

F.A.C.T. (FACT-CHECKING AS AN ACADEMIC TOOL): A GUIDE TO INFORMATIVE WRITING

DIAZY JANE R. GALLOS¹, CHARISSA ARANCO LONGKIAO-CANUBAS, Ph.D.²

¹ Teacher II, Department of Education Quezon Bukidnon Comprehensive National High School Mibando, Quezon, Bukidnon

² Professor, Central Mindanao University Musuan, Maramag, Bukidnon

ABSTRACT

This study examines the growing challenge of misinformation on social media and the absence of systematic fact-checking instruction in Senior High School, particularly in informative writing in Filipino. It specifically aims to assess the knowledge, skills, and dispositions of selected Grade 11 Technical Professional students in using fact-checking, and to determine the effectiveness of the F.A.K.T. (Fact-Checking as Academic Tool) Module. The study employed a quasi-experimental pretest-posttest control group design with 73 participants $n = 38$ (control) and $n = 35$ (experimental). Two instruments were used: a 15-item, 4-point Likert scale survey measuring knowledge, skills, and disposition (adapted from Mendoza, 2021; Sevilla, 2019; UNESCO Media and Information Literacy Framework; and DigComp 2.1) and a rubric-based assessment of informative writing consisting of five criteria. The F.A.K.T. Module included short video lessons, lateral reading exercises, claim-verification tasks, structured writing guides, and formative feedback. Pretest results indicated low to moderate baseline competencies for both groups. After the intervention, the experimental group showed a significant increase in writing scores ($M = 2.23$ to $M = 10.57$, $p < .001$), while the control group showed a decline ($M = 3.71$ to $M = 2.50$, $p = .018$). These results demonstrate that the F.A.K.T. Module is an effective pedagogical intervention for improving students' informative writing and their critical evaluation of information.

Keyword: *fact-checking, informative writing, Media and Information Literacy, digital literacy, pedagogical intervention, Senior High School*

1. RATIONALE

One of the most urgent educational challenges in the Philippines today is the escalating spread of disinformation on social media platforms. Over eighty percent of the Filipino population actively uses social media, especially among school-aged youth, who rely heavily on platforms like Facebook, TikTok, YouTube, and X for information. The rapid circulation of visually appealing but unverified content facilitates the swift propagation of false information, including fake news, manipulated data, and deceptive narratives, which threaten the quality of education and the development of critical thinking skills among Filipino youth (Philstar, 2025).

In the Philippine sociopolitical context, research by Ong and Cabañes (2023) reveals the significant influence of organized disinformation networks in shaping political discourse and public opinion. This problem is compounded by the emergence of generative artificial intelligence tools that produce highly realistic misinformation targeted at local

audiences, complicating detection efforts (Marcelino, 2024). Moreover, Zhao et al. (2024) observed that fake news tends to spread more quickly than verified information, particularly when messages evoke strong emotions or novelty. However, addressing this issue requires more than technological fixes; it demands comprehensive pedagogical and socio-cultural interventions rooted in media and information literacy (MIL) frameworks such as those proposed by UNESCO (2013) and the European Commission's DigComp 2.1 (2017).

Despite the availability of such frameworks emphasizing the critical evaluation, ethical use, and creation of information, MIL integration into the Philippine basic education curriculum, especially in rural public schools, is limited. Challenges include insufficient teacher training and scarce access to credible learning materials, resulting in students' weak capacity to critically assess the credibility of online content (Estacio, 2024; Torres et al., 2023). This gap is especially

apparent in academic settings, where students struggle with evidence use, logical structure, and source evaluation in informative writing tasks skills essential for producing credible academic work (Pérez-Escoda et al., 2024).

To address these gaps, pedagogical innovations such as the F.A.K.T. (Fact-Checking as Academic Tool) Module have been developed. This module integrates fact-checking into regular writing instruction through video lectures on disinformation, activities focused on viral content analysis, lateral reading, claim verification, and rubric-based assessments. Its design draws on UNESCO's MIL Curriculum for Teachers (2013) and the Department of Education's Most Essential Learning Competencies (DepEd, 2020), providing a structured, contextually relevant approach to enhancing students' fact-checking competencies (Caulfield, 2024; Wineburg et al., 2023; Estacio, 2024).

