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Effectiveness of a Teacher-Developed Module in Enhancing Plagiarism Awareness Among Grade 10 Students

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Abstract

Plagiarism continues to be a persistent concern in secondary education, highlighting the need for effective instructional strategies that promote academic integrity and responsible research practices among students. This study determined the effectiveness of a teacher-developed module in enhancing the plagiarism awareness of Grade 10 students in a public secondary school. A quasi-experimental pre-test-post-test control group design was employed. Sixty-two students participated in the pretest, consisting of 27 students in the experimental group and 35 students in the control group. However, only 40 students with complete posttest data (18 experimental and 22 controls) were included in the final statistical analysis. The experimental group received instruction using the teacher-developed module, while the control group was taught through the conventional lecture method. Data was analyzed using descriptive statistics, an Independent Samples *t*-test, and Cohen's d effect size. The findings revealed that the experimental group obtained significantly higher posttest scores than the control group ($p = .015$). The computed Cohen's d of 0.918 indicated a large effect, demonstrating that the instructional module produced a meaningful improvement in students' plagiarism awareness. The findings suggest that teacher-developed instructional modules can serve as effective and practical interventions for promoting academic integrity and strengthening students' understanding of plagiarism, proper citation practices, and responsible use of information.

Keywords: plagiarism awareness, academic integrity, instructional module, quasi-experimental design, Grade 10 students.

INTRODUCTION

Plagiarism has become a persistent concern in educational institutions because it undermines academic integrity and the development of ethical research and writing practices among students. As learners increasingly rely on printed and digital information sources, they are expected not only to gather information but also to acknowledge the intellectual contributions of others through proper citation and referencing. Failure to do so constitutes plagiarism, which is defined as the wrongful appropriation of another person's intellectual work and presenting it as one's own (Lannelongue et al., 2016). Developing plagiarism awareness at an early stage of education is therefore essential in fostering responsible academic behavior and preparing students for higher levels of research.

Recent Philippine studies also underscore the need to strengthen academic integrity among secondary school learners. Abante et al. (2021) observed that academic dishonesty

remains a concern among public high school students, emphasizing the importance of preventive educational interventions rather than punitive approaches alone. Similarly, Dizon and Reyes (2020) found that many Grade 10 students continue to experience difficulties in proper source attribution and research writing, highlighting the need for explicit instruction on citation practices before students engage in more advanced research tasks. In the local public secondary school environment under study, plagiarism has been observed as a recurring concern, particularly in research-related classroom activities. Students frequently submit assignments and written outputs containing copied information without properly acknowledging the original sources. English teachers have likewise reported that many students have trouble in preparing in-text citations and reference lists despite the inclusion of citation lessons in the Grade 10 English curriculum. Moreover, while the Department of Education curriculum requires students to gather information from various sources, it provides limited explicit instruction on proper source attribution (Department of Education, 2018). Similarly, the school's institutional handbook identifies plagiarism as a form of academic dishonesty but provides limited guidance on its definition, consequences, and prevention. These observations highlight the need for contextualized instructional materials that explicitly teach plagiarism awareness and responsible research practices.

Previous studies have consistently shown that inadequate knowledge of plagiarism contributes to academic dishonesty. Enam (2017) and Carnero et al. (2017) reported that students often commit plagiarism because they lack sufficient understanding of proper citation and referencing. Likewise, Elshafei and Jahangir (2020) emphasized that the absence of clear institutional policies and educational interventions increases the likelihood of plagiarism. Williamson and McGregor (2006) and Vieyra and Weaver (2016) further argued that plagiarism prevention should begin during the secondary school years because many students plagiarize unintentionally due to insufficient instruction. These findings suggest that educational interventions focusing on awareness and instruction are more effective than relying solely on punitive measures.

