in universities (Thanuskodi, 2012). Additionally, a study by Nwezeh (2010) that assessed the impact and usefulness of electronic resources on research productivity in Obafemi Awolowo University, Nigeria, indicated that almost all the respondents perceived that electronic resources are useful tools for their research activitie

III. CONCLUSION AN RECOMMENDATIONS

Conclusion

Sources of information are very vast. They even come in different forms and one of these is electronic. Electronic resources are one of the changes contributed by the transition of technology which greatly influence education, especially the academic research of students. Inspired by these changes, this study determined the perception of the pre-service teachers on the role of e-Resources in their research writing.

The findings of the study emphasize that students must be aware and knowledgeable of e-Resources as they truly help in catering to their needs in research writing. Additionally, with the advent of ICT, e-Resources have become a sign of the modern age and are an invaluable tool for teaching, learning and, more importantly, academic research. e-Resources are found convenient to use because of its several beneficial features or ease of use; thus, many researchers highly rely and depend on the use of e-Resources as their materials in writing their academic researches. Indeed, awareness, knowledge, and ease of use of these important resources have a positive impact on research writing. These factors greatly help in the process of academic research completion and productivity. Lastly, this research highlights as well the important role libraries play in the academic institution. Since the ancient times, people have been interested in preserving knowledge for future uses, thus the establishment of libraries. Currently, knowledge and information are the currency of the modern era, which makes research and innovation significant movers of the society. As found in this study, libraries are incomparable institutions that must be established in all academic domains to ensure access to information and to cultivate a culture of research.

Recommendations

With the findings, the following recommendations for concerned individuals and institutions are forwarded:

1. Library staff should create a social platform to advertise and introduce the e-Resources of the e-Library and its uses to their student related works, such as facilitating a Faculty-Librarian Collaboration.

2. Teachers should encourage the students to visit the e-Library to be more familiar with its contents and services.

3. In relation to the first recommendation, the staff of the e-Library should be present during working hours to facilitate the students when they encounter difficulties or problems in accessing the e-Resources.

4. The main library management should, if possible, come up with a solution to the slow internet connection for the utilization of e-Resources of the e-Library.

5. The e-Library management should maintain a social media page and online delivery mechanisms that promotes and gives updates about their services and to cater to researchers who are not able to visit the library by virtually delivering the e-Resources that the researchers need, through e-mail or Google Drive.

6. Future researchers may conduct in-depth research such as the attitude and behavior of users of e-Library in accessing and gathering e-Resources for their research study. They may use this study as reference or may fill in the gaps of this study to gather more information regarding the role of e-Resources in students' research writing endeavors.

IV. ACKNOWLEDGMENT

References

Adair, V. C. (2001). Poverty and the (broken) promise of higher education. *Harvard Educational Review*, 71(2), 217–240. Retrieved from http://hepgjournals.org/doi/pdf/10.17763/haer.71.2.k3gx0kx755760x50.

Ajandi, J. (2011). Overcoming Barriers and Finding Strengths: The Lives of Single Mother Students in University. Retrieved from: https://tspace.library.utoronto.ca/bitstream/1807/30034/6/Ajandi_Jennifer_201106_PhD_thesis.pdf.pdf

Arlington Public School (2004). Teenage Parenting Programmes. Retrieved from: http://www.apsva.us/teenageparenting

Austin, S. A., & McDermott, K. A. (2004). College persistence among single mothers after welfare reform: An exploratory study. Journal of College Student Retention: Research, Theory & Practice, 5(2), 93-113.

Azimi, M. (2012). Grammar in the Language Classroom: A case study of Teachers' attitudes and their behavior in the class. *International Journal of Education* (2), 12-11. ISSN (online): 2244-1484, ISSN (print): 2244-1476.

Bruns, D. (2004). Support groups for single mothers in college. Academic Exchange Quarterly, 8(3), 101-106.

Cerven, C. (2013). Public and private lives: Institutional structures and personal supports in low-income single mothers' educational pursuits. *Education Policy Analysis Archives*, 21(17), 1-25.