The theoretical foundation for the F.A.K.T. Module combines multiple frameworks: MIL Theory (UNESCO, 2013), which promotes ethical and critical engagement with information; Constructivist Learning Theory (Piaget, 1972; Vygotsky, 1978), emphasizing active knowledge construction; Information Verification Theory (Kovach & Rosenstiel, 2014), focusing on systematic verification as key to credible communication; and the Theory of Planned Behavior (Ajzen, 1991), which explains how attitudes and perceived control affect fact-checking practices. These frameworks collectively support both the module's design and its implementation.

Although scholarship on disinformation, MIL, and digital competencies is growing, empirical studies testing fact-checking interventions specifically designed for Senior High School students in the Philippine public school context remain sparse (Torres et al., 2023; Estacio, 2024; Lim, 2023). The integration of knowledge, skills, and dispositions, paired with appropriate academic writing formats and rubric-based assessments, is notably lacking. Given the increasing complexity of misinformation, enhancing fact-checking as a fundamental digital literacy skill is imperative to empower Filipino youth and promote informed citizenship (Pérez-Rodríguez et al., 2025; Gorre et al., 2024).

1.1 Research Objectives/Questions

In response to the gaps mentioned, this study specifically focuses on three main objectives:

1. Assess the fact-checking competencies of selected Grade 11 Technical Professional students in informative writing, specifically:
 - a. measures their level of knowledge about fact-checking concepts and processes.
 - b. assesses their ability to apply fact-checking skills, including source evaluation and verification, during writing; and
 - c. evaluates their attitudes or dispositions toward the importance of fact-checking in academic work
2. Assess the effectiveness of the F.A.K.T. Module in deepening students' learning and skills in writing informative texts.
3. Evaluate the benefits of the F.A.K.T. Module as a pedagogical intervention in enhancing the quality of students' informative writing.

2. RESEARCH INSTRUMENT

This study used a 15-item, 4-point Likert scale survey as the primary research instrument to measure students' fact-checking knowledge, skills, and attitudes. The survey was carefully adapted from reputable sources including Mendoza (2021), Sevilla (2019), the UNESCO Media and Information Literacy Framework (2013), and the European Commission's DigComp 2.1 (2017). It was divided into three parts: (a) Knowledge, assessing students' understanding of misinformation, fact-checking procedures, verification strategies, and the role of fact-checking in informative writing; (b) Skills, evaluating the students' ability to use fact-checking tools, critically evaluate sources, detect bias, and compare multiple information sources; and (c) Attitudes, which measured beliefs about the necessity of verification, preference for credible sources, caution in sharing unverified content, and willingness to adopt responsible information practices. To complement this survey, a 20-point writing rubric was developed based on the Department of Education's Results-Based Performance Management System (2020) and the

Poynter Institute's Fact-Checking Standards (2021). This rubric objectively assessed students' ability to apply fact-checking principles in their informative texts. The combined use of these instruments ensured a comprehensive and reliable evaluation of the effectiveness of the F.A.K.T. Module in improving fact-checking competencies and writing performance among Grade 11 Technical Professional students. The instrument's validity and reliability were anchored through adaptation from established frameworks and tailored to the local educational context to suit the research objectives

3.METHODOLOGY

This study utilized a quasi-experimental pretest–posttest control group design to evaluate the effectiveness of the F.A.K.T. (Fact-Checking as Academic Tool) Module in enhancing the knowledge, skills, and dispositions of Grade 11 Technical Professional students in informative writing. Quasi-experimental designs are commonly used in education research when random assignment is not feasible, allowing researchers to infer the effect of an intervention by comparing groups with similar characteristics before and after treatment.

A total of 73 purposively selected participants from Quezon Bukidnon Comprehensive National High School (QBCNHS) for the 2024–2025 school year participated in the study. The sample was divided into two groups: 38 students in the control group receiving regular classroom instruction and 35 students in the experimental group receiving instruction through the F.A.K.T. Module. Selection criteria included demonstrated proficiency in informative writing, active use of social media as an information source, and consistent class attendance (Mendoza, 2021; Sevilla, 2019).

