

# Enhancing Students' Digital Media Literacy through Project REAL NEWS (Reliable E-content and Authentic Linkages for Nimble-minded, Efficacious, and Watchful Students)

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**Abstract**—In the Philippines, education has transitioned to remote and digital platforms, with teaching now conducted virtually. Consequently, social media and the internet have become the source of information, allowing them to share ideas, information, and thoughts. However, this has affected the quality of information being shared among individuals and the broader community. The Project REAL NEWS, which stands for Reliable E-Content and Authentic Linkages for Nimble-Minded, Efficacious, And Watchful Students, is an assessment tool that determines students' ability to discern factual events, pictures, quotations, and information in History, Economics, and Contemporary Issues in the Philippine setting. In this quasi-experimental study, all Grade 10 students in the Science Curriculum of the University of Saint Louis Tuguegarao with Full Online and Blended Learning modalities answered the pre-test. Subsequently, students with a percentage of 74 and below were taught to utilize the suggested digital media literacy program. The pre-test and post-test questionnaires comprised 20-item multiple-choice divided into three parts, each pertaining to the factual information of three disciplines taught in Social Studies at the Junior High School level. This study followed three phases of data gathering: First, a pre-test was administered to the 418 participants before implementing the proposed digital media literacy program to determine the target participants and assess their initial abilities in discerning factual information. Second, participants with a percentage of 74 and below during the pre-test were engaged in the proposed digital media literacy program. Third, a post-test was administered after the implementation of the Project REAL NEWS. Frequency and percentage were used to interpret the pre-test and post-test scores of the participants, while a paired-sample T-test was used

to test the significant difference between the pre-test and post-test scores of the participants. Results showed that the post-test scores of the students were higher than their pre-test scores. The study revealed a significant difference in the pre-test and post-test scores of the participants. Furthermore, it showed that they have very satisfactorily developed their abilities in online fact-checking information. Thus, the program or the intervention effectively enhances the skills in online fact-checking information of the Grade 10 students.

**Keywords**— misinformation, disinformation, digital media literacy, Project LIGTAS, and Social Studies Disciplines

## I. INTRODUCTION

In this Fourth Industrial Revolution (4IR), the plethora of knowledge can be accessible to anyone. However, the advancement brought by these rapid changes has tremendously affected the quality of the information on social media and other digital platforms; consequently, the gatekeepers of information have a hard time controlling the spread of unregulated and unverified information (De Paor et al., 2020). Anyone can distort and unintentionally share wrong articles, news, and other information in their account. This event created a massive problem in the proliferation of fake news, which is going out of control (Jackson, 2017). Fake news is considered deceptive to fool people and often refers to a broader landscape of incorrect or distorted information, which can be willful or unintentional (De Paor et al., 2020 & Tandoc, 2019). The concept of fake news is classified into misinformation and disinformation (Wardle, 2017). The two

terminologies fall under the umbrella of fake news but differ regarding the intention and agenda. Misinformation is defined as an unpremeditated sharing of false information; thus, it appears unintentional, though it will be detrimental because it misleads anyone (Jackson, 2017). With this, the spread of misinformation is challenging because people may or may not accept the factual information due to habituated beliefs.

In contrast, disinformation is purposively falsified and fabricated information to manipulate or confuse the public (Jackson, 2017; Ireton and Posetti, 2018). In this regard, disinformation is generally problematic due to its nature as a political motive, personal agenda, or propaganda, which brings division and chaos to the community. With these, misinformation and disinformation are highly harmful to our society because they promote mistrust and confusion about all the information in the digital space, making it not easy to use (Karlova & Fisher, 2013).

In the Philippines, the proliferation of fake news on social media in the context of the three disciplines in Social Studies, specifically History, Economics, and Current Issues, is not new. In Philippine History, battling misinformation and disinformation is dramatic to the extent that it divides public's opinion. On this account, the roles of historians and cultural agents were undeniably pivotal in halting negative historical revisionism (Ylagan, 2020). On the other hand, tampering with facts and data due to the uncontrolled exploitation of social media caused unnecessary panic buying and hoarding (Siar, 2021) of essential commodities, even the substandard and falsified medical products. In this sense, the rapid increase of false information has exacerbated the situation faced by the pandemic (Besson, 2020). Finally, in the aftermath of the upsurge of misinformation and disinformation on social media, the fabricated images, information, and quotations of the country's national and local leaders give limelight to their political bets (Mendoza, Ballar, & Yap, 2022). In the 2016 national election, Facebook executive Katie Harbath dubbed the Philippines as "patient zero" in the global infodemic due to the unexpected upswing of false information in social media (Mendoza et al., cited by Mendoza, Ballar, & Yap, 2022). However, in the recently concluded national election, Greg Kehailia, country director of Internews Philippines, stressed that the continuous circulation of trolls and bots in social media became a part of more copious disinformation machinery. It is where celebrities, influencers, government, and even non-governmental agencies team up to manipulate political views and opinions through misleading content where democracy is now at stake.

