Graduate Students' Perspectives on Challenges Encountered in Research Work in Higher Education: The Kenya Experience

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

Research contributes significantly in every country's national and economic development. In addition, research is fundamental in post graduate progammes in Higher Education (CUE, 2014). This paper is a report of a study that was carried out in Kenya in the year 2020 on graduate students' perspectives on challenges encountered in research work in higher education. The study adopted a Mixed Methods approach and a survey research design. The study was guided by the systems theory by Bertalanffy (1968) cited by Heylighen and Joslyn (1992). A sample of 10 PhD students and 15 M.ED students from a public university in Kenya was selected through purposive and convenience sampling method. Only the students that had submitted their thesis for examination participated in the study. Since the students were not on campus at the time of the study, only those within reach took part in the study. Data was collected from September to November 2020 using students' questionnaires that comprised of both closed ended and open ended questions. Data was analyzed through descriptive statistics and thematic analysis. The findings revealed that graduate students had challenges pertaining problem identification and statement, data analysis, identification and discussion of the research gap, statement of research objectives/questions, and time management. Nevertheless, the students overcame the challenges through wide reading, and consultations with experts. The study recommended strengthening of teaching and supervision of graduate students, enhancement of graduate students' support

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mechanisms and faculty development in higher education. The results of this study provide insight on challenges affecting graduate students in research work. The findings inform universities on teaching of graduate students and research supervision.

1. INTRODUCTION

Research is a fundamental activity in higher education. Educational research can be defined as the formal, systematic application of the scientific methods in order to develop valid, generalizable descriptions, predictions, interventions and explanations relating to various aspects of education [1,2]. Educational research findings significantly contribute to both educational theory and educational practice [2]. Research serves various purposes: Discovery of new knowledge; description, prediction, control and explanation of phenomenon; and development of theory [3,4,1,2,5].

Research contributes significantly in every country's national and economic development. It facilitates the achievement of a country's development goals such as the national goals of education for Kenya, the Kenya Vision 2030 and the global Sustainable Development Goals (SDG's). Conducting research is an integral stage for post graduate studies and like any other academic endeavour, it's not challenge free. Maphalala & Mpofu [6] contend that most students that enrol for their post graduate studies do not complete their studies owing to various challenges. Bocar [7] in his study on difficulties encountered by student researchers and the effects on their research output found out that 66% of the students found it difficult to finish their work within the stipulated time. This paper is a report of a study that was set out to unearth the challenges that graduate students faced in their research work in higher education.

2. PROBLEM STATEMENT FOR THE STUDY

Kenya Vision 2030 development agenda stresses on the need to provide globally competitive quality education, training and research for national development [8]. The expected research output from the graduates of post graduate programmes in higher education is critical in the achievement of Kenya Vision 2030.

However, we find that post graduate studies are quite involving. In most universities in Kenya and globally, the students undertake their post graduate studies in two phases: Course work and research work. It's also important to note that most post graduate students are adult learners with lots of responsibilities in their jobs, family and community. From my experience of more than ten years as a university lecturer and academic mentor of graduate students in a university in Kenya, I have noted that in most cases graduate students tend to progress slowly in their research work and others never complete at all. In addition, most graduate students are part time students. Actually, all the respondents that took part in this study were on part time mode of study. Graduate students may face unanticipated challenges in their research work and the challenges if not counteracted early enough, can adversely affect the progression and completion of their studies.

A review of various studies on challenges affecting post graduate students and researchers in general in their research endeavors revealed challenges such as lack of mentorship and time limitations [9] [10] [7] Rimando, et al [11] in their study on data collection challenges and recommendations for early researchers opine that researchers can face unanticipated challenges during data collection. According to these authors, choosing research participants, establishing a rapport with the participants, convincing participants to participate, time management and language can pose as challenges in data collection. World Bank [12] in its report on improving the quality of higher education in Kenya noted the need to strengthen research capacity for universities coupled by the necessity to strengthen the supervision of graduate students. According to World Bank [12], only approximately 10% of students that enrol for PhD programmes in universities in Kenya manage to graduate and this is worrying given the contribution of higher education to a country's national development.

Poor writing skills also affect researchers [10] [9]. Bocar [7] in his study on difficulties encountered by student researchers and the effects on their research output found out that 66% of the students found it difficult to finish their work

within the stipulated time as they were challenged by time and stress amongst other factors. Maphalala and Mpofu [6] in their study on the reflections on the supervision of post graduate research recommended that studies on students' experiences in their post graduate studies be conducted on a regular basis in order to improve the quality of services provided to graduate students by Higher Education institutions. McCowan [13] in his study on the quality of higher education in Kenya observes a concern on the degradation of quality of higher education in Kenya. Consequently, from his study he recommended reforms in policy and practice. This study set out to add to the available literature and research findings on challenges faced by graduate students in research in higher education. The findings of this study inform universities in Kenya and globally on the teaching and supervision of graduate students.

