Perceived Competency Need of Postgraduate Students for Research Writing in Maryam Abacha American University, Niger Republic

Abubakar Sadiq Haruna, Ph.D.[1,2]
Emails: [1]asharuna@fugusau.edu.ng; [2]asharuna@maaun.edu.ng
ORCID: https://orcid.org/0000-0002-2958-2097

Nasir, Talatu Muhammad[2]

Muhammad, Abdullahi Sabo, PhD, FAIPH[3]
E-mail address: [3]likitasabo@gmail.com

[1]Federal University Gusau, Zamfara State
[2]Department of Education, Postgraduate School, MAAUN
[3]Department of Public Health, Postgraduate School, MAAUN

Abstract
This empirical research aimed at identifying perceived research competency needs of postgraduate students in research writing in Maryam Abacha American University, Niger Republic. Two research questions and null hypotheses each were formulated to guide the study. The descriptive survey design was adopted for the study. The population for the study comprised of 56 respondents consisting of 51 PhD students and five masters' students, with 42 been males and 14 females. Simple random sampling was used to recruit the research participants. A structured questionnaire used in a similar study was adopted as tool for data collection. The tool was modified to consist of 33 items, with each having two columns of (a) desirable and (b) difficult, patterned on a five-point rating format of 5, 4,3,2,1. The instrument covered the five chapters of a thesis writing format and was content validated by specialists. The internal consistency of the items was determined using Cronbach alpha method which produced a composite coefficient of .966. The data were personally collected by the researchers and analyzed using both descriptive and inferential statistics. The findings revealed that PG students desired the 33 competencies for thesis writing, out of which 11 competencies were rated difficult to be utilized by the students. The hypothesis tested revealed that there was no significant difference between male and female students on their competencies. It was recommended that both research lecturers and project supervisors should utilize the 33 skills, while emphasizing the difficult ones to make PG students competent in crafting quality research thesis.

Keywords: Research, thesis writing, perceived competency, Postgraduate students,

Introduction

Knowledge is the gateway to finding solution to life challenges in any human society. The demands for knowledge have increased the urge to conduct research. Research is an exploratory activity typically conducted about a matter of specific purposes. Research can be regarded as the systematic process of collecting and analyzing information in order to increase human understanding of the phenomena under investigation. Academic lecturers and students (both undergraduates and postgraduates) are two main groups who consistently embark on research in higher institutions of learning. The faculty members embark on research in order to enhance their promotion and personal development while the students do embark on research in order to submit a written thesis in partial fulfillment of a degree/ certificate before graduation. Research is therefore a process that comprised of series of steps and stages before final completion. It can be regarded as a process comprised of data collection, analysis, interpretation and assessment procedures conducted in a planned order with the aim of finding solutions to a problem. It is on this premise that Kpolovie (2011) provided one of the comprehensive definitions of research thus:

> It is the logical, systematic and objective collection, analysis, synthesis, evaluation and recording of accurate and controlled observation for the development of generalization, principles or theories that are ultimately aimed at description, explanation, predictions and control of natural phenomenon to meet specific needs of ma (P.3).

In the context of this current investigation, research can be conceptualized as a scientific systematic investigation aimed at finding a solution to a specific problem. That is, it is an action focused and directed towards collection, analysis, and interpretation of data on competency needs of postgraduate students for making them competent in thesis writing in their various areas of specializations in tertiary institutions. Research writing is embarking upon in many areas of study that include Education, Public Health and Medicine, Social Sciences, Engineering, Technology, just to mention a few. According to Ali (2006), educational research is a systematic scientific investigation involving identifying ways and means of solving problems relating to teaching and learning so that the goals of education can be actualized. While public health research can be conceptualized as involving identifying ways and means of solving healthrelated problems. Thesis writing is a pre-requisite for the award of a degree to postgraduate students in higher institutions of learning, be it master or doctorate degree. It should be noted at this juncture that postgraduate students are individual or candidates who are pursing or furthering their academic studies in tertiary institutions of learning like universities and monotechnics after bagging the bachelor degrees' requirement. Each postgraduate is expected to execute research in a problem area relevant to his/her field of study. The caliber of postgraduate consists of those who are pursing postgraduate Diploma (PGD), masters and PhD programmes. Before graduation, each of these groups of students carries out research writing. Research or thesis or dissertation writing is quite rigorous and laborious, and that requires following some basic steps and stages based on certain competencies.

