

Effectiveness of methods of research text/workbook to the graduate students’ research capability

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Abstract

This study aimed to determine the effectiveness of the developed and validated text/workbook in Methods of Research to the graduate students’ research capability. The respondents of the study were the 81 Master of Arts in Education (MAEd) students with different specializations during academic year 2019-2020. This study utilized non-equivalent group of quasi experimental research design. Mean, standard deviation, and t-test of independent sample were applied as statistical tools of this study. The findings of this revealed that the students’ research capability from moderately capable or before using the text/workbook to became capable after using it. Based on the findings the researchers conclude that there is highly significant difference between the pre and post assessments of the students’ research capability. The researchers recommended the consistent utilization of the text/workbook in Methods of Research for it helps and guide the students in terms of their technical writing in research, and conducting research study that will include the evaluation of the completed research of the students in their Advanced Methods of Research subjects for much accurate results on its effectiveness.

Keywords: effectiveness, methods of research, text/workbook, research capability

Introduction

Research comprises "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications." It is used to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support theorems, or develop new theories. A research project may also be an expansion on past work in the field. To test the validity of instruments, procedures, or experiments, research may replicate elements of prior projects, or the project as a whole (Frascati, 2002).

This module guide researchers especially those who are new in the field of research world. This module also includes the following topics such as the Laguna State Polytechnic University Research Paper writing format, on how to write parts of research papers from Chapter 1 to 5, the title page and abstract of the research study.

It also discussed the different statistical tools that are appropriate to use to test the hypothesis/hypotheses of the research because it plays an important role to make any thesis writing succeed. As one of the author quoted, "There is no royal road to research without Statistics."

The authors were inspired to develop this module to assist students especially those who encountered difficulties in writing their research study and their application of the concepts to real life situations.

Theoretical/Conceptual Framework

As mentioned in the study of Tamban V. and Malabayabas C. (2019). in their study the "Effectiveness of Module in Understanding the Self to the College of Teacher Education Students’ Performance", this study were anchored on scaffolding

in learning Jerome Bruners Theory on learners varied world perceptions for their own Interpretative thinking of people & their environment, reflective thinking Levs Vygotsky’s Zone of Proximal Development (ZPD) Stresses the essence of provocation, and IBL(Inquiry-based Learning) John Dewey’s Theory of connected experiences for Explanatory.

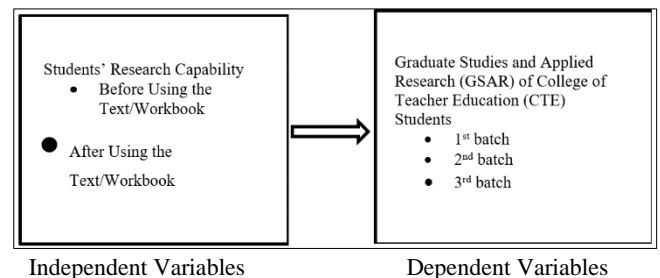


Fig 1

Materials and Methods

The study focused on the assessment of the Methods of Research text/workbook effectiveness to students’ performance. Experimental research design was used since it determine the effectiveness of the developed and validated module.

The research procedure is composed of pre-assessment of the students’ technical writing skills before using the module and post-assessment of the students’ technical writing skills after using the module.

The participants of the study were the 81 or 95% of 85 MAED students taking up Methods of Research from Graduate Studies and Applied Research of College of Teacher Education, Laguna State Polytechnic University, Los Baños Campus. The self-

developed module which was validated and evaluated by the Curriculum and Instruction Development and Qualitative Assurance (CIDQA), copyrighted and with ISBN number from National Library served as the instruments of this study. Mean and SD were used to determine the scores of the students in their pre and post assessments of the students' research technical writing skills, and t-test of dependent sample was applied.

Results and Discussion

The results in table 1 shows the students' level of research technical writing skills on the pre-assessment.