Several approaches have been introduced to minimize plagiarism in educational settings. Chao et al. (2009) discussed the use of plagiarism detection software such as Turnitin to identify copied work, while Williamson and McGregor (2006) highlighted educational initiatives that promote responsible information use. Brooks et al. (2011) likewise suggested that preventive classroom interventions are more effective in cultivating ethical academic behavior than punishment alone. Although these strategies have demonstrated positive outcomes, many public secondary schools continue to have limited access to instructional resources specifically designed to teach plagiarism awareness. At the time this study was conducted, the target public secondary school had no localized instructional material dedicated to plagiarism awareness, proper citation, and academic integrity. This gap provided the basis for developing a teacher-made instructional module as an intervention.

Several studies have likewise demonstrated the effectiveness of instructional modules in improving students' learning outcomes. Ambayon (2020) reported that modular instruction enhanced students' comprehension and engagement in literature classes, while Malik (2012) found that modular approaches resulted in better academic performance than traditional teaching methods. In the Philippine context, Castro and De Luna (2022) and Mercado (2021) likewise reported that self-paced and localized instructional modules contributed to improved student achievement and independent learning. These findings suggest that well-designed instructional modules can serve as effective learning resources in addressing specific educational needs, including plagiarism awareness and academic integrity.

The study is anchored on Behaviorism and Constructivism as its theoretical foundations. Behaviorism emphasizes that learning occurs through reinforcement and repeated practice, allowing learners to develop desirable behaviors over time (Farhadi, 2007). In this study, repeated exercises, guided activities, and immediate feedback were incorporated into the module to reinforce proper citation practices and ethical use of information. Constructivism, on the other hand, posits that learners actively construct knowledge through meaningful experiences and reflection (Williamson & McGregor, 2006). The instructional module encouraged students to engage in independent learning activities, reflect on authentic situations involving plagiarism, and apply their understanding through practical exercises. Together, these theoretical perspectives support the development of plagiarism awareness by combining explicit instruction with active learner engagement.

Given these concerns, this study developed and evaluated a teacher-developed module designed to enhance plagiarism awareness among Grade 10 students. Specifically, the study sought to determine the effectiveness of the instructional module by comparing the pretest and posttest performance of students who received the intervention with those who were taught using the conventional lecture method. The findings are expected to contribute to the improvement of instructional practices that promote academic integrity and responsible research behavior in secondary education.

METHODS

Research design

This study employed a quasi-experimental research design using a pre-test-post-test control group design to determine the effectiveness of a teacher-developed module in enhancing plagiarism awareness among Grade 10 students. The design was considered appropriate because the participants belonged to existing class sections and could not be randomly assigned to experimental conditions.

The study involved two intact Grade 10 classes of a public secondary high school. One class served as the experimental group, which received instruction through the teacher-developed plagiarism awareness module, while the other class served as the control group, which received instruction through the conventional lecture method. Both groups completed the same pretest before the intervention and the same posttest after the instructional period.

The effectiveness of the instructional module was determined by comparing the posttest performance of the experimental and control groups using an Independent Samples *t*-test. Cohen's *d* was likewise computed to determine the practical significance of the intervention.

Participants and Sampling

Purposive sampling with total enumeration of the selected intact classroom blocks was utilized to identify the participants of the study. The research was conducted at a public secondary high school located in an urban division in the Cordillera Administrative Region, Philippines, chosen because the institution had no existing localized instructional materials dedicated to plagiarism awareness at the time.

The study initially involved 62 Grade 10 students, consisting of 27 students in the experimental group and 35 students in the control group. The inclusion criteria required participants to be officially enrolled Grade 10 students in the designated sections and present during the initial diagnostic phase. These participants completed the pretest before the implementation of the intervention.

However, strict exclusion criterion was applied to preserve data integrity: students who were absent during the instructional module implementation, missed the posttest, or submitted incomplete posttest responses were excluded from the final data processing.