Conceptually, competency in the view of Klemp (1980) in Ugwu, et al., (2005) is an underlying characteristic of a person which results in effective and superior performance of a job, while Krerisky and Jordan (1984) posit that it is the ability to possess suitable and sufficient knowledge, skills and attitudes that are required for successful performance of a given task. In the context of this investigation, competency is operationally conceptualized as the knowledge, skills, attitudes and confidence that are required by postgraduate students, for successful execution of research/thesis writing in their various field of specialization. Musa (2010) further states that competency refers to a standard requirement based on which an individual performs a task properly – the task of thesis writing properly. Indeed, competency therefore means the knowledge, skills, practical behavior and positive attitudes associated with successful completion of a written research/thesis or dissertation.

Research writing consists of selection of a suitable and researchable problem translated into a topic and its subsequent development and discussion based on the standard guideline requirement for a solution of an identified problem. Basically, a postgraduate student with the assistance of assigned thesis supervisor(s) or Committee members is expected to select a problem areas and frame it into a researchable topic, write the proposal which consist of Chapter One to Three, thus proposing and defending the work to a committee or experts who correct, modify and recommend that candidate should proceed and progress to the next stage of the research process. This implies that the candidate goes to the field to collect data and prepare Chapters Four and Five.

Structurally, there are five main Chapters that make up a thesis, namely Chapter one, titled introduction that consist of background to the study, statement of the problem, purpose of the study, significance of the study, research questions, statement of hypothesis and delimitation/scope of the study. Chapter Two is the review of related literature which consists of conceptual framework and theoretical framework, contextual and empirical studies and summary of the chapter. Chapter Three is on methodology consisting of research design, area of the study, population, sample and sampling techniques, instrument for data collection, validation and reliability of the instrument, procedures for data collection and method of data analysis. Chapter Four comprises of data analysis and presentation, findings and discussion of the findings. Chapter Five is the summary, conclusion and recommendations. Based on these systematic steps, the focus of this paper is aimed at postgraduate's students who are currently in master/PhD programmes to identify their competency need in writing chapters One to Five. Supporting this assertion, Ugwu, et al., (2015) citing Onwioduokit (2003) submits that right from the search for researchable topic through data collection and analysis, there are basic steps, stages, principles, strategies and established traditions to be followed in order to ensure that the research findings are valid and reliable. Indeed, without the required ideal competencies in research writing, the findings of a research may be invalid, unreliable and invariably not useful to humanity.

Unfortunately, extensive review of academic literature had revealed that both PG students and some of their supervisors are confronted with some competency problems associated with research writing, one of which is procrastination hence PG students spend so many years writing

thesis before completion. Another problem is the issue of ineffective supervision. This is exhibited in the quantity and quality of the research work in both published journals and completed postgraduate's theses. Buttressing on this issue, Agbo (2013) in a study on "dearth of quality research" observed that the research played a critical part in many facets of Nigerian Society until 1990s when it suddenly degenerated. Agbo added by linking this assertion with what Ex-President Goodluck Jonathn's speech at a Nigerian University Convocation ceremony in 2011: that Nigerian Universities record poorly or low in international ratings because then authorities pay little attention to research quality.

Research findings by Asim, Kalu and Ekweme (2004) observed that principles and tradition of carrying out research work are no more followed judiciously in both published and unpublished research. In addition, Abonyi (2003) observed that there are some fundamental flaws in experimental research published in the Journal of Science Teachers Association of Nigeria (STAN), thus posing threats to both internal and external validity of research findings. These observations are all indications of deficiencies among researchers which invariably imply poor research competencies. With the advent of TETFUND, there are millions of naira unaccesssed for research purposes because some researchers cannot write grant-winning research proposals. To guard against such low competencies, it thus becomes imperative to find out and assess the research competency needs of postgraduate students who are going to be the future researchers of this Nation.