Table 1: students' level of research technical writing skills before using the text/workbook

Indicators I am capable of...	Mean	SD	Verbal Description
1. formulating research title	3.59	0.72	Capable
2. writing rationale/introduction/background of the study	2.56	0.70	Moderately Capable
3. Writing the research conceptual framework and research paradigm.	2.44	1.09	Slightly Capable
4. writing statement of the problem	4.42	0.70	Capable
5. formulating hypothesis/hypotheses	4.20	0.90	Capable
6. writing significance of the study	3.92	0.29	Capable
7. Writing scope and limitation of the study.	4.34	0.59	Capable
8. writing definition of terms	4.23	0.82	Capable
9. writing the review of related literature and studies	3.03	0.43	Moderately Capable
10. writing a research proposal	2.14	0.52	Slightly Capable
11. writing research methodology	1.72	0.70	Slightly Capable
12. Determining the research design to apply in my study.	1.54	0.87	Slightly Capable
13. adopting/ constructing/ modifying research instrument	1.24	0.42	Not Capable
14. writing abstract	1.67	0.48	Slightly Capable
15. writing results and discussion	1.42	0.34	Not Capable
16. writing conclusions	1.92	0.50	Slightly Capable
17. writing recommendation	2.52	0.60	Moderately Capable
18. applying APA format	1.40	0.42	Not Capable
Composite Mean	2.68	0.32	Capable

Legend

Table 2

Weighted Mean	Interpretation
4.50 - 5.00	Highly Capable
3.50 - 4.49	Capable
2.50 - 3.49	Moderately Capable
1.50 - 2.49	Slightly Capable
1.00 - 1.49	Not capable

The students were capable of formulating research title ($\bar{x} = 3.59$;

SD =0.72), writing statement of the problem ($\bar{x} = 4.42$; SD =0.70), formulating the hypothesis/hypotheses ($\bar{x} = 4.20$; SD =0.90), writing significance of the study ($\bar{x} = 3.92$; SD =0.29), writing scope and limitations of the study ($\bar{x} = 4.34$; SD =0.59), and writing definition of terms ($\bar{x} = 4.23$; SD =0.82). They were moderately capable of writing rationale/introduction/background of the study ($\bar{x} = 2.56$; SD =0.70), writing the review of related literature and studies ($\bar{x} = 3.03$; SD =0.43), and writing recommendation ($\bar{x} = 2.52$; SD =0.60), while they were slightly capable of writing research proposal ($\bar{x} = 2.14$; SD =0.52), writing research methodology ($\bar{x} = 1.72$; SD =0.70), determining the research design to apply in their study ($\bar{x} = 1.54$; SD =0.87), writing abstract ($\bar{x} = 1.67$; SD =0.48), and writing conclusion ($\bar{x} = 1.92$; SD =0.50), and then they were not capable of adopting/constructing/modifying research instrument ($\bar{x} = 1.24$; SD =0.42), writing results and discussion ($\bar{x} = 1.42$; SD =0.84),and applying APA format ($\bar{x} = 1.40$; SD =0.42). The overall students' research technical writing skills is moderately capable ($\bar{x} = 2.68$; SD =0.32).

Table 2 presents the level of research technical writing skills after the utilization of the said text/workbook.

Table 3. Students' level of research technical writing skills after using the text/workbook

Indicators I am capable of...	Mean	SD	Verbal Description
1. formulating research title	4.86	0.35	Highly Capable
2. writing rationale/introduction/background of the study	4.19	0.68	Capable
3. Writing the research conceptual framework and research paradigm.	4.44	0.80	Capable
4. writing statement of the problem	4.67	0.55	Highly Capable
5. formulating hypothesis/hypotheses	4.90	0.42	Highly Capable
6. writing significance of the study	4.52	0.54	Highly Capable
7. Writing scope and limitation of the study.	4.62	0.49	Highly Capable
8. writing definition of terms	4.50	0.53	Highly Capable
9. writing the review of related literature and studies	4.62	0.45	Highly Capable
10. writing a research proposal	4.05	0.31	Capable
11. writing research methodology	4.55	0.87	Highly Capable
12. Determining the research design to apply in my study.	4.42	0.86	Capable
13. adopting/ constructing/ modifying research instrument	4.30	0.62	Capable
14. writing abstract	4.12	0.40	Capable
15. writing results and discussion	3.68	0.34	Capable
16. writing conclusions	3.95	0.69	Capable
17. writing recommendation	4.14	0.72	Capable
18. applying APA format	4.40	0.34	Capable
Composite Mean	4.39	0.52	Capable

