

## **Development Evaluation and Pilot Testing of Research Writing Guidebook in Improving Student's Writing Skills**

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**Abstract:** The goal of this study was to improve the writing abilities of Grade 12 students taking Practical Research 2 by developing, assessing, and pilot testing a Research Writing Guidebook. Both quantitative and qualitative data were collected using a mixed-method approach to evaluate the quality and efficacy of the produced material. Using the Learning Resources Management and Development System (LRMDS) criteria for instructional materials, a master teacher from the school and a few chosen teachers participated in the survey. Their assessment concentrated on the guidebook's organization, content, format, and curriculum-related relevance. To get their opinions on the guidebook's usability and content relevance, Grade 12 students were also the main user. To measure how much their research writing abilities had improved, the students also took a pre- and post-test. The results of the pre-test and post-test scores differed significantly, according to statistical analysis, suggesting that the guidebook improved students' writing abilities. These conclusions were validated by the qualitative information gathered from student interviews, which identified the guidebook's main advantages as its clarity, organized advice, and useful examples. All things considered, the study found that the Research Writing Guidebook is a high-quality and successful teaching resource that improves students' research writing skills. To help students develop their academic writing skills, the guidebook should be further improved based on user feedback and used more widely in other senior high school research classes.

**Keywords:** guidebook; research writing skills; content; organization; format

### **INTRODUCTION**

A face-to-face discussion with feedback and self-learning material where students can bring at home and read as a follow up to confirm their learning will make a good tandem. Writing a research paper is really a challenge not only for students but also for adults as well. If the foundation was strong the proceedings tasks become manageable, in other words if research writings skills were thought in a good way in the early years, future research endeavor will not be a problem anymore.

Teaching materials are a valuable tool for achieving learning goals. Teaching materials can assist teachers in planning learning activities and guiding students through the learning process, both at school and home. To ensure the

quality of instructional materials generated must be thoughtfully designed, evaluated, and adapted to learners' needs to truly support teaching and learning both in school and at home (Suryani, Sutarno, & Supriyanti, 2023).

The development of a guidebook tailored for research writing in Grade 12, with a special focus on writing skills, is a significant milestone in the educational view. In the study of Ates (2020), the guidebook, as the product of careful design and educational expertise, serves as a guiding light for educators and students alike. It offers a structured path for students to embark on their research quests, encouraging them to explore topics that resonate with their interests and passions.

### **Research Questions**

The aim of the study is to develop, assess and determine if the learning material can improve the writing skills of Grade 12 students in research.

Specifically, it aims to answer the following:

1. How may the guidebook be developed based on the students' present writing skills?
2. How may the evaluation level of the developed research writing guidebook be described by the experts, and teachers based on the LRMDs evaluation criteria in terms of:
  - 1.1 content
  - 1.2 format
  - 1.3 presentation and organization?
3. Is there a significant difference in the evaluation of the experts and teachers?
4. What part of the developed research writing guidebook materials need enhancement?
5. Is there a significant difference in the research writing performance of the students before and after utilizing the research writing guidebook?
6. How does research writing guidebook help the students in improving their writing performance skills?

### **METHODOLOGY**

This study used a developmental research design based on the ADDIE model, which includes five phases: Analysis, Design, Development, Implementation, and Evaluation. A mixed-methods approach was used, combining both qualitative and quantitative data to guide the creation and assessment of a guidebook as an intervention tool.

In the Analysis phase, the needs of the target group were identified. This was done through a review of existing studies, surveys, and interviews or focus group discussions. The goal was to understand what information the users needed and how the guidebook could help the students. The Design phase involved planning the content and layout of the guidebook. Learning goals were written based on the needs found in the analysis. The content was organized into sections,

and ideas for activities, visuals, and learning strategies were included. Experts helped review and improve the design plan. During the Development phase, the actual guidebook was written and designed. Content was drafted, visuals were added, and a complete version of the guidebook was created. This draft was reviewed by experts and tested by a small group of users. Their feedback helped improve the guidebook before finalizing it. In the Implementation phase, the completed guidebook was given to the target users. The users were asked to use the guidebook over a set period, and pre- and post-tests were done to check for changes in their knowledge, attitudes, or behavior. Finally, in the Evaluation phase, the guidebook was assessed for its usefulness and effectiveness.