Objectives of the Study

The major purpose of this research was to assess the competency needs of postgraduate students in research writing in Maryam Abacha American University, Niger Republic. Majority of the PG students in this university are Nigerians. Specifically, the study intends to identify and assess the competencies needs and level of difficulty of postgraduate students in:
1. Thesis writing of Chapter one to three proposals.
2. Thesis writing of chapter four to five of the research work.

Research Questions
1. What is the desirable and difficulty level of PG students in thesis writing of Chapters 1 to 3.
2. What is the desirable and difficulty level of PG students in thesis writing of Chapters 4 & 5

Hypotheses
The following null hypotheses were formulated and tested at .05 alpha levels of significance.
1. The competency level of the postgraduate's students in thesis writing will not be significantly high
2. There is no significant difference in the mean rating of male and female PG students in their perceived competency in thesis writing.

Methodology

This investigation adopted the descriptive survey research design. Survey designs are procedures and process in quantitative research which researchers administer as survey for example questionnaire to a sample or to the entire population of people to describe their attitudes, opinions, behaviors of population (Creswell, 2012). Denga and Ali (1998) citing Best (1986) described descriptive survey designs as concerned with conditions of relationships that exist, practice that prevails, belief of view or attitudes held, process that are going on, effort that are being felt or trends that are developing. In the context of this research, it helps to identify and assess the competency needs of PG students in research writing. The area of study is Maryam Abacha America University in Niger Republic. This is the first English speaking University, running different programmes at Undergraduates', Master and PhD levels, in various areas of specialization that include Public Health, Community Health, Environmental, Nursing, Law, computer sciences, Science laboratory, Education, Social Sciences, Management, ICT etc.

The population consisted of 56 respondents, made up of 5 master's students and 51 PhD students in different areas of specializations. Out of this number, 42 are males while 14 are females, with 53 of the students at proposal stage of their thesis writing while 3 are at internal defense stage. Simple random sampling technique was utilized to recruit the PG students for this research. Marital status reveals that 53 of the students are married while 3 are single, with 47 students falling between 36 years and above age bracket. Forty-nine of the respondents had published between 0-2 journal papers, 7 published between 3-6 papers while a single candied published 16 papers. Forty-seven PG students had conducted between 0-4 research projects, 7 students had between 5-7 projects while one conducted 10 research projects. The main instrument for data collection was a structured questionnaire adapted in a similar study (Ugwu, et al., 2015), but modified to suit the purpose of this research. Each questionnaire item was classified into two columns of Desirable and Difficult. The desirable column was assigned a five-point response options of Very desirable (VD), Desirable (D), Neutral (N), Undesirable (U) and very undesirable (VU) with values of 5, 4, 3, 2 and 1 respectively, while the difficult column was also assigned similar rating of Very difficult (VD), difficult (D), Neutral (N), easy (E) and very easy (VE). Thus, the tool consists of 33 items spread across five chapters typical of most thesis/dissertation worldwide.

The questionnaire items were validated by two specialists in Research Methodology and Measurement and Evaluation. The validators were requested to check the suitability of the items fort data collection. There corrections and suggestion were incorporated to produce the valid final draft copy of the tool. Ugwu, et al., (2015) reported a reliability of .85 determined through the use of internal consistency technique of Cronbach alpha method. In the current research a coefficient of desirable construct was .967, that of difficulty was .966 while the composite was .966 all obtained computed via similar method. This value is far above the threshold cut-ofpoint recommended by scholars (Gliem & Gliem, 2003, Pallant, 2010; Field, 2006). The copies of the questionnaire were administered to the respondents with the help of colleague lecturers. The respondents were requested to indicate the degree or extent of competency desirable and difficult

level of each item. The respondents were properly briefed on the importance of the research assuring them of confidentiality of their response. Participation in the research was voluntary and could withdraw at any time if they feel uncomfortable.