As mentioned above, these adverse impacts and effects of the upsurge of misinformation and disinformation in social media affect the daily lives of the people. The unprotected circulation of information continuously proliferates among social media users in the Philippines, and anyone can be a victim of false information if it cannot be assessed well. However, a group of fact-checkers and journalists make their method to combat fake news, but they have a hard time pinning down these problems due to the biased beliefs of the users and threats (Hameleers & Balod, 2021).

Filipino learners' exposure to internet-based technology, especially in primary education, increases their time spent on social media due to the shifting modes of learning caused by the COVID-19 pandemic (Fernandes et al., 2021), leading to the probability of sharing and learning misinformation and disinformation (Herrero-Diz et al., 2020). Plus, the adverse effect of fake news on social media is undeniably limitless and guardless, significantly affecting how students perceive information. The ideas and information shared on social media and other digital platforms affect students' ability to connect previous learnings to the present. In addition, it will create confusion in learning and teaching Social Studies in Junior High School. As a result, teachers should implement a safe and affirming strategy in combatting misinformation and disinformation in an online space.

### **The Project REAL NEWS:**

Project REAL NEWS is a Digital Media Literacy Program against Misinformation and Disinformation, which stands for Reliable E-Content and Authentic Linkages for Nimble-Minded, Efficacious, and Watchful Students. It aims to assess students' ability to discern factual events, pictures, quotations, and information in Philippine History, Economics, and Contemporary Issues. Based on the study conducted by the Boses, Opinyon, Siyasat, at Siyensya para sa Pilipinas (BOSES Pilipinas, 2022), most Filipino youth respondents have an average skill in identifying and evaluating factual information through a Fake News Quiz activity. In addition, the perceived ability and confidence in discerning real news from falsified information is mismatched with the survey result.

#### **Mechanics:**

1. Researchers used the Learning Management System (LMS) as their platform to implement Project REAL NEWS.
2. Concerned researchers who are Grade 10 Araling Panlipunan subject teachers managed their respective classes with Full Online and Blending Learning as their modality.
3. Researchers uploaded a pre-test consisting of 20-item questions.
4. The students answered the pre-test by identifying which among the choices under Philippine History, Economics, and Contemporary Issues are based on facts.
5. Students with a score of 13 or with a percentage of 74 and below participated in the proposed program.
6. For Project REAL NEWS, researchers uploaded a recorded PowerPoint discussion to further explain the nature of the program.
7. During the second, fourth, and sixth weeks of the fourth grading period, the target participants answered the five questions in each discipline, following the same instruction in answering the pre-test.
8. Before the end of the fourth grading period, the researchers administered the post-test.

## II. METHODS

This study employed a quasi-experimental research design. Specifically, it uses pre-test and post-test to compare the students' scores after completing the tests. Before the post-test, the participants were taught to utilize the suggested digital media literacy program. The participants of the study were the 57 Grade 10 students in the Science Curriculum of the University of Saint Louis Tuguegarao, with Full Online and Blended Learning as their learning modality. In administering the pre-test, all Grade 10 Science curriculum students answered the assessment; however, students with a percentage of 74 and below will only receive the mentioned program.

For the purpose of the study, the main instruments used were the pre-test and post-test questionnaires, which consisted of 20-item multiple choice. The instrument was divided into three parts, based on the factual data of the three disciplines in teaching Social Studies in the Junior High School. Specifically, both Philippine History and Economics consist of 5-item each, while Contemporary Issues has 10-item questions.

### Data Gathering Procedure

#### a. Pre-treatment Phase

The researchers secured permission to conduct the study from the Office of the Vice President for Academics through the Junior High School Principal. Before implementing the proposed digital media literacy program, a pre-test was administered to the nine Grade 10 sections in the Science Curriculum to determine the participants and assess their initial abilities in evaluating factual information.

