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PROJECT I-CHECK: EDUCATIVE MEASURES AGAINST MISINFORMATION AND DISINFORMATION AS AN INTEGRATIVE MATERIAL CUM STRATEGY IN TEACHING DIGITAL WRITING



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Abstract

Misinformation and disinformation have been critical issues in the digital world. This is the case across all domains, including education. "Project I-Check" attempts to investigate how measures against misinformation and disinformation can be integrated into strategy and material for teaching digital writing among Senior High School Humanities and Social Sciences (HUMSS) students at Luis Palad Integrated High School. Grounded on the need to enhance students' deficiencies in academic writing, this action research aims to contribute to the enhancement of students' conceptual understanding of fact-checking and digital literacy. The present study adopted a pretest-posttest design in analyzing the impact of localized and contextualized learning material on student ability to identify false and misleading data. Findings revealed increased posttest scores, thus vouchsafing effectiveness in fostering critical evaluation skills. More than that, these findings speak of the urgency in embedding digital literacy and fact-checking techniques within the curriculum towards credible information. The implication reaches out to the teacher, curriculum developers, and the policymakers regarding creating pedagogical practice toward the need of a digitalized society. It also offers a structure to be able to incorporate these skills into digital writing lessons: providing greater scope for broader research potential for students to become better equipped in navigating and producing information-driven societies. Further studies on this intervention across disciplines and at various educational levels are recommended in order to build further potential towards combating misinformation and improving literacy competencies.

Keywords: misinformation, disinformation, digital writing

Context and Rationale

Misinformation and disinformation, amidst global health hysteria, are distressing phenomena that hinder public access to credible information and steer people away from the most suitable course of action. The study conducted by Gabarron et al (2021) determined that COVID-19-related misinformation on social media is a significant concern regarding the quantity of circulating misinformation and the implications for public health and citizens'

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behaviors. The amount of misinformed data circulating is an alarming subject of social conundrum that perpetuates people's thinking, decision-making, and judgment. The catastrophic cause of misinformation and disinformation is not isolated alone to health-related issues but also to the entire body of information related to education, politics, the environment, the economy, and other foundations of society at large.

Sixty-nine percent of Filipinos still believe in fake news, according to the survey conducted by Social Weather Stations (SWS) in December 2021, stating that the problem of its spreading came from media such as television, radio, and newspaper. Experts have widely seen the spread of fake news as a significant global threat with its reported ability to manipulate elections and imperil democracies. In addition, a similar survey was conducted by Pulse Asia, saying 88% of Filipino internet users are aware of fake news on social media. The existing problems people face are how to detect misinformation and disinformation in various platforms and fact-check on sources they access every day.

Reports from the UNICEF Office of Global Insight and Policy stated that digital misinformation and disinformation have numerous effects on children and students, such as could be used to incite violence and crime targeted at ethnic minorities, resulting in deaths and displacement of children. Not all children can distinguish between reliable and unreliable information, but it could also be spread to their peers and create a domino effect. Children must be equipped with critical reading and thinking skills to help them determine information's veracity. Having said this, combating misinformation and disinformation is a crucial step of the education sector in deviating learners' keen observation and attention to managing information responsibly.

The onset of the COVID-19 pandemic forced teachers to shift teaching and learning from face-to-face in brick-and-mortar classrooms to online learning platforms. In this context, the Department of Education adopted the Basic Education Learning Continuity Plan (BE-LCP) for the School Year 2020-2021 in light of the Covid-19 Public Health Emergency under DO 12, s. 2020. DepEd highlighted the importance of flexibility in teaching-learning by utilizing multiple learning delivery modalities (LDMs), including blended learning, distance learning, and homeschooling. The physical absence of teachers in the students' learning environment implies an alternative mode of delivering instruction, submission of outputs, and assessment. In this context, the quality of learners' output mostly depends on the reliability and validity of the content or input they exerted, which was also directly affected by credible information they get from instruction. Educating learners on detecting fake news and fact-checking procedures contributes to quality teaching-learning experiences the Department of Education can offer; ergo, it should be oriented to learners, as said by Deped DRRMS Director Ronilda Co.

In the wake of new understandings about literacy in the digital age, writing inspired by internet-based technologies became part of the popular culture called digital writing. Hicks (2009) introduced the digital writing workshop, incorporating digital technology in a student-centered writing approach and encouraging authentic and participatory writing experiences. Luis Palad Integrated High School still has been practicing blended learning consisting of face-to-face classes, print modular, and digital modular learning modalities. Writing and publishing it online is one of the typical lesson activities that Senior High School students which is not limited to uploading a digital copy of the paper and posting informal write-ups on social media. The humanities and Social Sciences strand under the academic track of the said school usually has possible writing activity reflected from its curriculum and the specialized subjects by extension. In addition, Grade 11 HUMSS students showed poor paragraph development

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performance based on the output submitted to teachers in half of the third quarter second semester school year 2020-2021.