### Participants

The expert-respondents were one (1) master teacher, two (2) teachers with master’s degree from junior high school and the teacher- respondents were teachers teaching research subjects in senior high school. The student participants for pilot testing were the twenty-five (25) Grade 12 students from different strands (HUMSS, ABM, TVL HE and ICT).

### Proposed Intervention

The intervention material that was used in this study is a guidebook that undergone process of development, evaluation, validation, and pilot testing. The guidebook will be developed according to the following criteria, clear objectives align to the least learned objectives, activities and topics are flexible and adaptable to accommodate diverse learning styles and preferences.

### Instrument/s

On the define stage, a researcher made open ended interview guide questionnaire that was used to identify the challenges of students experienced in research writing. For evaluating the guidebook, the “Evaluation and Review Criteria for Development of New PRINT Resources” of LRMDs was used. To determine the impact of the guidebook in the writing skills of the students, adapted rubrics from University of San Jose – Recoletos was utilized.

## RESULTS AND DISCUSSION

Table 1. Results of the post- evaluation and feedback of the guidebook by the teachers using thematic analysis

Teacher Respondent	Feedback	Sub themes	Themes
1	The guidebook can be used as supplemental material for teaching research.	Can be used as supplemental material	Content, format and presentation and organization is good.
2	The guidebook is very useful.	Useful	Content, format and presentation and organization is good.
3	The guidebook will be helpful for the students.	Helpful for the students	Content, format and presentation and organization is good.

4	The guidebook has very satisfactory content and features.	Very satisfactory content and features	Content, format and presentation and organization is good.
5	The guidebook is indeed useful for the students.	Useful	Content, format and presentation and organization is good.

The overall results show in table 1, for the content, format and presentation as factors 1 to 3 is good. Teachers' approval that the guidebook is “useful for students” highlights its practical value in supporting student learning. Mayer (2009) emphasizes that instructional materials should not only present information but also actively engage students in the learning process. Teachers' feedback that the guidebook has “very satisfactory content and features” is a positive indicator of the quality and relevance of the material. The overall positive evaluation of the guidebook’s content, format, and presentation indicates that the guidebook is well-designed and meets key instructional design standards. As noted by Reiser and Dempsey (2022) as cited by Ozkan, Cevik, Saylan, & Cakirogu (2025), an effective instructional resource should have a balanced content clarity with engaging presentation.

able 2. Paired sample T-test result on the comparison between the pre- and post of the writing skills of the students before and after utilizing the guidebook

		95% Confidence	t	df	Sig. (2- tailed)
<b>Pair 1</b>	PREINTRODUCTION	-1.24495	-12.567	24	0.000
	POSTINTRODUCTION				
<b>Pair 2</b>	PRELITERATURE	-1.17227	-9.501	24	0.000
	POSTLITERATURE				
<b>Pair 3</b>	PRERESEARCHDESIGN	-1.13686	-9.929	24	0.000
	POSTRESEARCHDESIGN				
<b>Pair 4</b>	PRERESULTDISCUSSION	-1.25739	-10.663	24	0.000
	POSTRESULTSDISCUSSION				
<b>Pair 5</b>	PRECONCLUSION	-1.09427	-9.163	24	0.000
	POSTCONCLUSION				

Table 2 clearly shows that in writing the introduction, a p-value of 0.000 which is lower than the significant level of 0.05 which means that there is a significant difference. In writing the related literature, research design, discussions and conclusions all got a p-value of 0.000 which is lower than the 0.05 level of significance. This concludes that there is a significant difference between the writing skills of the students before and after utilizing the guidebook, thus null

hypothesis is rejected. The results agree with the study of Darnawati, Jamiludin, Mursidin, La Ili. (2021) explored the use of guidebooks in an undergraduate course on literature analysis and found that students have higher motivation levels and greater satisfaction with the course compared to those relying solely on lectures and textbooks.

## CONCLUSIONS

1. There is no significant difference between the evaluation of the teachers and expert in evaluating the guidebook, indicating that the guidebook is consistent and passed the standard criteria, therefore the null hypothesis is accepted.

2. There is a significant difference between the pretest and post test results of the students, therefore using the guidebook improves the students' writing skills, thus null hypothesis is rejected

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