

# Media and Information Literacy Skills of Senior High School Students of Andres Bonifacio College

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## ABSTRACT

Media and Information Literacy (MIL) refers to the essential capabilities embodying knowledge, skills and attitude that permits people to actively participate with media and other information providers effectively and enhance skills in critical thinking and lifelong-learning to socialize and participate in various societal activities. The research determined the level of Media and Information Literacy among Grade 12 students of Andres Bonifacio College. Using the Iranian Media and Information Literacy Questionnaire (IMILQ), a descriptive survey research was used in the collection of data. Out of 289 Grade 12 students of Andres Bonifacio College, only 168 students were taken as a sample and were further grouped according to gender and career strand. Sampling method was categorized random sampling. Data were analyzed by descriptive and inferential statistics. The findings showed that the mean level of Media and Information Literacy among Grade 12 students of Andres Bonifacio College students was 3.01 (interpreted as Good, and is higher than average). The highest mean was learning new subjects with 3.25 and the lowest mean was the use of Boolean operations in the research with 2.54. There was a significant mean difference in the levels of media and information literacy when participants were grouped according to career strand. The results showed that the students (especially from the Technical Vocational Livelihood track – Information and Communication Technology) did not have enough skills in starting the research, finding references and other media and other information resources, defining the research subject as well as the use of Boolean operations in the search. Generally, students, librarians and education practitioners should pay special attention to factors affecting in improving Media and Information Literacy level of students as a main capability in using printed and electronic resources for research and for other academic purpose.

**KEYWORDS:** Media and Information Literacy Skills, Students, Andres Bonifacio College, Information Literacy

## 1. INTRODUCTION

Media and information have become a strong catalyst in society's development today. Large number of information industries rapidly grows in developed countries. One has to think and believe that, for a developed society, the generation, organization, evaluation, and dissemination of information bears significant effect to the people. It is important to say that with the heavy flow of information, all must be able to find, organize and evaluate information for their educational and personal use. In a real-life situation, there is a need to develop independent learners, those who can search correctly and find relevant information for themselves.

Koltay (2011) emphasized that with the advent of digital technologies, awareness of media is of great importance. Media literacy, information literacy and digital literacy are the three most prevailing concepts that focus on key issues towards media messages.

In the Arab Region, universities lack autonomy and does not enjoy full governance and sustainable media and information resources. Centrally controlled by the governments through their ministries of higher education,

Arab universities are politically structured as rigid entities. As a result, they lost the mobility and the flexibility needed for innovation and creative thinking and have evolved into heavily bureaucratic institutions. They lost competitiveness against other universities abroad. Reforms are badly needed to decentralize the higher-education system toward full autonomy and governance, so as to act independently on curricula, programs, admission policies, tuition, and full freedom of thought, expression, and decision making, thereby creating an environment for enquiry and the quest for excellence in teaching, learning and research, and disseminating knowledge. Higher education in the Arab Region has expanded in the quantity of more traditional institutions, but not in quality and relevance (Badran, 2018).

In the Philippines, a law was passed in 2013 known as *Republic Act 10533 Enhanced Basic Education Act*, which adds two years of senior high school education. With the introduction of K-12 in the Philippines, the Department of Education has included Media and Information Literacy (MIL) as a core subject in the Senior High School curriculum.

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Although books are already available, the content focused more on media literacy rather than media and information literacy. Also, some important aspects in information literacy were not included. If a certain individual knows how to search reliable media and information, create and manage in a systematic and organized way, critical evaluation about the sources, with proper citation and follows standards and ways in treating media and information ethically, MIL will surely be materialized (Yap, Labangon, & Cajes, 2017).

Furthermore, Gatchalian (2018) agreed to the Department of Education's inclusion of MIL in the curriculum and further mentioned that it's not too early to educate the children at the very young age (kinder and elementary) by teaching the concepts of technology (computer and information science) for as long as they will be properly guided and informed about its use and importance. Gatchalian quoted DepEd Secretary Leonor Briones, where the latter, during the 2018 National Literacy Conference and Awards (NLCA) reminded everyone that the children must learn more than just reading and writing but also to master their knowledge in modern technology. Gatchalian, as the Vice Chairman of the Senate Committee on Education, encouraged everyone to pay attention on this matter because he believed that our country will prosper in terms of economic growth by gaining more knowledge in ICT and when children will be with us on this venture while they are still studying.

The Philippine Information Agency (PIA), led by the PIA Director-General Harold Clavite with Presidential Communications Operations Office (PCOO) Secretary Martin Andanar, during the launching of the Provincial Communications Network (PCO Net) and "Dismiss Disinformation Campaign" last June 22, 2018 at Bohol Tropics Resort, Tagbilaran City, Bohol, put emphasis on their advocacy campaign to push media and information literacy for the purpose of educating the people and the public regarding the ways and means to combat fake news or wrong information, and to promote cyber wellness. They made mention that each of us plays an important role in addressing the proliferation of fake news and instead, spread the good news to inform people that good news were overshadowed by bad news especially in the government that focused more attention on politicking information and the media (Bongosia, 2018).

The Philippines is new in the implementation of the Senior High program with Grade 11 enrolled during School Year 2016-2017. The country has a clearer model with at least four tracks (which include academics, tech-voc, sports, arts & design). Under the Academic track are: Accountancy, Business and Management (ABM); Science, Technology, Engineering and Mathematics (STEM); Humanities and Social Sciences (HUMSS); and General Academic Strand (GAS). There are four strands under the TVL track namely; Home Economics (HE); Information and Communications Technology (ICT); Agri-Fishery Arts (AFA); and Industrial Arts (IA). Other tracks include: Sports track which considers specialization in Human Movement, Sports Officiating and Activity Management; and Arts and Design track that focuses specialization on Developing Filipino Identity in the Arts, Leadership, and Management in Different Arts Fields (Department of Education [DepEd], 2016). In Andres Bonifacio College, the Academic Track (ABM, STEM, HUMSS, and GAS) and Tech-Voc Track (ICT) were being offered.