Based on the above information, the teacher-researcher conducted this action research to provide the opportunity to emphasize the importance of educating the learners against misinformation and disinformation. Likewise, the researcher attempted to show teachers the pertinence of integrating fact-checking procedures in their lessons across disciplines. It was also the objective of this study to develop contextualized and localized materials about the said research topic adapted from credible and scholarly sources, which will serve as a reference for the respondents/beneficiaries of the study. Most importantly, this study's results can address the students' academic writing deficiencies in substantiating the content by providing credible, objective, and fact-based data.

Action Research Questions

The study aims to determine the impact of using educative measures against misinformation, disinformation material, and strategy in teaching digital writing to selected HUMSS students.

Specifically, the study sought to answer the following questions:

1. What is the conceptual understanding of Senior High School HUMSS students in identifying false and misleading data based on their pretest scores?
2. What is the conceptual understanding of Senior High School HUMSS students in identifying false and misleading data after utilizing the fact-checking learning material against misinformation and disinformation in digital writing based on their post-test scores?
3. Is there a significant difference between the pretest and posttest scores of Senior High School HUMSS students in identifying false and misleading data after utilizing the fact-checking learning material against misinformation and disinformation in digital writing?

Key Literature

It has been proven that the integration of fact-checking into digital writing education improves the critical evaluation skills of students and their ability to identify credible information. For example, Aslett et al. (2023) found that the use of search engines such as Google to evaluate false news sources resulted in a 19% higher likelihood of rating false claims as true, which indicates that effective fact-checking strategies are.

Fact-checking assignments added to digital composition courses help students critically analyze information they have accessed online. A report published by Wineburg et al. in 2020, observed that students instructed in using a fact-checking tactic called lateral reading used more effectively than students trained using more traditional techniques when distinguishing between credible and less reliable sources of information found on the internet.

In addition, it is important to teach students how to differentiate between fact and fake news in the digital world. According to Moore (2020), digital literacy is essential in helping students distinguish between misinformation and develop their critical thinking skills in assessing online content.

Action Research Methods

A. Participants and/or other Sources of Data and Information

The study's respondents are Grade 11 Humanities and Social Sciences (HUMSS) in Luis Palad Integrated High School Senior High School. Students will be selected using purposive sampling. Students who are subjected to participate in the study should be taking subjects in

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English for Academic and Professional Purposes, Reading and Writing, and allied subjects. In addition, students will also be selected based on their capability to answer online pre-test and post-test assessments.

B. Data Gathering Methods

During and after the conceptual phase of the study, the teacher-researcher presented the research proposal to the school's screening committee for approval and technical assistance. Upon approval, necessary permits have been secured, such as parents/guardians' written consent for students' participation which were distributed online. For efficient and faster communication with the participants, a group chat was created where students, parents, and other persons concerned were included.

The researcher identified learning competencies from senior high school core and applied subjects such as Reading and Writing, English for Academic and Professional Purposes, and other allied subjects to use as a decision-making factor in designing the material and formulating a strategy congruently to digital writing.

The teacher-researcher has adapted credible learning sources about fact-checking procedures from reputable online journals and scholarly articles and then developed them into contextualized and localized educative measures which can be used in learning and teaching digital writing. This action research utilized instruments such as pre-test and post-test.

The pre-test through an online form was administered to determine the students' conceptual understanding of fact-checking before using the developed material. After completing the pre-test, the respondents were given the adapted material, distributed in non-print. The post-test was then administered to respondents to determine the students' conceptual understanding of fact-checking.

C. Data Analysis Plan

The student respondents' input collected from an online form were tallied, tabulated, analyzed, and interpreted quantitatively.

The data of the pre-test and post-test scores were analyzed using a quantitative approach. The highest, lowest, and mean of the aforementioned test scores will be used to compare the students' performance before and after utilizing the developed learning material.

In determining if there is a significant difference between the pre-test and post-test scores acquired by the student-respondents, standard deviation and t-test for dependent samples will be used. T-test is widely used in hypothesis testing to determine whether a process or treatment influences the population of interest or whether two groups are different (Bevans, 2020).

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Findings

The following tables present the obtained results and interpretation thereafter corresponding to the action research questions established.