2.1 Research Objective

The research objective for the study was to find out graduate students' perspectives on challenges encountered in research work in higher education.

2.2 Theoretical Framework

The theory that guided the study was systems theory by Bertalanffy (1968) cited by Heylighen and Joslyn [14]. Bertalanffy viewed a system as a complex of interacting elements that are open to and interact with their environments [14]. According to the systems theory, each system consists of several elements that make the system a functional whole. Each system should be viewed in relation to other systems that cause a change or reaction within the main system [15]. Research is a complex process with many underlying activities, and elements. To successfully complete the research journey, researchers have to make many interrelated decisions all of which contribute significantly to the quality of the research. For graduate students, course work and research work are interdependent. On the other hand, every step in research is informed by and informs others. In addition, research journey is a cooperative effort in which many elements are involved.

3. LITERATURE REVIEW

In most universities, graduate students undertake course work in the first year of their studies and then proceed with research work from the second year. The research work begins by proposal development and presentation to the graduate faculty for approval [16]. The students then proceed for data collection, data analysis and eventually thesis writing under the mentorship of their academic supervisors [16].

The basic step in research work and which can pose a challenge to many students is problem identification. Problem statement is actually the foundation on which research work rests. Kothari [4] defines a problem as some difficulty which a researcher experiences in the context of either a theoretical or practical situation and wants to obtain a solution for the same. It is a problem that one wishes to investigate, a difficult or an unsatisfactory situation that emanates from a circumstance or condition. It is an issue whose answer is to be found. A research problem can be identified by exploring various ways such as personal and professional experiences, literature search, analysis of current innovations in the field of study, interactions and communications with communities, and through observations.

Kothari [4] warns that a research problem must spring from the researcher's mind like a plant springing from its own seed; it cannot be borrowed. An effective research problem should be clearly stated [5]. After problem identification the researcher has to state the research objectives. They should be written in clear, precise and measurable terms.

Another key area that can pose a challenge in research work is literature review. Gay, Mills, & Airasian [2] define literature review as systematic identification, location and analysis of documents containing information related to the research problem. A good research study is built on a strong understanding of the literature on the problem or topic to be investigated [1] [17]. Ekyürek & Afacan [18] opine that students will have difficulties in finding effective research topics as long as they do not critically examine the literature. Literature review should be comprehensive [19] [1] Johnson & [5] [20] Literature review enables a researcher to explore the field in which to do the research and gain a thorough awareness and understanding of current work and perspectives [19].

Literature review serves various purposes in research: It provides a historical background for the research, it enables the researcher address the research gap, it enables the researcher to

develop a critical review, it provides a justification of the methods and materials, it provides supportive evidence for the significance of the work [19] [3] [4] [20] [17]. Some sources of literature review include books, journals, students' dissertations, and internet [5] Ridley, 2012)[19].

The identification of methods and materials is critical in research. The choice of the methods and materials depends on the research approach and methodology adopted [5] [4] This basically means that the researcher has to first decide on the research approach and methodology then proceed to decide on the methods and materials for the study. There are three main research approaches: Quantitative, Qualitative and Mixed methods approach. Researchers have to make choices as pertains the research approach and design to be adopted, the sample size and sampling methods, the research instruments and data analysis methods to be used. Ekyürek & Afacan [18] in their study about problems encountered during scientific research process in graduate education found out that post graduate students had difficulties in research methodology.

Sampling can pose a challenge in research work. A sample is a part of the population selected to represent the target population or the entire group [1] [4]. It's really impossible to study every instance of the phenomenon that interests you. It simply would be too expensive and time consuming (Gall, [1] [3]. Researchers can face a challenge in choosing the sampling methods to be used and in deciding the sample size that would be a true representation of the population.

The choice and development of research instruments is a very important step in research. Selection of research instruments depends on the nature of investigation, the research purpose, the scope of inquiry [4] The commonly used research instruments include tests, questionnaires, interviews, observations, and document analysis. Researchers must develop effective instruments to use for data collection. The instruments should also be tested for validity and reliability ([21] [4] [3].

Data collection is a key activity in research. According to Rimando, et al [11] when implemented correctly, data collection enhances the quality of the social research study. Munyoro [22] explains the data collection challenges he faced in his research that included religious and cultural barriers, participants' literacy, time limitations, political and legal restrictions, and poor road networks amongst others. He recommends the need for researchers to get connections with people in the research settings to ease data collection especially in the developing countries.

Consideration of research ethics is a necessary part in the research process [5] [23] Johnson & Christensen [5] opine that understanding ethical principles and procedures assists the researcher in preventing abuses that could occur and helps delineate the researcher's responsibility as an investigator.