The Andres Bonifacio College, in response to the Department of Education's inclusion of Media and Information Literacy

as core subject for senior high school, is very positive about the students' learning outcome. As a pioneer builder of leaders, the administration in collaboration with the senior high school principal takes action in order to satisfy the learning needs of the students in this era of digitization (A. Atenta, personal communication, August 1, 2018). D. Maneja mentioned the role of the library as information center to acquire more library resources relevant for research, media, and information (personal communication, August 1, 2018). Furthermore, based on observation, the researcher found out that students need assistance in their research work and any other library services especially in times where they just came inside the library to look for thesis and other research output. This motivated the researcher to conduct study in order to assess the media and information literacy level of students and become future ready.

### Perspective of the Researcher

The researcher is the son of Mr. and Mrs. Apolio and Charito Rusiana. He was raised from Sto. Niño, Polanco, Zamboanga del Norte. As the second of the six siblings, he knows the responsibility of helping each other as one member of the family called home. Driven by the love and support of his parents, he has all the motivation to grow and develop into a mature one in order to cope up the changing demands of our human environment.

During his elementary and high school years, he was a consistent honor student and graduated valedictorian and first honorable mention, respectively. On March 28, 2015, he finished the degree in BS Accountancy. Despite his academic achievements, he failed to pass the CPA Board Exam given on October 2015 at Cebu City.

He started his first job as Accounting Staff in an automotive and maintenance industry in Quezon City, Manila. After working for couple of months, due to environmental factors affecting his health, he was thinking of leaving Manila and just work nearby his family. He then applied at Andres Bonifacio College and luckily hired immediately. The only position available at that time was a Library staff. He took the challenge and decided to realign himself to Librarianship. With the motivation and support of his colleagues, he enrolled Master in Library and Information Science at Saint Columban College, Pagadian City.

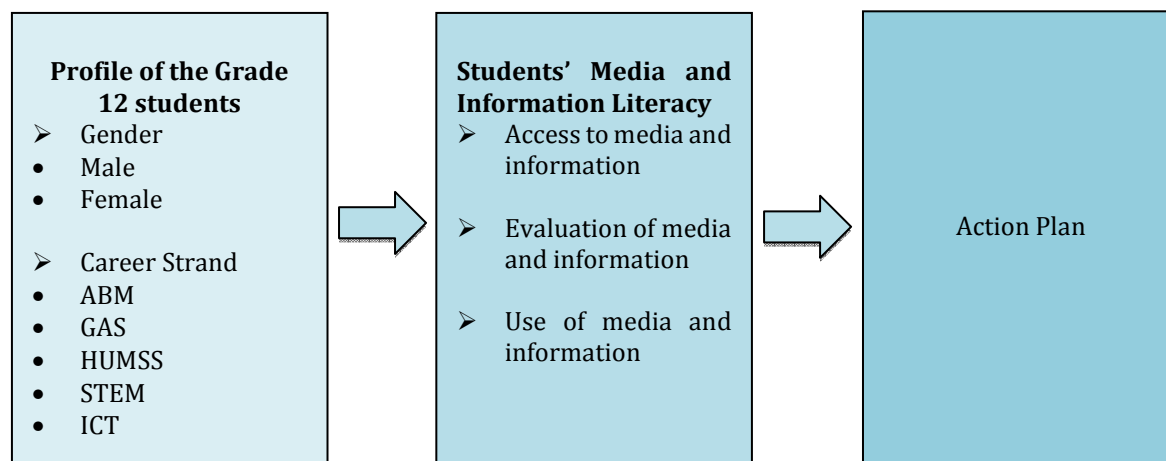
For over two years working in the library, he wanted to do more on what the library can offer to students or its patrons – an environment where people will truly see it as a growing organism. As an information center, access to media resources and information literacy are helpful tools in shaping the minds and the future of the youth. As digital natives, information literacy plays a vital role in academic environment since developments in informational and technological environments have given students access to vast amounts of information that is often unsupported, unfiltered and unreliable (Shorsher & Bronstein, 2018). With this, Librarians are encouraged to guide the students' research endeavours and other forms of explorations. Librarians (mainly, traditional librarians) are expected to expand their horizons in order to fulfil their modern duties and adapt to new technologies.

### Conceptual Framework

Figure 1 shows the conceptual framework of the study. The profile of the research participants included the gender (Male and Female) and career strand (ABM, GAS, HUMSS, STEM, and ICT). The dependent variable comprised the

students' skills in media and information literacy in terms of access, evaluation, and use of media and information. An action plan was developed to improve the students' level of MIL.

The study is patterned on the research of Ashrafi-rizi, Ramezani, Koupaei, and Kazempour (2014) where they introduced access, evaluation, and use of media and information resources as the three dimensions in media and information literacy.



**Figure 1 Conceptual Framework of the Study**

This study further corresponds to Social Cognitive Theory where the key concepts and its contribution and value to information science researches relate to the behaviour of students in seeking information and its uses for knowledge sharing (Middleton, Hall, & Raeside, 2018).

#### Statement of the Problem

The study assessed the media and information literacy level of students. It focuses in Andres Bonifacio College, Dipolog City, utilizing the Grade 12 students as research participants. The study conducted during the school year 2018-2019.

Specifically, it aimed to answer the following queries:

1. What is the profile of the Grade 12 students in terms of:
  - 1.1. Gender; and
  - 1.2. Career strand?
2. What is the level of students' media and information literacy in terms of the following dimensions:
  - 2.1. Access to media and information;
  - 2.2. Evaluation of media and information; and
  - 2.3. Use of media and information?
3. Is there a significant difference in students' media and information literacy when participants were grouped according to gender and career strand?
4. What action plan can be developed to improve students' level of MIL?

#### Hypothesis

The hypothesis below was tested using the 0.05 level of significance:

1. There is no significant difference in students' media and information literacy when participants were grouped according to gender and career strand.

#### Scope and Limitations of the Study

The study assessed the students' media and literacy skills. However, it was limited only to competencies in MIL through proper assessment of students' literacy level in terms of use, access, and evaluation to media and information. It also focused on students' profile according to gender and career strand.

#### The study covered the following parameters:

**Subject Matter:** The study focused on the assessment of media and information literacy skills and their relations to gender and career strand.

**Research Environment and Timeline.** The research was conducted in Andres Bonifacio College, Dipolog City during the school year 2018 – 2019.

**Research Participants:** The study was participated in by Grade 12 students.

**Research Design:** The researcher employed the descriptive method of gathering data and information necessary to solve the problem.

**Research Instruments:** The instrument used in the study was the checklist questionnaire which included the gender and career strand of the grade 12 students.