The data gathered were properly cleaned for errors, preliminary analyses performed and analyzed using descriptive statistics of frequency, percentages, mean and standard deviations. The mean was used to answer the research questions (Haruna, 2010). Decisions rule was based on each item as follows: any item with a mean value of 3.00 and above was interpreted as desirable (M1) or difficult (M2), while any item with a mean value less than 3.00 was interpreted as not desirable or not difficult. The null hypothesis of no statistical significance was tested at .05 alpha levels. The statistical analysis was facilitated with the assistance of computer software called IBM SPSS version 23.

Results
Research Question 1
What is the desirable and difficulty level of PG students in thesis writing of Chapters One to Three?

Table 1: Mean rating of postgraduate students on the competency desirable and difficulty levels in thesis writing chapters One to three

No	Items	Desired M1	SD	Diff. M2	SD	Desired Remark	Diff. Remark
1	Construct a researchable topic from a problem	3.61	1.12	3.02	1.26	DS	D
	Chapter One: Introduction						
2	Write the background to the study coherently	3.70	.97	3.16	1.17	DS	D
3	Articulate and state the problem of the study concisely	3.82	.99	2.93	1.26	DS	ND
4	State the specific purpose/objective of the study	3.77	1.16	2.61	1.17	DS	ND
5	Identify the benefic ices and state how they would benefit from the study	3.59	1.20	2.46	1.16	DS	ND
6	State the research questions and/ or hypotheses that relate to the study	3.75	1.16	2.71	1.22	DS	ND
7	Delimit/scope of the study appropriately	3.73	1.15	2.75	1.25	DS	ND
	Chapter two: Literature review						
8	List the outline for the review of literature	3.55	1.32	2.77	1.28	DS	ND
9	Review related literature	3.82	.96	2.77	1.19	DS	ND
10	Organize literature reviewed	3.82	.96	3.05	1.01	DS	ND
11	Identify and articulate conceptual and theoretical frameworks	3.88	.92	2.98	1.15	DS	ND
12	Review and condense related empirical studies	3.75	1.12	3.04	1.11	DS	D

MAAUN INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH AND INNOVATIONS (MIMJRI)

A Publication of the Institute of Africa Higher Education Research and Innovations (IAHERI) in Collaboration with
Maryam Abacha American University of Niger (MAAUN) Maradi, Niger Republic

No	Items	M_1	SD	M_2	SD	Desired Remark	Diff. Remark
13	Summarize the reviewed literature by highlighting the sap of the study	3.59	1.29	2.89	1.07	DS	ND
	Chapter three: Research Method						
14	Choose appropriate research design for the study	3.84	1.25	3.00	1.14	DS	D
15	Select appropriate population, sample size and sampling technique	3.57	1.26	3.00	1.09	DS	D
16	Develop instrument for data collection	3.84	1.06	2.96	1.29	DS	ND
17	Identify qualified validators for the scrutiny of the tool	3.61	1.36	2.80	1.19	DS	ND
18	Establish reliability of the instrument using suitable method	3.63	1.24	3.04	1.18	DS	D

Key: DS=Desired, D=Difficult, ND=Not difficult, M^1=Mean 1, M^2== Mean 2

Table 1 contained data used to answer research question one. The data shows that the mean values (M1) of all the 17 items ranged from the lowest 3.57 to 3.88, which were above the mean cut-off point of 3.00. This is indicating that all the items were desirable and thus required by the postgraduate students in writing Chapters one to three of their research thesis. In addition, Table 1 also showed the mean values (M^2) of the difficulty construct, revealing that 6 items were difficult while 11 items were rated not difficult because their values were below the mean cutpoint.

Research Question 2

What is the desirable and difficulty level of PG students in thesis writing of Chapters Four & Five?