#### b. Treatment Phase

Participants with a percentage of 74 and below during the pre-test were engaged in the proposed digital media literacy program during the fourth grading period. The researchers used the LMS to upload the recorded PowerPoint discussion of the program. Throughout the program, the same platform was used in administering the 5-point item questionnaire for each Social Studies discipline, specifically History, Economics, and Contemporary Issues. The concerned subject teachers monitored the participation of the respondents.

#### c. Post-Treatment Phase

The researchers administered the post-test after the implementation of the Project. For this, only 57 participants answered the said test to determine the development of their skills in online fact-checking information. After which, their scores were analyzed and compared to ascertain if there would be a significant difference.

### Data Analysis

Frequency and percentage were used to interpret the pre-test and post-test scores of the participants using the following range:

Scores	Qualitative Description
17-20	Excellent
13-16	Very Satisfactory

9-12	Satisfactory
5-8	Fair
4 and below	Failed

To determine the significant difference between the pre-test and post-test scores of the participants, Paired-sample T-test was used.

## III. RESULTS AND DISCUSSION

**Table 1. Pre-test and Post-test Scores of the Participants**

Scores	Qualitative Description	Pre-test		Post-test	
		n	%	n	%
17-20	Excellent	0	0	26	45.60
13-16	Very Satisfactory	10	47.50	22	38.00
9-12	Satisfactory	35	61.40	9	15.80
5-8	Fair	11	19.30	0	0
4 and below	Failed	7	1.80	0	0
Mean Score		10.42	Satisfactory	15.82	Very Satisfactory

Table 1 shows the pre-test and post-test scores of the participants. Delving deeper into the result, the post-test scores of the students were higher than their pre-test scores. As shown in the Pre-test, the participants have a satisfactory level of skills in evaluating online data. On the other hand, their post-test scores revealed that they have very satisfactorily developed their abilities in online fact-checking information.

The unpredictable shift of learning modes in the country's basic education, from traditional face-to-face to distance learning, makes Filipino learners more vulnerable to misinformation and disinformation (Balod & Hameleer, 2021). Thus, traditional gatekeepers pose severe challenges due to the ubiquitous nature of today's digital media environment (De Paor & Heravi, 2020). Even the Catholic Church of the Philippines concerns itself with the unending cycle of spreading hoax information that offends the human intellect and is a sin against charity that prevents an individual from making a sound decision (Liwanag, Olympina, Nanoy, Mijares, & Nicomedes, 2020). Considering the teaching content of Social Studies in the Junior High School, the proliferation of the said troubling phenomenon enkindles another concern for teachers and learners. It is worth noting that promoting media literacy improves the learners' abilities to discern the accuracy of online content across issues. Hence, the researchers pursued Project REAL NEWS in the Junior High School to combat the circulation of fake news in the Philippines in teaching and learning the three disciplines of Social Studies, namely, History, Economics, and Contemporary Issues. This paper is rooted in the previous studies concerning the importance of interventions, most especially for young Filipino learners, in order to build a safe and affirmative online environment in learning the said Social Studies disciplines in the Junior High School (Guess, Lerner, Lyons, Montgomery, Nyhan, Reifler, & Sircar, 2020 and

Liwanag, Olympia, Nanny, Mijares, & Nicomedes, 2020). Dealing with the pre-test results, participants have only a satisfactory level of evaluating online content; thus, appropriate skills and contextual knowledge are required and must be improved to evaluate the quality of information posted online. This only implies that online instructional strategies in teaching Social Studies in the Junior High School against the circulation of misinformation and disinformation were insufficient.

Before implementing Project REAL NEWS, Grade 10 participants were taught basic information through their online discussion and webinar concerning misinformation and disinformation; however, these do not give any assurance of improving their skills in evaluating digital content. Expressly, several studies generally confirm that in 2016, the Philippines entered into the so-called “Age of Disinformation” due to the first documented systematic social media exploitation during the 2016 Presidential Election (Bradshaw & Howard, 2019, as cited by Domingo, 2021) which resulted into the excessive historical negationism (Domingo, 2021 and Balod & Hameleer, 2021). In its sense, historical negationism is the deception or fabrication of historical facts to manipulate public opinion for personal and political purposes. However, the term historical revisionism should not be used interchangeably because the latter is only appropriate and accepted in History since new data or facts necessitate new historical interpretations (McPherson, 2003, as cited by Domingo, 2021). Moreover, the explosion of unmonitored and falsified social media content costs lives and destroys businesses (Siar, 2021). For example, PepsiCo experienced the most devastating event to its brand in 2016 due to misquoted words by its previous CEO, Indra Nooyi, for President-elect Donald Trump. In a week after it was published, the share price declined. From this example, the global economy costs \$78 billion a year due to this troubling phenomenon. Furthermore, the most salient danger of misinformation and disinformation is the weakening of Filipino youth's motivation to participate in civic-political causes, which has threatened democracy (Sadiku, Eze, & Musa, 2018). Based on the survey conducted, it was detected that 92.37% of the Filipino youth living in the National Capital Region encountered misinformation and disinformation through the posted information by influencers and celebrities, followed by the statements made by the elected and appointed government officials and by the unverified accounts (Jaca, n.d.). Therefore, Project REAL NEWS can be an effective instructional strategy to boost students’ skills in combating misinformation and disinformation.