#### Significance of the Study

The significance of the study lied in its capacity to bring into the surface valuable insights on the interfaces of students' media and information literacy. The role of the library in providing relevant information for research and for other academic purpose highlighted the call for action and interaction among librarians, students, and teachers. With this, an action plan was designed to strengthen the knowledge of students' Media and Information Literacy, improve the research skills of the Andres Bonifacio College students where the library will serve as a channel in improving the students' information literacy level.

Specifically, this study was seen as beneficial to the following individuals and groups who were considered the direct recipients of the results of this investigation:

**Students:** Any result in this study on the level of their media and information literacy skills would be given attention to enhance and to ensure that students would be media and information literate;

**Teachers:** As educators, the findings of this study would motivate teachers to find ways and improve their teaching methods and strategies to ensure student's media and information literacy skills well developed;



**Librarians:** This would help librarians to design and provide better and enhanced library services through information literacy program;

**Administrators:** The findings would serve as basis to give full support whatever enhancement program on students' media and information literacy skills; and

**Future researchers:** This study would provide baseline data needed for further study. Other researchers who might find the necessity of conducting a related but more unwavering study that would focus on more sophisticated records and employ more complicated research designs.

### Definition of Terms

The following terms were operationally and/or conceptually defined to better understand the content and purpose of this study:

**Access:** The ability to locate media and information resources (such as books and other materials) in print or non-print.

**Career Strand:** As used in the study, this is the K-12 strands where students can choose what area of specialization they want to pursue and prepare for college. This includes strands from the Academic Track: 1. Accountancy, Business and Management (ABM); 2. General Academic Strand (GAS); 3. Humanities and Social Sciences (HUMSS); 4. Science, Technology, Engineering, and Mathematics (STEM); and from the Technical-Vocational-Livelihood (TVL) Track by which the Andres Bonifacio College offers only for Information Communication Technology (ICT) strand.

**Digital Natives:** Those who have used mobile phones, the internet, and have been familiar with information technology since they were a child.

**Evaluation:** Awareness and consideration that each media and information was created by someone and thereby recognizing his/her credibility as a source.

**Gender:** Refers to being male or a female.

**Information Communication Technology (ICT):** Information Communication Technology is a support system and readily available pool of its ICT – trained workers.

**Information Literacy:** The ability to determine the needed information – how to locate or retrieve, evaluate, use and understand the ethical and legal issues of information.

**Information Literacy Program:** Set of activities to be done by the library in collaboration with the faculty to help student improve their information literacy skills.

**Media and Information Literacy (MIL):** Refers to the knowledge, skills and attitude that permits people to actively participate with media and other information providers effectively and enhance skills in critical thinking and lifelong-learning to socialize and participate in various societal activities (UNESCO, 2011). As used in this study, it refers to the essential skills of the grade 12 students in terms of access, evaluation, and use of media and information.

**Media Literacy:** The knowledge and skills necessary to understand the mediums and formats in which data and knowledge are created, stored, communicated, and presented.

**Use:** Refers to the way how the students apply and demonstrate media and information – that a new knowledge

will be created out of the resources and that initiates application to private and social life.

### Structure of the Thesis

The study consists of five chapters. Chapter 1 covers the problem of the study which includes the introduction, perspective of the researcher, conceptual framework, statement of the problem, scope and limitations of the study, significance of the study, definition of terms and the structure of the thesis. Chapter 2 reviews the related literature. Chapter 3 discusses the research methodology. Chapter 4 presents, analyse and interprets the data. Chapter 5 presents the summary of findings, conclusions and recommendations.

### 2. Review of Related Literature

This chapter presents the review of related literature and issues that would enrich the knowledge of the readers and deepen their understanding of media and information literacy. In order to better understand its concept and importance, there should have a broad working knowledge of media and information literacy from a variety of angles.

#### Media and Information Literacy (MIL) Skills

Media and Information Literacy Skills is a set of skills to access, retrieve, understand, evaluate and use information and media content in all formats with due care and observance of ethical standards in order to participate and engage in personal, professional and societal activities (UNESCO, 2011).

Van Deursen and Van Dijk (2014) introduced MIL skills (operational, formal, information, communication, content creation, and strategic skills) in the era of digitalization and confirmed that less attention has been given to information literacy skills - the capacity to search, evaluate, and select information in digital media. As there is a rapid growth of information, to select and evaluate information becomes crucial. When students grow up into mature one and work in the society, to explore, select and evaluate information are very much important.

Silva (2009) stressed that the essence of 21st-century skills focused on students' capacity to influence others through sharing the knowledge acquired rather than just merely acquiring it. It is important to note that MIL does not end by just consuming information. It works effectively when it is being produced, reproduced or shared.

Youth and adults who are media literate truly appreciate and understand the complexity of messages transmitted over radio, television, internet, books, and other media and information sources (3G ELearning FZ LLC, 2016). Apart from this, Palfrey (2016) in his article, made mention about the importance of privacy in sharing information especially on social media. The use of digital media, specifically social media, changed the young people's learning and growth process. This was in connection to how they interact to one another, to information, and to the society. With this, an idea to protect the youth's privacy calls to filter the information provided online and offline. Youth did not care about it, not knowing that the information they provide will be fetched by anyone without their knowledge. The youth or the people must be able to manage information shared online or offline and must think before they post something or provide information which are confidential. This agrees to the idea of Nayar (2015) to "Think before you click" – where social media (like facebook, twitter, snapchat, instagram and the

like) takes a huge part in people's daily lives activities. Posting or sharing something about adventures and other activities were commonly done by people just to get comments and likes from friends. Having fun is not about getting lots of likes and comments but it is all about enjoying the things that you are doing and moments of being out.

As more and more students depend much on social media as a medium of learning (informal learning), they tend to forget the foundational practice of education – to use books instead of online reading or social media. This creates dilemma for schools or colleges to combat student's dependency on social media. Daily or monthly, new and exciting forms of social media appear. Thus, would greatly affect the future generation as they will treat and define this kind of learning differently (Dede, 2016).

An online survey for college students conducted by Van de Vord (2010) highlighted the need for students (specifically distance students) to critically evaluate information (mainly online information) as to its reliability and credibility. It was found out that students were dependent on the web for their research needs with the use of generic search engines instead of accessing the online library databases. The study resulted in a positive relationship between Media literacy and Information literacy which are essential to build up skills and cope up the demands of the 21<sup>st</sup>-century media and information society.