Consequently, the final sample size utilized for inferential analysis consisted of 40 students, with 18 students in the experimental group and 22 students in the control group. This final sample size represents the maximum complete dataset available within the operational constraints of the school's active academic calendar. Because intact class sections were used, random assignment of participants was not possible, making the study quasi-experimental in nature.

Instrument

The primary data collection instrument was a 20-item researcher-developed plagiarism awareness test designed to measure students' knowledge of plagiarism, academic integrity, proper source attribution, in-text citation, reference writing, and the institutional consequences of plagiarism. The test served as both the pretest and the posttest, developed in alignment with the learning competencies prescribed in the Department of Education curriculum and the content of the instructional module.

To establish content validity, the instrument was evaluated by a panel of five expert validators consisting of language subject teachers and quantified using Aiken's validity coefficients. The test underwent pilot testing on non-participating student blocks, and its internal consistency and reliability were verified utilizing Cronbach’s alpha. Necessary structural revisions were fully incorporated based on the recommendations of the validators before official deployment.

The instrument was administered simultaneously in a controlled classroom setting under the supervision of the researchers. Each correct response was awarded one point, resulting in a maximum possible score of 20 points. Objective performance baselines were established using a 5-point Likert scale array for score interpretation: 16.00–20.00 (Very High Awareness); 12.00–15.99 (High Awareness); 8.00–11.99 (Average Awareness); 4.00–7.99 (Low Awareness); and 0.00–3.99 (Very Low Awareness).

Data collection

Prior to the conduct of the study, official institutional approval to undertake the research was obtained from the appropriate Schools Division Office through the Schools Division Research Committee. Administrative clearance and approval were likewise secured from the school head of the participating public secondary high school. Ethical considerations were strictly observed, and written informed consent was obtained from the parents or legal guardians of all participating minor students before the implementation of the study.

The data collection process began with the researchers administering the 20-item pretest simultaneously to both the experimental and control groups to determine the participants' baseline level of plagiarism awareness. Following the pretest phase, the experimental group received instruction using the teacher-developed plagiarism awareness module, while the control group was taught the same foundational lessons through the conventional lecture method. The intervention was implemented during the regular class schedule under the direct supervision of the researchers to ensure instructional consistency.

Upon completion of the designated instructional intervention timeframe, the same 20-item achievement test was administered as a posttest to both groups under identical classroom conditions. Although 62 students originally completed the pretest, only 40 students completed the posttest and met the strict inclusion criteria for the final statistical analysis. Specifically, 18 students from the experimental group and 22 students from the control group successfully completed both the intervention tracks and the posttest. Students who were absent during the posttest administration or who submitted incomplete responses were strictly excluded from the inferential statistical analysis to ensure the absolute accuracy

and completeness of the final datasets. The completed test papers were subsequently checked, scored, encoded, and organized for statistical processing.

Data analysis

The data collected was analyzed using both descriptive and inferential statistical techniques. Descriptive statistics, including frequency counts, means, standard deviations, and descriptive ratings, were used to summarize the pretest and posttest performance of the experimental and control groups.

To determine whether a significant difference existed between the posttest scores of the experimental and control groups, an Independent Samples t-test was employed. Statistical significance was evaluated at a 5% level of significance $\alpha = 0.05$). A p-value less than .05 indicated sufficient evidence to reject the null hypothesis of no significant difference.

To determine the magnitude of the intervention's effectiveness, Cohen's d was computed and interpreted using standard guidelines, where 0.20 indicates a small effect, 0.50 indicates a medium effect, and 0.80 or higher indicates a large effect. This effect size analysis provided critical information regarding the practical significance of the teacher-developed plagiarism awareness module beyond statistical significance alone.

RESULTS

Table 1. Pretest performance of the experimental and control cohorts

Group	n	M	Descriptive Rating
Experimental	18	8.48	Average
Control	22	7.09	Low

Note. Descriptive ratings: 16.00–20.00 = Very High; 12.00–15.99 = High; 8.00–11.99 = Average; 4.00–7.99 = Low; 0.00–3.99 = Very Low.