Chevalier, A., & Viitanen, T. K. (2003). The long-run labour market consequences of teenage motherhood in Britain. *Journal of Population Economics*, 16(2), 323-343.

Chigona, A., & Chetty, R. (2008). Teen mothers and schooling: Lacunae and challenges. *South African Journal of Education*, 28(2), 261-281.

Creswell, J. W. (2005). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (2nd Ed.) New Jersey: Pearson Education Inc.

Duncan, A. (2011, June 12). Revamp No Child Left Behind-now politico.p.2.

Eccles, J., & Harold, R. (1993). Parent-school involvement during the early adolescent years. *Teachers College Record*, 94(3), 568-587.

Fenster, J. (2004). Can welfare mothers hack it in college? A comparison of achievement between TANF recipients and general population community college students. *Journal of College Student Retention*, 5(4), 421–430.

Gault, B., Reichlin, L., Reynolds, E., & Froehner, M. (2014, November). 4.8 million college students are raising children [IWPR #C424]. Washington, DC: Institute for Women's Policy Research. Retrieved from http://www.iwpr.org/publications/pubs/4.8-million-college-students-are-raising-children.

Haleman, D. L. (2004). Great expectations: Single mothers in higher education. *International Journal of Qualitative Studies in Education*. Special Issue: Conceptualizing Higher Education Students as Social Actors in a Globalizing World, 17(6), 769-784.

Jones-DeWeever, A. A. (2005). When the spirit blooms: Acquiring higher education in the context of welfare reform. *Journal of Women, Politics & Policy*, 3, 113-133.

Kahn, P., & Polakow, V. (2004). Student Mothers Fight to Stay in School under Michigan's Welfare-to-Work Regime. Shut out: Low income mothers and higher education in post-welfare America, 75.

Kaufman, C. E., De Wet, T., & Stadler, J. (2001). Adolescent pregnancy and parenthood in South Africa. *Studies in Family Planning*, 32(2), 147-160.

Kvale, S., & Brinkmann, S. (2007). Introduction to interview research. *Doing Interviews*, 2-11.

Mason, B. (2002). The academic, personal, and social barriers faced by low-income single mothers enrolled in institutions of higher

education, and their impact on academic persistence (Doctoral Dissertation).

McLanahan, S., & Sandefur, G. (2009). Growing up with a single parent: What hurts, what helps. Harvard University Press.

Miller, J. H. (1967). THE GENEVA SCHOOL: The Criticism of Marcel Raymond, Albert Béguin, Georges Poulet, Jean Rousset, Jean-Pierre Richard, and Jean Starobinski. *The Virginia Quarterly Review*, 43(3), 465-488.

Mullaly, R. P. (2002). *Challenging oppression: A critical social work approach*. Oxford University Press.

Ortigas, C. D. (1996). The Solo-parent Experience: A Growing Social Phenomenon: a Resource Guide for Creative Single-parenting. Office of Research and Publications, Ateneo de Manila University.

Polakow, S. S. Butler, L. S. Deprez, & P. Kahn (Eds.), *Shut out: Low-income mothers and higher education in post-welfare America* (pp. 75-96). New York, NY: State University of New York Press.

Theron, L., & Dunn, N. (2006). Coping strategies for adolescent birth-mothers who return to school following adoption. South African Journal of Education, 26(4), 491-499.

Snow, N. (2005). Perceived health needs of single mothers attending university in Newfoundland and Labrador: A focus group study (Master's thesis). Retrieved from ProQuest Dissertations and Theses database. (AAT MR06661)

Staff, M. W. (2004). Merriam-Webster's collegiate dictionary (Vol. 2). Merriam-Webster.

Stone, VN, Nelson, JR, & Nieman, J. (1994). Poor single-mother college students' views on the effects of some primary sociological and psychological belief factors on their academic success. *Journal of Higher Education*, 65(5), 571-583.

Yakaboski, T. (2010). Going at it alone: Single-mother undergraduate's experiences. Journal of Student Affairs Research and Practice, 47(4), 463-481.