Culver and Grizzle (2017) in their survey on privacy in media and information literacy with youth perspectives, it is important to be careful in accessing and locating important and factual information and content in media in order to come up with a sound and reliable data and information.

In Hong Kong and mainland China, a shift from media literacy to media and information literacy showed positive effects in the area of education. Although both regions differed in terms of their educational practices (as Hong Kong put emphasis on developing the skills of the students while mainland China focused on leading students to better understand the uses of media and information), they both shared common goals of enhancing the knowledge of young citizens in facing the 21st-century challenges (Lee, 2014).

With the recent developments and advances, technology in education becomes virtually a new source of concern for educators and students (Thokchom, 2013). Technology is successfully utilized in resolving many of our problems hence its success is generalized to the teaching-learning situations. Information Communication Technology (ICT) has emerged as a powerful tool for providing educational opportunities to various learners in both formal and informal system. Integration of such, in education, can be achieved as a subject area, or used as a teaching tool, administrative and automation tool and most importantly as a medium of knowledge exchange.

Media and Information Literacy education in Japan puts emphasis on fostering globalization and bringing new concepts and opportunities in the era of digitization to better understand differences in cultures and traditions and how technology and media change the way they live. With government intervention, MIL was not fully realized as they limit only to the use of computer and theoretical aspects of information and ethics. The government of Japan did not fully understand the purpose of MIL in bringing citizens to uphold their rights to freedom of expression and information

in a democratic society. The government tends to be more conservative in their policy by narrowing the definition and essence of MIL instead of teaching the students on how to use, create, evaluate and access media spontaneously because they believed that MIL has negative effects as they meant it will block harmful information from youths (Murakami, 2014).

In Australia, Queensland University of Technology (QUT) supports the implementation of MIL in a manner that various seminars and research projects relating to Media and Information were conducted. To name the few were QUT-UNESCO Online Course in Media and Information Literacy and Intercultural Dialogue and the Arts Pop website. With this, QUT continues to share and network people its knowledge and expertise in MIL.

The influx of media tools such as the internet and other digital resources greatly affect the people in Nigeria the way they relate and interact with one another. A study conducted by Omunah (2014) revealed that the integration of MIL in societal activities is beneficial to the government and to the people in uplifting their literacy level in media and information systems. The development of MIL policy and guidelines promote fairness and equality in terms of access to information and media and to fully realize their rights to enjoy the freedom of expression. MIL offers many great opportunities to the people especially the young citizens for research and other educational development. Awareness and understanding about the existence of MIL give light to the unaware and interest to those who didn't care. Various efforts were made in the development of MIL to eradicate the distinction between those who are able and unable to access media and information and give equal opportunities to find, use and apply information for decision making.

Information literacy provides learning not just for students but also for teachers. This helps acquire and identify skills and tasks - to be able to interpret the information and to show the result thereof. But not all are willing to acquire this skill and evaluate what they have. It is also important that students know how to evaluate the information they have especially websites since this information is growing faster nowadays and in the future generation. A study of this information is highly needed especially its meaning in order to have an idea on it and how to counter the unrealistic reports regarding those matters. That is why skills must be present to do it. Awareness of information literacy improves students' levels of information in this media and digital world (Sunaga, 2016).

Media and Information Literacy is an important aspect in life that needs to be known and practiced by everyone. People must have knowledge on how to use this kind of media and information in a good, legal and ethical ways. It needs skills and practice in order for them to access, analyze and communicate messages or information into a variety of forms (International Federation of Library Association [IFLA], 2012).

The Association of College and Research Libraries (ACRL) set the Information Literacy Competency Standards for Higher Education consists of 5 standards and 22 performance indicators. The five competency standards include Standard 1: *Determining the nature and extent of the information needed*; Standard 2: *Accessing needed information efficiently and effectively*; Standard 3: *Evaluating information and its*



*sources critically; Standard 4. Using information effectively to accomplish a specific purpose; and Standard 5. Understanding many of the ethical, legal, and social issues and uses information ethically and legally* (ACRL, 2000).

Based on these standards, Dayanan (2014) assessed the information literacy skills of 3<sup>rd</sup> year students and concluded that they are highly capable in evaluating information and its sources critically and in incorporating selected information into their knowledge base and value system. On the other hand, students have low capability in understanding many of the ethical and legal issues, and in using information ethically and legally.

### Gender Awareness and Differences

According to Wood and Oraiz (2017), we can never fully appreciate or understand people's lives that are different from us. Gender awareness is an important aspect in life that needs to be taken seriously. It might be that men can do better than women or women can do better than men. It could also be that men and women can do certain thing nearly on the same level. It is the social system that pays unequal opportunity and value in terms of gender.

Singh, Grizzle, Yee and Culver (2015) emphasized in ensuring inclusivity and equal opportunity to quality education that opens the gateway for a lifelong learning and in achieving gender equality and girls and women empowerment.

All the mentioned studies/literature dwelt on the importance of media and information literacy in the area of education and the society in general. The present study dealt with Media and Information Literacy Skills of Senior High School Students of Andres Bonifacio College. This focused mainly on information literacy with a touch of media literacy where the library can offer at its best.

### 3. Research Methods

This chapter presents the methods of research used in the study. It includes discussion on the research design and research methods covering the research environment, research participants, sampling techniques, research instrument, data gathering techniques, statistical treatment and ethical considerations in research.

#### Research Design

This study employed the descriptive survey method of gathering data and information necessary to solve the major problem and its subsidiary problems. Calmorin (2016) defined descriptive method as the study that focuses at the present condition to find the new truth. The truth may have different forms such as quantity of knowledge, a new generalization or an increased insight, a more accurate formulation of the problem to be solved and many others.

The researcher opted to use this kind of research considering the desire to acquire first hand data from the participants so as to formulate rational and sound conclusions and recommendations for the study. According to Matira (2014), the descriptive method of research aims to describe existing beliefs, opinions or conditions. Since this study is focused on media and information literacy of Grade 12 students, the descriptive method is the most appropriate method to use.

#### Research Environment

This study was conducted at Andres Bonifacio College – Senior High School Department, a private school in Miputak, Dipolog City.