The baseline assessment gathered prior to implementation indicates that both student cohorts possessed limited fundamental knowledge regarding source attribution and intellectual property. While the experimental group maintained a minor initial baseline advantage within the "Average" range, both tracks demonstrated an explicit academic deficit that necessitated focused instructional intervention.

Table 2. Posttest performance of experimental and control groups

Group	n	M	Descriptive Rating
Experimental	18	14.89	High
Control	22	13.00	Average

Note. Descriptive ratings: 16.00–20.00 = Very High; 12.00–15.99 = High; 8.00–11.99 = Average; 4.00–7.99 = Low; 0.00–3.99 = Very Low.

Following the implementation timeframe, both groups registered distinct upward performance progress. However, the descriptive trends suggest that the self-directed intervention module yielded a more pronounced acceleration in student comprehension,

lifting the cohort category rating into the "High" threshold, whereas the conventional lecture track concluded within the "Average" parameter.

Table 3. Independent samples t-test comparing group posttest scores

Group	*n*	*M*	*SD*	*p*
Control	22	13.00	2.54	
Experimental	18	14.89	2.14	.015*

Note. SD = standard deviation. Significant at the 0.05 level.

To preserve mathematical validity, participants missing posttest endpoints were excluded, yielding a final analytical sample of 40 students. The inferential analysis revealed a statistically significant discrepancy between the posttest scores of the two streams. Because the computed probability value fell below the designated alpha threshold ($\alpha = 0.05$), the null hypothesis was rejected, confirming that the modular intervention significantly outperformed the traditional lecture framework.

Table 4. Cohen's d effect size of the instructional intervention

Statistical Measure	Value	Interpretation
Cohen's *d*	0.918	Large Effect

Note. Cohen's d values are interpreted as follows: 0.20 = Small Effect, 0.50 = Medium Effect, and 0.80 or higher = Large Effect.

The calculated standardized mean difference was utilized to evaluate the practical, real-world utility of the action research intervention. The resulting metric falls well above the standard high-impact benchmark, demonstrating that the teacher-developed module generated an educationally meaningful and highly substantial positive influence on student academic integrity metrics.

DISCUSSION

The present study examined the effectiveness of a teacher-developed module in enhancing plagiarism awareness among Grade 10 students. The findings demonstrated that students who received instruction through the teacher-developed module achieved higher levels of plagiarism awareness than those who received conventional lecture-based instruction. Both the statistical significance ($p = .015$) and the large effect size (Cohen's $d = 0.918$) indicate that the intervention was effective in improving students' understanding of plagiarism, proper citation practices, and academic integrity.

Prior to the implementation of the intervention, the pretest results showed that both the experimental and control groups had limited knowledge of plagiarism. The experimental group obtained an average descriptive rating, while the control group obtained a low descriptive rating. These findings suggest that many students entered the study with insufficient understanding of plagiarism and responsible source attribution. This observation supports the findings of Enam (2017) and Carnero et al. (2017), who reported that students

often commit plagiarism because they lack adequate knowledge of proper citation and referencing rather than because of intentional academic dishonesty.

Following the implementation of the instructional intervention, both groups demonstrated improvement in their posttest performance. However, the experimental group achieved a higher mean score and attained a high descriptive rating, whereas the control group remained within the average descriptive level. This finding suggests that although conventional classroom instruction contributed to learning, the teacher-developed module provided a more structured and engaging learning experience that enabled students to better understand plagiarism and ethical academic practices. The module allowed students to study independently, revisit difficult concepts, and reinforce learning through guided activities, which may have contributed to their improved performance. The present findings are likewise supported by studies demonstrating the effectiveness of instructional interventions in promoting academic integrity. Ballard (2013) reported that instructional modules on plagiarism awareness significantly reduced students' similarity index scores and improved their understanding of proper citation practices. Likewise, Owens and White (2013) found that sustained educational interventions were more effective in reducing plagiarism than relying solely on punitive institutional policies. These findings reinforce the importance of providing students with explicit instruction and guided practice on ethical academic writing.