Data collection occurred over two consecutive days. On the first day, the control group completed a pretest survey and writing activity, followed by regular instruction, and then a posttest survey and writing task. On the second day, the experimental group followed the exact sequence but received lessons via the F.A.K.T. Module. Both groups underwent the same standardized procedures to ensure comparability: a 15-item Likert scale survey measuring fact-checking knowledge, skills, and disposition; a 30–40-minute pretest writing

task; the instructional session; and the posttest survey and writing activity (UNESCO, 2020).

Statistical analysis involved descriptive statistics to summarize survey and writing scores, paired t-tests for within-group comparisons of pretest and posttest results, and independent t-tests to evaluate differences between the control and experimental groups. An alpha level of 0.05 was set to determine statistical significance, and Cohen's d was calculated to measure effect sizes, providing insight into the practical impact of the F.A.K.T. Module. This approach ensured a rigorous and methodical evaluation of the module's influence on students' fact-checking competence and informative writing performance.

Ethical protocols were strictly observed throughout the study. Formal permission was obtained from the school principal, and participants were fully informed about the study's objectives and procedures. Voluntary participation was emphasized, with informed consent secured prior to data collection. Confidentiality of all participant responses and identities was guaranteed, and students were allowed to withdraw at any time without penalty. All data collected were utilized exclusively for academic purposes, ensuring compliance with ethical research standards.

4.RESULTS AND DISCUSSION

4.1. Results

This section presents the research results and discussion on the effectiveness of the F.A.K.T. (Fact-Checking as Academic Tool) Module based on pretest and posttest scores, a 15-item Likert scale survey, and rubric assessments of informative writing among Grade 11 Technical Professional students at Quezon Bukidnon Comprehensive National High School (QBCNHS). It clearly depicts the knowledge, skills, and disposition levels before and after the intervention and compares the outcomes between the Experimental and Control Groups, highlighting the pedagogical value of the F.A.K.T. Module.

4.2. Experimental Group

The first five survey items assessed fact-checking knowledge across key components. Overall knowledge was moderate, but students showed significant gaps in recognizing misinformation ($M = 1.94$) and understanding the intent behind

information sources ($M = 2.01$). However, students were relatively more familiar with verification processes ($M = 2.74$). This indicates a need to strengthen critical reading and analytical skills, especially in detecting false information and interpreting motivation behind communications.

Skill levels were generally moderate, with the highest mean scores in recognizing verification processes ($M = 2.74$), identifying credible sources ($M = 2.64$), and understanding fact-checking ($M = 2.53$). However, low scores appeared in misinformation recognition and understanding communicators' intentions, indicating areas requiring immediate instructional focus. Students were moderately capable of conducting independent fact-checking ($M = 2.74$) and using fact-checking websites ($M = 2.69$). Analytical skills such as evaluating the sufficiency of evidence, however, remained weak ($M = 2.26$), necessitating targeted development.

Students exhibited positive attitudes toward fact-checking, with the highest mean score in daily practice ($M = 3.00$). Positive beliefs about the importance of fact-checking and cautious information sharing were also evident (means between 2.79 and 2.91). Yet, responsibility in sharing information scored lowest ($M = 2.43$), highlighting a need for reinforcing ethical values alongside skill instruction.

Students initially demonstrated limited competence in writing informative texts ($M = 2.23$), reflecting gaps in organizing ideas, accuracy, and supporting details. This underscored the necessity for the F.A.K.T. Module intervention to remediate gaps in knowledge and skills.

5.CONTROL GROUP

Control group students showed moderate fact-checking knowledge, with higher scores in identifying credible sources and verification processes ($\sim M = 2.32$). Like the Experimental Group, lowest scores were in misinformation recognition ($M = 1.97$) and source intent understanding ($M = 2.00$), reflecting persistent challenges.

Skills were moderately low compared with the Experimental Group. The highest skill was independent fact-checking ($M = 2.42$), while use of fact-checking websites and evidence evaluation were weaker ($M = 2.18$).

Moderate positive attitudes were observed, especially in daily fact-checking ($M = 3.11$). However, accountability and source consideration were lower (means < 2.61), pointing to a need for fostering ethical awareness.