Dipolog City is the capital of Zamboanga del Norte where it bounded on the North by Dapitan City, on the East by the Municipality of Polanco, on the South by the Municipality of Katipunan and on the West by the Sulu Sea with a total area of 13,628 hectares. A map of Dipolog City is presented as Figure 2.



Figure 2 the political map of Poblacion, Dipolog City

Legend: ■ - Andres Bonifacio College

Started as Andres Bonifacio Institute with seven students and five faculty members, the Andres Bonifacio College is one of the foremost educational institutions in Region IX offering over 55 degree and diploma programs and produced over 20,000 professionals in the fields of Law, Graduate Studies, Nursing, Business and Accountancy, Engineering (Geodetic, Mechanical,

Civil, Electrical, Computer, Electronics), Education, Agriculture, Criminology, Computer Science, Mass Communication, Political Science, Mathematics, English and Vocational/Technical.

With the advent of technology, the College has enlivened to a more comprehensive program in upgrading learning resources and providing top of the line facilities. With quality education, it continued to produce quality graduates with the help of the faculty and staff, where new and better opportunities open the gates for its students. The five-storied Science and Technology Building where the third floor was temporarily occupied by the senior high school as construction for the new building is still ongoing, houses the Speech, Computer, Biology, Chemistry, Physics, Nursing Skills and Engineering laboratories.

Another five-storied building, the Graduate and Professional Schools Building houses the Main Library, the School of Law, the School of Business and Management Education, School of Teacher and Basic Education, the Theater, the Gallery, the Memorabilia Room, and the Clock tower, was opened last 2010.

Construction is currently on-going on the five-storied building that will house the High School Library, Junior and Senior High School Departments where just recently, the first and second floors were already occupied by Grades 11 and 12 of the senior high.

At the heart of these expansion and development endeavors lies the Institution's deep commitment to the ideals of the founder in embracing the core values of industry, intelligence and integrity.

### Research Participants

The target participants of the study were the Grade 12 students during the school year 2018 – 2019. All the detailed data and information were collectively gathered from the office of the registrar. Table 1 shows the complete numeration of students by strand and gender with corresponding sample sizes and percentages.

**Table 1 The research participants**

No.	Career Strands	Male	Female	Total		Percentage
		<i>N n</i>	<i>N n</i>	<i>N</i>	<i>n</i>	
1	ABM	21 12	40 23	61	35	20.83
2	GAS	25 15	12 7	37	22	13.10
3	HUMSS	18 10	39 23	57	33	19.64
4	STEM	69 40	56 33	125	73	43.45
5	ICT	5 3	4 2	9	5	2.98
	Total	138 80	151 88	289	168	100.00

The Grade 12 students of Andres Bonifacio College had a total population of 289 students and only 168 of them were taken as a sample. The STEM strand has the highest number of participants with seventy-three (73) students (40 males and 33 females). The lowest number of participants was from the ICT with 5 students (3 males and 2 females).

### Sampling Techniques

The statistical population composed of 289 senior high school students. With the use of Slovin's formula,  $n = N / (1 + Ne^2)$ , [where (n) is the sample size, (N = 289) is the population size, and a margin of error ( $e = .05$ )], the sample volumes totalled to 168 students. Matira (2014) found Slovin's formula as one of the most commonly used formulas in ensuring the adequacy of the sample size.

A random categorized method of sampling is considered, and each strand and gender will be considered as category. The number of sample will be measured proportion to the students of each track or strand and gender.

### Research Instrument

The instrument used in the study was the modified questionnaire patterned from the study of Ashrafi-rizi et al. (2014) using the Iranian Media and Information Literacy Questionnaire (IMILQ). The questionnaire was divided into two parts. The first part of the instrument asked about the profile of participants in terms of gender and career strand, and the second part aimed to assess the media and information literacy skills of the students. The validity and reliability of the questionnaire, according to the source, were confirmed by the Library and Information Sciences specialists.

The researcher used the questionnaire to find out the answers of the participants to the specific questions asked. There have been 3 dimensions in second part of the questionnaire: the first dimension is *access* (questions 1-6); the second one is *evaluation* (questions 7-17); and the third dimension is *use* (questions 18-24). The questionnaire used the four-point scale. The data were interpreted using the following hypothetical mean range: 1.00 – 1.75 = Poor, 1.76 – 2.50 = Fair, 2.51 – 3.25 = Good, 3.26 – 4.00 = Very Good

### Data Gathering Techniques

The researcher sent a letter to the office of the Senior High School Principal of Andres Bonifacio College asking endorsement for the conduct of the study (see Appendix A). Then sought permission from the Office of the College President for approval.

Upon approval, the researcher secured the list of Grade 12 students (by strand) enrolled during the first semester SY 2018-2019 from the Office of the College Registrar. The researcher then personally distributed the questionnaires to the students to ensure its retrieval. All the data and information collected from the research subjects were tabulated, analysed and interpreted.

### Statistical Treatment

The study utilized descriptive statistics and inferential statistics. Descriptive statistics (number, percent, and mean) and inferential statistics (z-test, ANOVA) were used in analyzing the data. In order to generate more accurate results in testing the hypothesis, the processing of the data were first computed with the use of the following formula for Z-test and one-way Analysis of Variance (ANOVA).

Hypothesis testing is the use of statistics to determine whether to accept or reject the given hypothesis (usually, the default hypothesis or the null hypothesis). When testing the hypothesis, it is important to know whether you are doing descriptive or experimental research. Calmorin (2016) stated that in testing for significant difference, the use of Z-test (when looking for significant difference of two variables) is applicable for descriptive research and Analysis of Variance (when looking for significant difference of three or more variables) is used instead of having a repetitive job for z-test.

This study used z-test to test the significant difference of students' media and information literacy when grouped by gender (male or female); and one-way analysis of variance (ANOVA) was applied to test the significant difference of students' media and information literacy when grouped according to career strand (ABM, STEM, HUMSS, GAS, & ICT).

### Ethical Considerations in Research

The following ethical considerations were observed during the conduct of the study: 1. For formality purpose and respect to the administration of Andres Bonifacio College, the researcher sent a letter asking permission from the Office of the Senior High School Principal and approval from the College President; 2. Upon approval, the researcher introduced himself to the research participants and explained the purpose and content of the research; and 3. Research participants were given enough time to decide on what will be their responses to the questions given; 4. The privacy of individuals were ensured with due care and confidentiality – that everything written / answered by the participants should be for the sole purpose of the study; and that any information that could cause harm to the study would be avoided.