Table 2: Mean rating of postgraduate students on the competency desirable and difficulty levels in thesis writhing Chapters four and five

No	Items	Desired M_1	SD	Diff. M_2	SD	Desired Remark	Diff. Remark
	Chapter Four: Data Analysis/Results						
19	Collect valid and reliable data in the field	3.91	1.21	3.29	1.12	DS	Diff
20	Analyze the data making use of appropriate statistical tools	3.95	1.11	3.21	1.19	DS	Diff
21	Present the data in appropriate tables, charts	3.82	1.15	2.77	1.16	DS	ND
22	Interpret the data accordingly	3.82	1.09	2.87	1.23	DS	ND
23	Identify and state major findings of the study	3.54	1.16	2.93	1.13	DS	ND
	Chapter five: Summary and conclusion						
24	Discuss the major findings of the study based on specific purpose and literature reviewed	3.86	1.14	2.55	1.14	DS	ND
25	Draw conclusions from the findings	3.70	1.16	2.75	1.22	DS	ND
26	Make appropriate recommendations for implementation of the findings	3.61	1.23	2.54	1.22	DS	ND
27	State the educational implications for theory and practice	3.77	1.22	2.70	1.18	DS	ND

28	State the; limitations and how you overcome them	3.55	1.17	2.98	1.26	DS	ND
29	Identify and recommend areas for further research	3.73	1.29	2.75	1.31	DS	ND
30	Write all cited references according to chosen style	3.91	1.084.	2.95	1.29	DS	ND
31	Place the appendix properly	4.05	.99	2.75	1.27	DS	ND
32	Package the work for defense	3.63	1.18	3.16	1.19	DS	Diff
33	Defend the work confidently	3.79	1.19	3.04	1.31	DS	Diff

Table 2 presents data using for answering research question 2. It also showed that the mean values (M1) of all the 17 items produced values ranging from 3.54 been the lowest to 4.05 been the highest, indicating that all the items were above the cut-off- point of 3.00 and thus desired by post graduates' students in drafting chapter four and five of research thesis. Similarly, Table 2 also reveals the mean values (M2) of 5 items were above the man implying that research competency items were not difficult while 11 items were regarded difficult because they are below the mean cut-off-point. With this analysis, it could be concluded that while the postgraduate students desired all the 33 competency items, 11 items were rated difficult while 22 were rated not difficult.

Hypothesis 1
The competency level of the postgraduate's students in thesis writing will not be significantly high
Table 3: One sample t-test analysis of thesis writing competency levels among PG students

Variable	Sample Mean	Sample SD	Reference t-value	T	Sig	Remark
Thesis writing competency levels	218.66	43.44	198	3.5613	<.001	S

In testing the first null hypothesis, the respondent's scores on competency levels scale measured by 66 items (33 items for desirable and difficulty each) were summed-up, based on the items under each sub-scale. The researcher hypothesized that for the postgraduate students' competency levels to be considered significantly high, the score made should be significantly higher than 198(which is the midpoint between very desirable and very undesirable) which implies 3 X 33 X 2, the number of items measuring the two constructs. The null hypothesis is that the mean score representing PG students' competency level is not significantly higher than 198 (HO: μ = 198, H1: μ > 198) for this construct. The hypothesis was statistically tested with a test of one-sample (otherwise called population t-test). The results are presented in Table 3, which reveals a statistically significance high competency level among the PG students in thesis writing. (M=218.66, SD=43.44), t(55)=3.56, P <.001. The magnitude of the difference in the mean = 20.66, 95% CL= 9.03 – 32.29. The eta squared was very large effect size =0.19. With this result, the first null hypothesis is hereby not supported and thus rejected for the alternative. This then implies that competency level of the PG students in thesis writing is significantly high in MAAUN.

Hypothesis 2

There is no significant difference in the mean rating of male and female PG students in their perceived competency in thesis writing.

Table 4: Independent t-test analysis on thesis writing competency levels between male and female PG students

Variable	Gender	N	Mean	SD	t-value	Sign	Remark
Thesis writing competency levels	Male	42	212.45	38.71	-1.89	.063	NS
	Female	14	237.29	52.55			

An independent sample t-test was utilized to compare male and female PG students' competency levels in thesis writing. The results presented in Table 4 reveals that there was no statistically significant difference between male students (M=212.45, SD=38.71) compared to their female counterparts (M+237.29, SD=52.55), t(54) = -1.89, P=.063. The magnitude of the difference in the means =-24.83, 95% CL: -51.10 to 1.43. The eta squared in terms of effect size was very small = 0.06. With this result the second null hypothesis has been supported and thus upheld. This then implies that there is no significant difference between male and female PG students as it relates to their competency levels in thesis writing.