Unlike the Experimental Group, the Control Group's scores decreased significantly from pretest ($M = 3.71$) to posttest ($M = 2.50$), $p = 0.018$, suggesting that lack of intervention may lead to decreased engagement or performance.

Despite having higher baseline scores, the Control Group was outperformed by the Experimental Group after the intervention, with a significant mean difference of 8.07 points ($p < .001$). This indicates the F.A.K.T. Module's strong effectiveness in improving fact-checking competencies and informative writing quality.

6.DISCUSSION

The results affirm that the F.A.K.T. Module significantly improves students' fact-checking knowledge, skills, and attitudes alongside their informative writing performance. Grounded in Media and Information Literacy, Constructivist Learning, Information Verification, and the Theory of Planned Behavior, the instructional design effectively combines scaffolded learning, ethical considerations, and practical exercises to enhance cognitive and affective outcomes.

Key areas needing focus include better misinformation recognition and evidence evaluation core to responsible academic and digital literacy. The lower scores on moral responsibility necessitate integrating values education to sustain ethical behavior in information sharing.

The widespread use of AI-generated writing among students points to the importance of clear guidelines on ethical and analytical AI use in academic work.

This research demonstrates that structured, theory-based fact-checking instruction is vital to cultivating responsible, critical digital content creators and advancing students' digital literacy. The F.A.K.T. Module's success underscores the importance of targeted interventions in media literacy education to address contemporary challenges in the information landscape.

7.CONCLUSION

This study was conducted to examine the effectiveness of the F.A.K.T. (Fact-Checking as Academic Tool) Module as a pedagogical intervention aimed at enhancing the knowledge, skills, disposition, and quality of informative writing of selected Grade 11 Technical Professional students at QBCNHS. The study employed a quasi-experimental pretest–posttest control group design, utilizing a 15-item Likert survey and rubric-based assessment of informative writing.

The findings confirmed that the level of knowledge and skills among the selected Grade 11 Technical Professional students in using fact-checking was low to moderate prior to the intervention, while their disposition or attitude toward fact-checking was positive. Both the Experimental and Control Groups demonstrated weaknesses in recognizing misinformation and evaluating evidence during the pretest, which became the primary focus of the F.A.K.T. Module. These findings serve as a basis to strengthen instruction in critical information evaluation and to cultivate proper habits among students.

Analysis showed that the F.A.K.T. Module was more effective for the Experimental Group than the Control Group. There was a significant increase in the Experimental Group's score from $M = 2.23$ to $M = 10.57$ ($t = -18.582$; $p < .001$), whereas the Control Group's score decreased from $M = 3.71$ to $M = 2.50$ ($p = .018$). This confirms that the F.A.K.T. Module, which comprises lateral reading, claim verification, and the use of verified evidence, effectively deepened students' learning and skills in writing informative texts.

It was demonstrated that the F.A.K.T. Module is an effective pedagogical intervention that improved the quality of students' informative writing. Based on the results, the Experimental Group exhibited higher organization, accuracy of evidence, and proper use of AI tools compared to the Control Group. This underscores the importance of systematic implementation of the module to develop students' critical writing and digital literacy.

8.RECOMMENDATIONS

Based on the study's findings and conclusions, the following recommendations are offered to

enhance fact-checking education and improve students' academic writing skills.

Firstly, fact-checking should be systematically integrated into the Senior High School curriculum, particularly in Filipino, Communication, and Media and Information Literacy subjects.

Secondly, scaffolded training in informative writing is essential, guiding students through outlining ideas, sourcing credible references, incorporating evidence, applying citation standards, and revising work.

Thirdly, the F.A.K.T. Module should be adapted as a cross-disciplinary teaching tool in subjects including Filipino, Social Studies, and technical tracks, with step-by-step guidance on writing formats and information evaluation to ensure consistency and rigor.

Students must be taught to use AI responsibly, as aids for brainstorming or grammar checking rather than substitutes for critical thinking.

Lastly, longitudinal research should be conducted to monitor retention of fact-checking knowledge, skills, and attitudes, offering insights into the lasting impact of these initiatives.

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