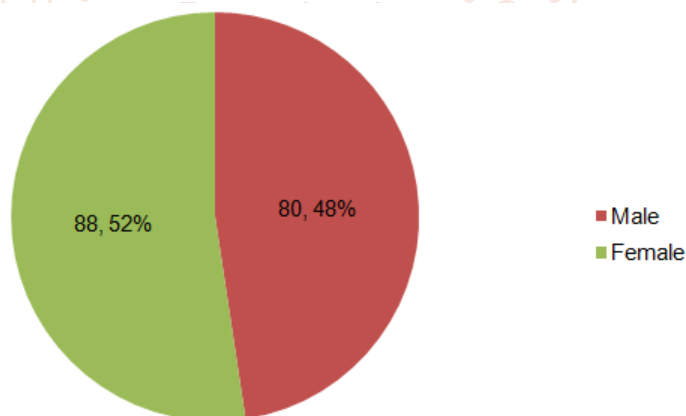
### 4. Presentation, Analysis and Interpretation of Data

This chapter presents, analyses and interprets the data on the profile of the Grade 12 students in terms of gender and career strand, and their levels of media and information literacy in terms of access, evaluation, and use of media and information. After a careful evaluation of the data collected, analysis and interpretation of such data are presented in textual, graphical and tabular form to answer the specific and salient problems of the study.

#### Profile of Senior High School Students (SHS)

The profile of SHS included in this study were gender and career strand.

Gender: Figure 3 presents the profile of the research participants in terms of gender.



**Figure 3** Profile of Grade 12 students in terms of gender

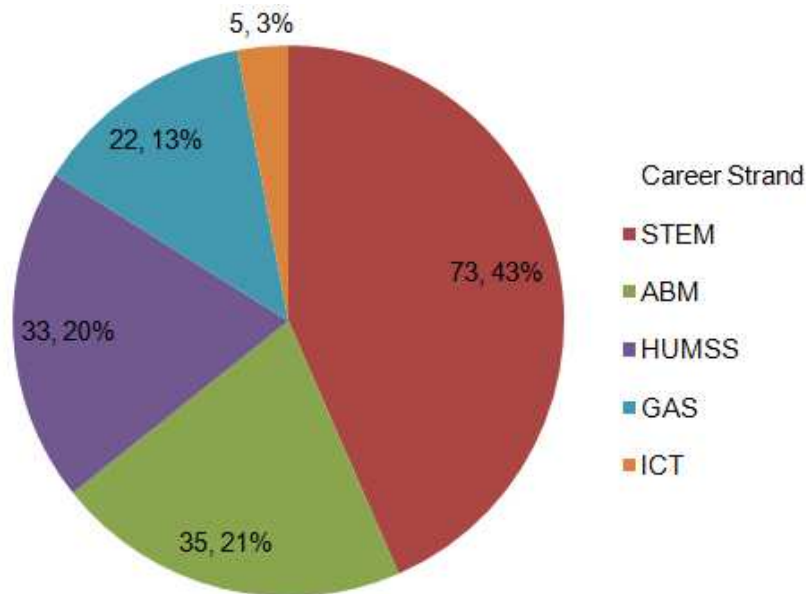
Figure 3 shows that 88, or 52% of the participants are female, and 80, or 48% are male. This variable is deemed important because differences in gender may imply differences in behaviour and expression, thus how male and female interact and express their thoughts and concerns may vary.

According to Wood and Oraiz (2017), one can never fully appreciate or understand people's lives that are different from us. Gender awareness is an important aspect in life that needs to be taken seriously. It might be that men can do better than women or women can do better than men. It could also be that men and women can do certain things nearly on the same level. It is the social system that pays unequal opportunity and value in terms of gender.

**Career Strand:** Career strand is the baseline to guide the students whether they want to proceed to college or start their own business after finishing Grade 12. This includes strands from the Academic Track: 1. (ABM); 2. (GAS); 3. (HUMSS); 4. (STEM); and from the Technical-Vocational-Livelihood (TVL) Track in which the Andres Bonifacio College offers only for Information Communication Technology (ICT) strand.

Figure 4 shows the profile of SHS students in terms of career strand. In terms of career strand, 43% of the participants were from STEM, 21% belonged to the ABM, 20% were from HUMSS, 13% were from GAS, and the lowest at 3% were from the ICT. The data find support from the research of Danilo and Orale (2016) which found that majority of the students who choose academic track (STEM, ABM, HUMSS, & GAS) are those who have plans to proceed to college while only few enrolled the technical vocational track (like ICT and Home Economics).





**Figure 4** Profile of Grade 12 students in terms of career strands

The data are helpful in finding the results as to what strand has high or low level in media and information literacy. These have given the researcher an idea on what strand would be given much attention and in what area they needed to improve.

#### Level of SHS Students' Media and Information Literacy Skills

Media and Information literacy (MIL) skills were assessed in terms of access, evaluation, and use of media and information. Tables 2 to 5 present the data on MIL skills of SHS students of Andres Bonifacio College.

*Access.* The data on Media and Information Literacy skills of SHS students are presented in Table 2. As shown, the overall mean for media and information literacy skills in terms of access was pegged at 2.86, interpreted as good.

**Table 2** Level of SHS students' media and information literacy skills in terms of Access

	A. Access	Mean	Interpretation	Rank
1	Ability to start research individually	2.79	Good	5
2	Ability to define the subject of the research	2.88	Good	4
3	Ability to obtain article/s existing in the library website and other sites	2.96	Good	2
4	Ability to know information resources	3.04	Good	1
5	Ability to find current or updated resources	2.95	Good	3
6	Uses Boolean operations (AND, OR, NOT) in the search	2.54	Good	6
	Overall Weighted Mean	2.86	Good	

Hypothetical mean range:

3.26 – 4.00 – Very Good

2.51 – 3.25 – Good

1.76 – 2.50 – Fair

1.00 – 1.75 – Poor

The table also shows that Item number 4. Ability to know information resources has the highest mean of 3.04, rated as good while the use of Boolean operations (AND, OR, NOT) has the lowest mean of 2.54, interpreted as good but was closer enough to the fair level. Although the result was good, there were still indications that students need more improvement and assistance especially in their research endeavour.