Discussion of findings

The first findings of this investigation revealed that PG students required all the research writing competencies identified in this research, because they are highly desirable. This finding corroborates the earlier research submission of Onwu (2004) that right from the search for topic through the stages of data analysis and inferences drawn, there are basic principles and conventions to be followed systematically if the findings are to be of any use to the community. Indeed, a lot of competencies are needed as far as research wiring is concerned if meaningful results are to be obtained and generalized. This finding also showed some research competencies and skills are difficult to grasp and employ in real practical research wiring.

It was found that out of the 33 research competencies, 11 were identified rated difficult and they include constructing a researchable topic from a problem, wiring the background to the study coherently, organizing literature review, reviewing and condensing related empirical studies, choosing appropriate research design, et c. This is in concordance with the findings of other researchers (Abonyi, 2003; Asim, et al., 2004) that there are some fundamental flaws in both published and unpublished research works indicating deficiencies in research wiring among scholars. It could be seen that the rating of competencies articulated as problem is a further confirmation of the research findings by Asim, et al., (2004) that students are aware of the steps and principles to be followed in research writing but they find most of these steps difficult to cross over. This indeed has theoretical and practical implications especially to the research lectures to devise means and strategies to simply these problematic stages and competencies.

With regard to the hypothesis, there was no statistically significant difference in the mean rating of male and female PG students on their research competencies. This is an indication that research skills acquisition and utilization are no dependent on gender but on the dexterity or purpose anc competencies possessed by the researcher.

Conclusion

It is the cardinal objective of any postgraduate student to execute research wiring to its logical conclusion with ease but the students often encounter some difficult at some stages. This was revealed in this investigation that out of the 33 research competencies, they encounter difficulties in 11 competency items. The fact that some research competencies are found difficult by some of the students coupled with the fact revealed in the related literature on the status of both published and unpublished journals and theses implies that research writing competencies are not well articulated, mastered and utilized even by some professionals, talk less of the PG students. This recommends that research stakeholders like research lecturers, Research Committee need to do the needful by utilizing suitable strategies in order to improve the quality of research in the filed considering the importance of research in every field of human endeavors. Lecturers teaching research should include the 33 competencies identified by this study finding to make students competent in writing quality research work. All that it takes is to ensure what to do and write under each research component. Periodic research seminars and workshops can be organized at departmental levels for both students and lecturers alike to share idea and consolidate mastery of research competencies.

Recommendations

1. While the finding of the analysis on the first hypothesis indicates no significant difference in the perceived competency in thesis writing between male and female postgraduate students, it is recommended that future research explores potential factors contributing to any subtle variations in perceived competency. Conducting qualitative interviews or surveys to gather insights into individual experiences, preferences, and challenges could provide a more nuanced understanding and help tailor support mechanisms to address the specific needs of both male and female postgraduate students in enhancing their thesis writing skills. Additionally, considering other variables such as academic background, research methodology preferences, or mentorship experiences may offer a more comprehensive perspective on the factors influencing perceived competency in thesis writing.

2. Given the significantly high competency level of postgraduate students in thesis writing, it is recommended that the academic institution continues to foster and maintain an environment that promotes and sustains this competence. This could involve regularly updating and enhancing existing thesis writing workshops, providing advanced-level seminars, and encouraging peer-to-peer collaboration for knowledge exchange. Additionally, creating platforms for students to showcase their successful thesis projects and share best practices can further inspire and motivate others, contributing to a continuous improvement in overall thesis writing competency within the postgraduate community. Continuous monitoring and feedback

mechanisms can also be implemented to identify emerging trends and adapt support services accordingly.

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