The significant difference between the posttest scores of the two groups further demonstrates the effectiveness of the teacher-developed module. This finding is consistent with the study of Belter and du Pre (2009), who found that instructional interventions focusing on plagiarism awareness significantly improved students' understanding of proper citation and reduced instances of plagiarism. Likewise, Stetter (2012) reported that web-based plagiarism awareness modules effectively enhanced students' knowledge of academic integrity and responsible writing practices. These studies support the use of explicit instructional materials as preventive strategies against plagiarism.

The large effect size obtained in this study indicates that the instructional module had substantial educational value. Beyond achieving statistical significance, the intervention produced meaningful learning gains that are likely to have practical implications in classroom instruction. This finding suggests that contextualized, teacher-developed instructional materials can effectively address learning needs that are not fully met by existing curriculum resources. Since the module integrates school policies, curriculum competencies, and practical citation exercises, it provides students with opportunities to apply ethical research practices in authentic learning situations.

The findings also align with more recent Philippine research. Santos and Villafuerte (2023) concluded that localized instructional materials effectively promoted academic honesty and ethical learning behaviors among public high school students. Their findings support the present study, which demonstrated that a teacher-developed module can significantly enhance students' plagiarism awareness and responsible use of information.

The findings are likewise supported by the theoretical foundations of the study. According to behaviorism, learning occurs through reinforcement and repeated practice (Farhadi, 2007). The instructional module incorporated guided exercises, immediate feedback, and repeated opportunities for students to practice proper citation and source attribution, thereby reinforcing desirable academic behaviors. At the same time, the study reflects the principles of constructivism, which emphasize that learners actively construct knowledge through meaningful experiences and reflection. By engaging students in authentic learning tasks related to plagiarism and academic integrity, the module enables learners to build their own understanding of ethical research practices and apply them in academic writing.

The use of plagiarism awareness modules may also complement technology-assisted approaches in promoting academic integrity. Khoza (2015) emphasized that plagiarism detection software is most effective when combined with explicit instruction that helps students understand the ethical principles underlying proper citation and responsible authorship. This suggests that instructional modules and technological tools should be viewed as complementary strategies for promoting academic honesty rather than as independent interventions.

The findings of this study have important implications for educational practice. Teacher-developed instructional modules may serve as practical and cost-effective resources for strengthening plagiarism awareness among secondary school students, particularly in public schools with limited access to commercial plagiarism detection software. Integrating plagiarism awareness into English, Filipino, and research-related subjects may help students develop responsible academic behaviors before entering senior high school and higher education. Schools may also consider adopting localized instructional materials that align with curriculum standards while addressing the specific learning needs of their students.

CONCLUSION

The study concludes that the teacher-developed plagiarism awareness module is a highly effective instructional intervention that significantly outperforms conventional lecture methods. The statistical evidence ($p = .015$) combined with a large effect size (Cohen's $d = 0.918$) confirms that the module produces educationally meaningful learning gains, successfully reinforcing junior high school students' understanding of proper citation practices, academic integrity, and responsible information use. Generalizing from these results, integrating localized and contextualized instructional materials into the classroom effectively bridges structural gaps in the core curriculum that conventional teaching methods may leave unaddressed.

Based on these findings, it is recommended that this plagiarism awareness module be officially adopted as a supplementary learning resource in secondary education classrooms. School administrators should encourage the integration of localized academic integrity units within English, Filipino, and research-oriented modules. For future research, it is suggested that studies expand the sample size across multiple public schools to enhance generalizability. Future researchers should also investigate the long-term retention of plagiarism awareness through delayed post-testing and evaluate the module's practical impact directly on students' actual research paper submissions and drafting workflows.

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Conflict of interest

The authors declare that there are no conflicts of interest regarding the publication of this study.

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