This result supported the claim of Ashrafi-rizi et al. (2014) in the study conducted on “The amount of MIL among Isfahan University of Medical Sciences' students”, where findings showed that students have difficulties to do the research and found it difficult to define the subject of the research.

According to Culver and Grizzle (2017) in their survey on privacy in media and information literacy with youth perspectives, it is important to be careful in accessing and locating important and factual information and content in media in order to come up with a sound and reliable data and information.

Based on the second standard on information literacy competency standards for higher education, it stated that an information literate student accesses important or needed information effectively and efficiently where student selects the most appropriate investigative methods or information retrieval systems for accessing the needed information. Using various methods, he retrieves and finds information through online research or in person. He cultivates and enhances strategies for research and manages to extract or filter relevant information (ACRL, cited in Dayanan, 2014).

*Evaluation:* Table 3 presents the data on SHS students media and information literacy skills in terms of evaluation.

**Table 3 Level of students' media and information literacy skills in terms of evaluation**

	B. Evaluation	Mean	Interpretation	Rank
1	Considers the creator's reputation	3.19	Good	3
2	Considers the reputation of media providers or publishers	3.14	Good	5
3	Considers the date of publishing and its updating	3.24	Good	1
4	Considers the references of the media and information resources	3.12	Good	6
5	Considers that the media comprising different points of view or particular sight to the subject of itself	2.97	Good	8
6	Considers the language and other tools used for transferring concepts in the media	2.99	Good	7
7	Considers why some presented images of some media seems more real than others	2.95	Good	10
8	Using others' assistance (librarians, classmates, friends, family, professors and professional) for evaluating the relevant media and information	3.18	Good	4
9	Surveying the information of other websites while surveying a new website	2.96	Good	9
10	Comparison of other media data	2.93	Good	11
11	Taking note and summarizing while looking for data	3.23	Good	2
	Overall Mean	3.08	Good	

Hypothetical mean range:

3.26 – 4.00 – Very Good

2.51 – 3.25 – Good

1.76 – 2.50 – Fair

1.00 – 1.75 – Poor

The overall mean for media and information literacy in terms of evaluation was 3.08, interpreted as good. The highest mean of 3.24, interpreted as good was from item number 3, consideration of date of publication and its updating. Item number 10, comparison of other media data, has the lowest mean of 2.93, still interpreted as good.

The result indicates that there are many things to consider in terms of evaluation to media and information. Based on the third standard on information literacy competency standards for higher education, an information literate student is able to evaluate sources and information critically and integrates chosen data or information into his knowledge; he summarizes relevant ideas extracted from data gathered; he has the idea to compare both knowledge (new and prior knowledge) to find out the value and distinct features of information; he determines that the new knowledge and information gathered will have an impact to the individual or society's value system and take actions to settle differences; and he performs extra care for the validation, interpretation and understanding of information with experts, practitioners, and other individuals (ALA, 2000) cited by Dayanan (2014).

Use. Table 4 presents the data on media and information literacy of Grade 12 students in Andres Bonifacio College in terms of use of media and information.

The overall mean for media and information literacy skills in terms of use was 3.08, interpreted as good. The highest mean of 3.25, interpreted as good was from item number 3, learning new subjects. The lowest mean of 2.87, interpreted as good was from item number 4, promoting scientific degree of studies.

**Table 4 Level of media and information literacy in terms of use**

	C. Use	Mean	Interpretation	Rank
1	Considers the length and structure of the article and the number of the citations	3.15	Good	2
2	Improving the writing, research, and analytic skills	3.13	Good	3.5
3	Learning new subjects	3.25	Good	1
4	Promoting the scientific degree	2.87	Good	7
5	Effort to make more creativity and initiation in the research	3.04	Good	5
6	Promoting others' work or creation	3.01	Good	6
7	Writing the content in a way that will lead to new knowledge	3.13	Good	3.5
	Overall Mean	3.08	Good	

Hypothetical mean range:

3.26 – 4.00 – Very Good

2.51 – 3.25 – Good

1.76 – 2.50 – Fair

1.00 – 1.75 – Poor

Based on the fourth standard on information literacy competency standards for higher education, it stated that a student, to be information literate, individually or as an individual member of the team, uses information with wills and determination to realize the purpose of the research and other specific purpose; he, as individual has the innovative ideas to relate and apply new knowledge and old information to create new ideas in order to communicate and share it to others (ALA, 2000) cited by Dayanan (2014).

Summary Data on the Level of Media and Information Literacy Skills of SHS Students

Table 5 presents the summary on the levels of media and information literacy of Grade 12 students of Andres Bonifacio College in terms of access, evaluation and use.

**Table 5 Summary data on the level of SHS students' media and information literacy skills**

Dimensions of MIL	OWM	Interpretation	Rank
A. Access	2.86	Good	3
B. Evaluation	3.08	Good	1.5
C. Use	3.08	Good	1.5
Overall Mean Response	3.01	Good	
Hypothetical mean range:		3.26 – 4.00 – Very Good	
		2.51 – 3.25 – Good	
		1.76 – 2.50 – Fair	
		1.00 – 1.75 – Poor	

The grand mean for media and information literacy in terms of access, evaluation, and use was 3.01, interpreted as good. Due to rounding of decimal points to the nearest hundredths, the highest mean of 3.08, interpreted as good was from indicators B, evaluation and C, use of media and information, respectively. Indicator A, access to media and information has the lowest mean. The result agreed to the result of the study of Ashrafi-rizi et al. (2014) where access has the lowest mean.

#### Testing of the Hypothesis

The hypothesis below was tested using the 0.05 level of significance:

1. There is no significant difference in students' media and information literacy when participants were grouped according to gender and career strand.

Table 6 presents the result of the Z-test of significance on the mean difference in the amount of media and information literacy of the participants according to gender. Result shows that at 0.05 level of significance, the computed value for z-test is equal to 0.95 which is lower than the tabulated value for z-test (z critical value) of 1.96. This means that there is no significant difference in the amount of media of media and information literacy when participants were grouped according to gender. This further implies that how male and female participants treat media and information doesn't significantly differ.