Table 1. *Students' Performance in the Fact-checking Pre-test and Post-test*

| Test | N | Highest Score | Lowest Score | Mean |
|-----------|-----|---------------|--------------|-------|
| Pre-test | 100 | 20 | 10 | 14.80 |
| Post-test | 100 | 25 | 13 | 22.30 |

The table above presents the results of the fact-checking pre-test and post-test. In the pre-test, the highest score obtained was 20, while the lowest was 10. The mean of the scores is 14.85. In the post-test, the highest score obtained was 25, while the lowest was 13. The mean of the scores is 22.30. Higher scores and mean values can be noted in the post-test results compared to the pre-test.

According to the result of Brodsky et.al (2021) study, students have improved from pretest to posttest by using a strategy and materials to fact-check information. Moreover, according to Gaultney (2021), efforts to combat the spread of misinformation on social media are being explored on several fronts, including media literacy programs. However, it was mentioned that while media literacy is not a cure-all for the problems posed by misinformation, it is helpful for teachers to understand how adept students are at assessing the credibility of the news on their phones.

Table 2. *Significant Difference Between the Fact-checking Pre-test and Post-test Results*

| | Highest Score | Lowest Score | Mean | Standard Deviation | t | df | Sig (2-tailed) |
|-----------------|---------------|--------------|------|--------------------|---------|----|----------------|
| PRETEST | 20 | 10 | 14.8 | 3.21 | 17.6492 | 99 | 0.0001 |
| POSTTEST | 25 | 13 | 22.3 | 3.03 | | | |

The table above shows the dependent samples' t-test results. The pretest and posttest standard deviations are 3.21 and 3.03, respectively. The t-value (17.6492) shows that the pretest mean of the sample group is significantly different from the posttest mean, as indicated by a p-value of 0.0001, which is lower than 0.05. It can therefore be inferred that the educative measures or the material were significant in increasing the conceptual understanding of HUMSS students on fact-checking. According to Golob and Macarovi (2021), there is a need to include content in media education courses to create a critical thinking process and action in the form of a habit of fact-checking and using fact-checking services. However, the study of Abed (2021) highlights the significance of misinformation and concludes that, despite risks, the respondents do not see it as a significant problem. Participants in this study were relatively aware of such misinformation and its dangers, but it did not greatly concern them, and generally, they declined to tackle it proactively.

Implications

These results build on existing evidence of the importance of digital literacies, particularly on fact-checking skills among basic education learners. The study of Baterna, Mina, and Rogayan (2020) affirmed that digital literacy promotes students' competitiveness and better opportunity in today's digital world and the fourth industrial revolution. Digital literacy facilitates better learning for students. Many students entering educational settings

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make the learning process meaningful by using digital devices in digital environments (Yamada-Rice, 2011; Potter, 2012).

The results of this study can aid students in developing a better understanding of the fact-checking procedure and how to spot one. It would help students to make fact-checking a habit and gives them practice completing academic assignments and expressing themselves in many ways on digital platforms, including speaking and writing. A motivator for everyone to use literacy in daily life could be spotting fake news and confirming its source.

This study could also become a factor in developing, disseminating, and implementing the relevant and practical curriculum of the Department of Education in their plight to digital and information literacies through the efforts of the Policy, Planning, and Research Division and the basis for expected learning outcomes that improve teaching and learning. This benefits curriculum designers/planners in the Curriculum and Teaching division as an additional measure in ensuring its objective and research-based implementation.

On the other hand, the study's principal value to teachers is adjusting ways of teaching students digital writing by highlighting the significance of fact-checking. It might also influence how teachers decide how to create lessons and instructional materials. Teachers may undoubtedly improve their ability to deliver high-quality instruction by fact-checking sources of information and using other research-based strategies. This reaffirms that educators strive to shape students to become citizens and consumers who can carefully consider different dimensions of an issue, locate scientifically credible information, and critically evaluate both sources and content (Hodgin and Kahne, 2018)

Since fact-checked and research-based data can help school administrators make wise decisions, they should consider these findings when formulating policies and regulations. For educational leaders, fact-checking is crucial because false information can influence their decisions and opinions. They are readily influenced by misleading information and may make judgments that have unforeseen repercussions. It is ideal for school policies to be supported by data-driven perspectives.

Recommendations

The researcher suggests the following recommendations:

1. Integrate fact-checking exercises into digital writing lessons to enable critical evaluation of online sources.
2. Use fact-checking exercises to teach students how to differentiate between credible information and misinformation
3. Assign students to verify data that appears in online articles as a part of their reading activities.
4. Develop collaborative projects to help students apply fact-checking methods to improve writing accuracy.
5. Include lessons that discuss the ethical implications of sharing unverified information for responsible digital citizenship.
6. Develop rubrics to evaluate the ability of students to incorporate fact-checked information into their written products.
7. Encourage students to reflect on their processes of fact-checking to enhance metacognitive skills in writing.