Legend

Table 4

Weighted Mean	Interpretation
4.50 - 5.00	Highly Capable
3.50 - 4.49	Capable
2.50 - 3.49	Moderately Capable
1.50 - 2.49	Slightly Capable
1.00 - 1.49	Not capable

After utilizing the text/workbook in Methods of Research, the students were became highly capable of formulating research title (\bar{x} = 4.86; SD =0.35), writing statement of the problem (\bar{x} = 4.67; SD =0.55), formulating the hypothesis/hypotheses (\bar{x} = 4.90; SD =0.42), writing significance of the study (\bar{x} = 4.52; SD =0.54), writing scope and limitations of the study (\bar{x} = 4.62; SD =0.49), and writing definition of terms (\bar{x} = 4.50; SD =0.53), writing the review of related literature and studies (\bar{x} = 4.62; SD =0.45), and writing research methodology (\bar{x} = 4.55; SD =0.87), and they were became capable of the remaining indicators on their technical writing skills with mean ranges from 4.05 to 4.44 and with an overall mean scores (\bar{x} = 4.39; SD =0.52), the students' are capable in terms of their research technical writing skills after using the text/workbook. This determined that the text workbook in Methods of Research is effective in the improvement of research technical writing skills of the participants.

Table 3 shows the significant difference between the pre-assessment and post-assessment mean scores of the participants' research capability.

Table 5: Test of significant difference between pre-assessment and post-assessment of students' research technical writing skills

Assessment	Mean	Difference	DF	T-test computed value
Post-assessment	4.39	1.71	80	7.637**
Pre-assessment	2.68			

**p-value \leq 0.01; *p-value \leq 0.05

The results revealed that that there is highly significant difference between the pre and post assessments of students' research technical writing skills ($t=7.637$; $p\text{-value} < 0.01$). This means that the text/workbook contributes on the improvement on the students' research technical writing skills.

Table 4 shows the participants' overall feedback after using the module.

Table 6: Students' overall feedback after using the module

Statements	Mean	SD
1.The aims and objectives of the lesson are clear	100.0	0.35
2. Definition of terms is easy to understand.	4.19	0.68
3. Enough examples are given.	4.44	0.80
4. Examples give a clear view of the topic.	4.67	0.55
5. Numerical symbols are clear.	4.90	0.42
6. Contents can be used for self-study.	4.52	0.54
7. The lesson is specific.	4.62	0.49
8. The illustrations are creative and in good quality.	4.50	0.53
9. I find the lesson interesting and helpful in enhancing my skills.	4.62	0.45
10. The learning outcomes for this lesson are made clear to me	4.05	0.31
1. applying APA format	4.40	0.34
Composite Mean	4.39	0.52

Legend

Table 7

Weighted Mean	Interpretation
4.50 - 5.00	Highly Capable
3.50 – 4.49	Capable
2.50 – 3.49	Moderately Capable
1.50 – 2.49	Slightly Capable
1.00 – 1.49	Not capable

Conclusions and Recommendation

Based on the findings and results of the study, the researchers conclude that there is a highly significant difference between the pre and post assessments of the students' research technical writing skills.

The researcher recommended the following: first is to continue utilizing the text/workbook in Methods of Research for it helps and guide the students in terms of their technical writing in research, and conducting research study that will include the evaluation of the completed research of the students in their Advanced Methods of Research subjects for much accurate results on the effectiveness of the said text/workbook.

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