It could be gleaned from Table 2 that there is a significant difference in the pre-test and post-test scores of the participants. This only means that the post-test scores of the participants were higher than their pre-test scores. Therefore, the program or the intervention effectively enhances the abilities of the Grade 10 students in online fact-checking information. The observed result showed that Project REAL NEWS is an effective online strategy in elevating the students' abilities to evaluate digital content in History, Economics, and Contemporary Issues in the Philippine setting. In this regard, Project REAL NEWS is a crucial tool in minimizing the detrimental effect of misinformation and disinformation on the students' cognitive processes and the societies' activities. Thus, in the study context, adequate knowledge and understanding of misinformation and disinformation in any platform prepare Filipino learners to become fully aware and equipped with skills to spot hoax data online.

Furthermore, through Project REAL NEWS, participants could hastily spot misinformation and disinformation in online content. In addition to educational implications, understanding how social media content was created and consumed, such as the intervention needed to survive the time of distorted information, is of great importance for practice (Ng, Tang & Lee, 2021). Therefore, the effectiveness of the said intervention can greatly help the different social media interventions like WhatsApp's forwarding restriction, Sina Weibo's Community Management Center, and Facebook's fact-checking teams to slow down and report misinformation and disinformation and verify the data (Ng, Tang & Lee, 2021 and Apuke, Omar, & Tunca, 2022). Meanwhile, the results revealed that the participants attained the objectives of said Project. In this case, online tactics that jeopardize access to accurate information on History, Economics, and Contemporary Issues can be fought through digital media literacy by being an informed and critical citizen. However, further empirical evidence has proven that actions should be undertaken by librarians, media, policy-makers, and individuals to halt the spread of untruthful and misleading information (Sadiku, Eze, & Musa, 2018 and Allcot & Gentzkow, 2017). Hence, Project REAL NEWS can be used as an online strategy against the online manipulation of misinformation and disinformation historically, economically, and politically.

**Table 2. Significant Difference on the Pre-test and Post-test Scores of the Participants**

Test	Scores	t-value	P-value	Decision
Pre-test	10.42	-12.127	.000	Significant
Post-test	15.82			

*\*significant level at .01 level*

#### IV. CONCLUSION AND RECOMMENDATIONS

The utilization of Project REAL NEWS in this study helps students debunk information, images, and videos. This intervention program effectively assesses students' ability to do the following: discern misinformation and disinformation; analyze, criticize, and verify the content of media messages; and detect "fake news" in Philippine History, Economics, and Contemporary Issues. Thus, integrating this into teaching Social Studies subjects is one of the effective ways to empower and prepare learners to become resilient in controlling the spread of unregulated and unverified information. Also, Project REAL NEWS, as an alternative strategy to combat and mitigate the proliferation of fake news on digital platforms, helps teachers and students to be more aware and conscious of the information they consume.

As misinformation and disinformation continue to proliferate on social media, it becomes imperative for students to hone their critical fact-checking skills. So, teachers have a vital role in helping students navigate the information flow. They may give students assessments that require them to identify false information from social media and other online sources.

Given the positive outcomes observed, Social Studies teachers should integrate Project REAL NEWS in teaching the subject across all levels and modalities due to its effectiveness, as shown in the results. They may also implement the said project in other departments considering the subject taught at every year level. Teachers should adopt this digital media literacy program as their teaching style and practice. However, customization of the strategy is highly recommended to improve and enhance the program and can be flexible depending on the nature and resources of the school and teachers. Thus, while teachers implement this program, they must be knowledgeable and skillful in navigating social media, online space, and other sources of information. Lastly, teachers must collaborate with librarians, professors, and other gatekeepers of information to strengthen the program and be well-trained in combating the proliferation of fake news.

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