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8. Apply real-life scenarios where fact-checking is needed to make lessons interesting and relevant.
9. Introduce digital tools for fact-checking to help students develop technical skills and efficiency.
10. Use peer review to incorporate fact-checking into collaborative editing processes of writing tasks.

Action Plan / Dissemination or Utilization of Results

PROJECT I-CHECK: EDUCATIVE MEASURES AGAINST MISINFORMATION AND DISINFORMATION AS AN INTEGRATIVE MATERIAL CUM STRATEGY IN TEACHING DIGITAL WRITING

ACTION PLAN

Joel M. Bregondo Jr.
Teacher 1, BERF Grantee

| Objectives / Targets | Strategies / Activities | Timeframe | Personnel Involved | Expected Output | Success Indicator |
|---|--|----------------------|---|---|---|
| Formulating goals and sub-goals | <ul style="list-style-type: none"> • meeting with language teachers • Inviting “knowledgeable other” in English • Designating tasks or roles • Formulating LAC session goal and sub-goals | 1st week of May 2023 | HUMSS Subject Group Head, Division EPS English, SHS Master Teachers, Coordinators, BERF Grantee | <ul style="list-style-type: none"> • LAC goal and sub-goals | <ul style="list-style-type: none"> • Concise LAC goal and sub-goals |
| Planning of school-based LAC session | <ul style="list-style-type: none"> • Selecting a unit topic or lesson from the target subjects • Identification of learning competencies targeted for the session topic. • Setting the date, time, and technical working group for the LAC session • Deciding on the focused research problem • Collaborative designing of the conduct of LAC session, activities, and materials to be used | 2nd week of May 2023 | HUMSS Subject Group Head, Division EPS English, SHS Master Teachers, Coordinators, BERF Grantee | <ul style="list-style-type: none"> • Draft of LAC session • Critical thinking, reading and research-based activities | <ul style="list-style-type: none"> • collaboratively planned LAC session draft • approved draft of LAC session activities |
| Implementing/ Conduct of Learning Action Cell (LAC) session with Demonstration Teaching | <ul style="list-style-type: none"> • Preparing technical devices and materials to be used • Delivering the LAC target content • Observing the LAC session • Jotting down pointers to remember about the <u>topic</u> • Demonstration Teaching | 3rd week of May 2023 | SHS HUMSS 1-A (English Teachers), HUMSS Subject Group Head, Division EPS English, SHS Master Teachers, Coordinators, BERF Grantee | <ul style="list-style-type: none"> • Copy of program/ session details • Copy of LAC session’s activities details • Copy of pretest and post-test materials | <ul style="list-style-type: none"> • LAC session implementation • Well-accomplished pretest and post-test materials • Documentation pictures and notes • Accomplished |

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|--|---|-----------------------|---|--|---|
| | | | | | demonstration teaching tool |
| Conducting post-implementation reflection and discussion: Revision of the introduced/proposed material | <ul style="list-style-type: none"> conducting focus group discussions among teachers/observers Reflecting on the conduct of LAC session and on the topic itself Revising the material through contextualization and localization Revalidation of the material | 4th week of May 2023 | SHS HUMSS 1-A (English Teachers), HUMSS Subject Group Head, Division EPS English, SHS Master Teachers, SHS Coordinators, BERF | <ul style="list-style-type: none"> observation reflection notes Hand-written comments on the 1st Implemented Research Lesson Plan | <ul style="list-style-type: none"> documented reflection and comments from the LAC LAC accomplishment report |
| Dissemination/ Utilization of the material | <ul style="list-style-type: none"> conducting meeting for the accomplishment of the final copy of material congruence to LRMDS guidelines Publishing the material to the school-based and division LRMDS portal Utilizing the material to classroom practices | 1st week of June 2023 | SHS HUMSS 1-A (English Teachers), HUMSS Subject Group Head, Division EPS English, SHS Master Teachers, SHS coordinators, LRMDS coordinators, BERF Grantee | <ul style="list-style-type: none"> printed revised material Softcopy of the material | <ul style="list-style-type: none"> integration of the topic utilizing the material Publication of the material in LRMDS portals |

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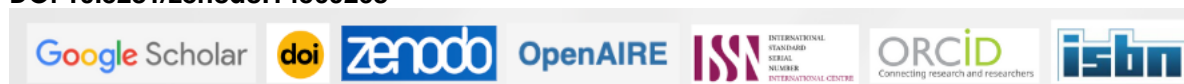
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