**Table 6 Z-test of significance on the significant difference in media and information literacy skills among Grade 12 students when grouped by gender**

	Male	Female
Mean	3.061979167	2.994318182
Known Variance	0.2387	0.1861
Observations	80	88
Hypothesized Mean Difference	0	
z	0.947580544	
P(Z<=z) two-tail	0.343343035	
z Critical two-tail	1.959963985	
Interpretation	Not Significant	Accept H <sub>0</sub>
Level of significance	0.05	

The result corresponds to the study of Singh, Grizzle, Yee and Culver (2015) that emphasized in ensuring inclusivity and equal opportunity to quality education that opens the gateway for a lifelong learning and in achieving gender equality and girls and women empowerment.

Correspondingly, a study conducted by Ashrafi-rizi et al. (2014) about MIL among Istafan University of Medical Sciences' (IUMS) students based on gender showed that at  $\alpha=0.05$ , there was no significant difference at significant level 1.02 (higher than  $\alpha=0.05$ ).

Table 7 presents the result of the ANOVA test of significance on the mean difference in the amount of media and information literacy of the participants according to career strand. Result shows that at 0.05 level of significance, the computed value for ANOVA is equal to 2.8166 which is greater than the tabulated value (F critical value) of 2.4271 with the degree of freedom 4/163. This means that there is a significant mean difference in the amount of media and information literacy when participants were grouped according to career strand. This further implies that how participants, when grouped according to career strand treat media and information differ significantly.

**Table 7 ANOVA test of significance on the mean difference in the amount of media and information literacy of Grade XII students in Andres Bonifacio College by career strand**

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2.278563	4	0.569641	2.8166	0.027	2.4271
Within Groups	32.96597	163	0.202245			
Total	35.24453	167				
Interpretation	Significant		Reject H <sub>0</sub>			
Level of significance	0.05					

Danilo and Orale (2016) in their study, made mention that there are stigmas in the technical vocational track (like ICT and Home Economics) as people see it as the course for students who have low performance and have problems in their studies.

Furthermore, in the study of Ashrafi-rizi et al. (2014), result showed that at 0.05 level of significance, there is a significant mean difference in MIL based on department.



### Action Plan

Based on the findings, an action plan was developed to take steps in order to enhance the information literacy level of students especially in the areas of research. An *action plan* lists steps to be taken in order to attain a specific goal. The purpose of this *action plan* is to clarify what resources are required to reach the goal, formulate a timeline for when specific tasks need to be completed, look for responsible person/s to take charge the tasks, and determine what will be the outcome.

The skills in media and information literacy are not naturally inherent. They need to be educated in a systematic way and mass methods in the classes, libraries, and any places doing research. It is a task done as better as possible by librarians. Therefore, students see that librarians, as the information service experts, are able to make them to skilled information managers. It means that the role of libraries must be redefined and library professionals must promote users' education and MIL skills intensively (Ashrafi-rizi et al., 2014).

### 5. Summary of Findings, Conclusions and Recommendations

This chapter presents the summary of findings, conclusions that the researcher has drawn in terms of the result of the study, and the recommendations formulated based on the data that were being assessed.

#### Summary of Findings

The summary of findings generated on this section followed the order in the presentation of the research problems.

1. What is the profile of the Grade 12 students of Andres Bonifacio College in terms of gender and career strand?

The Grade 12 students of Andres Bonifacio College composed of 80 (48%) males and 88 (52%) females. (cf Figure 3)

In terms of careerstrand, 43% of the participants were from STEM, 21% belonged to the ABM, 20% were from HUMSS, 13% were from GAS, and the lowest at 3% were from the ICT. (cf Figure 4)

2. What is the level of students' media and information literacy skills in terms of access, evaluation, and use of media and information?

The Grade 12 students of Andres Bonifacio College were on the "Good level" in terms of access, evaluation, and use of media and information. As students were grouped according to gender, it was found out that both male and female were on the "Good level". On the other hand, as students were grouped according to career strand, it showed that students under the academic track (STEM, ABM, HUMSS, and GAS) were on the "Good level" while students from the TechVoc Track (ICT) were at the "Fair level".

3. Is there a significant mean difference in students' media and information literacy when participants were grouped according to gender and career strand?

Findings showed that at 0.05 level of significance, the computed value for z-test is equal to 0.95 which is lower than the tabulated value (z critical value) of 1.96. Thus, accepted the null hypothesis and established no significant difference in the amount of media of media and information literacy when participants were grouped according to gender. (cf Table 6)

Another finding showed that at 0.05 level of significance, the computed value for ANOVA is equal to 2.8166 which is greater than the tabulated value (F critical value) of 2.4271 with the degree of freedom 4/163. This means that there is a significant mean difference in the amount of media and information literacy when participants were grouped according to career strand. (cf Table 7)

4. What action plan can be developed based on the findings of the study?

Based on the findings of the study, an *action plan* was developed to take actions and specific steps in order to achieve the desired goal or purpose of the study. The content of the action plan focuses on key issues for research, resources, and students or youth empowerment.

### Conclusions

The following conclusions were drawn based on the findings of the study on media and information literacy of Grade 12 students of Andres Bonifacio College.

The study found no significant difference when students were grouped according to gender. This means that both male and female were on the same level in media and information literacy. However, when they were grouped according to career strand, it showed significant difference in the level of media and information literacy. This means, that of the five strands, the ICT strand did not do good in MIL, at "Fair Level". Overall, the media and information literacy of the students was above average, at 3.01, interpreted as Good. As the researcher checked each item from access, evaluation, and use, it was found out that students need more attention or help in their research endeavours. It can therefore be concluded that students from the ICT be given much assistance or attention when it comes to research. Also, available research materials or resources are another concern that has to be addressed.

### Recommendations

Based on the results of the study, the following recommendations were made:

1. It is necessary to facilitate the students' competencies in MIL especially in areas of research. This can be done through assisting and empowering the students in their research works while they make use of the resources inside the library;
2. It is important to provide more information resources or free access online journals or articles intended for research and for other academic purpose. This will be helpful to the students as it give them more insights that will relate to their studies;
3. The head librarian is encouraged to find or provide a specific room intended for research or an area intended for discussion about research and information literacy;
4. The head librarian may appoint another librarian or staff with background in research to facilitate students in their research work or for information literacy;
5. The future researches or studies to be conducted may consider teachers as the participants in determining the levels of media and information literacy; and
6. Further research can be conducted that covers all levels in schools or colleges for a more comprehensive result.

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