Data analysis skills are very crucial in the research process. Through data analysis, the researcher makes meaning of the findings. The summary and discussion of findings enhances the explanation of the problem by the researcher. The choice of data analysis methods depend on the research approach and methodology adopted.

Researchers require effective writing skills to write their thesis. Researchers have to communicate clearly to the reader [5] [23]. They need the correct choice of diction, skills on how to effectively develop paragraphs, coherence and cohesion skills, and skills in making citations and in developing the list of references. Researchers have to make a choice of the referencing style to adopt or to adhere to the referencing style their institutions recommend. All materials cited should be acknowledged within the text and fully recorded in the references section [5] [23] The list should not contain any publications that were not cited in the report [1] Failure to cite materials results to plagiarism [23]

After data analysis, researchers make conclusions and recommendations. The researcher has to make a contribution to knowledge. He/she communicates to the reader what was found out about the phenomenon and its implications to practice. Recommendations are the suggestions on way forward in solving the research problem. Conclusions and recommendations should be clear and based on findings [2] [1] [3] [4].

Graduate students walk through their research journey under the mentorship of their academic supervisors. Post graduate supervision entails more than just the production of knowledge but the development of a new scholar in the specific

profession [24]. Supervisors have to mentor and support the students in their research journey. They have to provide constructive criticisms in the students' work and at the same time encourage them in the pursuit of their studies. To do this effectively, supervisors need appropriate qualifications and experiences [24] In Kenya, academic supervisors of doctoral students must be at the level of senior lecturer and above [16]. Staff development of the academic supervisors can enhance their knowledge and skills in their supervision duties.

On the other hand, academic supervisors are busy persons as they have to teach, examine students, participate in conferences and workshops, contribute to community development activities, and make contributions to various committees in their universities amongst their many other roles. Sometimes, they may lack ample time to guide and support the post graduate students due to their busy schedules. This calls for self-drive and hard work by the students in order to accomplish the research work within the given time lines.

Publication is a critical and the final step in research [2] [23]. In Kenya, it's a requirement that doctoral students should publish at least two papers in refereed journals before award of the degree [16]. It's through publication that the researcher shares the findings of the study to others. As Kitchin & Fuller [23] observe, without successful dissemination no one with exception of close colleagues will know about the work. Publication requires some specific skills and knowledge and thus the need for mentorship from the academic supervisors or more experienced authors. World Bank [12]recommended that universities in Kenya should develop strong student support structures, and invest in student mentorship. Graduate students need guidance on the choice of research journals and the development of effective writing skills to be able to publish their work effectively.

4. MATERIALS AND METHODS

The study adopted a Mixed Methods research approach and a survey research design. It targeted graduate students enrolled in Masters and doctoral courses in the School of Education in a public University in Kenya. A sample of 10 PhD students and 15 M.ED students from a public university in Kenya was selected through purposive and convenience sampling method. Only the students that had submitted their thesis for examination participated in the study. Since the students were not on campus at the time of the study, only those within reach participated in the study. Data was collected from September to November 2020 using students' questionnaires. The questionnaires had both closed ended and open ended questions. Some members of the Graduate faculty in my department at the university read through the questionnaires for content validity. The questionnaires were piloted through administration to some four graduate students at the same department who did not take part in the study. The suggested improvements were made on the questionnaires before administration. Reliability of the questionnaires was done through test-retest method and reliability co-efficient of 0.8 realized. This was found adequate as supported by Mugenda & Mugenda [3].

The questionnaire had two sections. Section One had structured items on the challenges that the graduate students possibly faced while Part two consisted of open ended items on how the graduate students counteracted the challenges they faced. Data analysis was done through descriptive statistics for quantitative data and thematic analysis for qualitative data.

5. RESULTS AND DISCUSSION

This study set out to find out graduate students' perspectives on challenges encountered in research work in higher education. The respondents were asked to indicate the level of challenge faced in various research areas according to the level of seriousness. Their responses are indicated in frequencies and percentages where N=25 (Table 1).

Majority of the respondents identified the following as serious challenges faced during the research process: Problem identification and statement (76%), data analysis (72%), identification and discussion of the research gap (68%), statement of research objectives/questions (64%), time management (60%), theoretical framework (56%), writing skills (56%), research methodology (52%), and preparation of research instruments (52%). The most serious challenge faced was problem identification and statement (72%) and the least challenge faced by the graduate students was centred on research ethics (60%).

Table 1. Challenges facing graduate students in their research work

	Statement	Serious challenge	Not serious	Did not face any challenge	
		f & (%)	f & (%)	f & (%)	Totals-25 (100%)
1	Problem identification and statement	19 (76%)	5 (20%)	1 (4%)	25 (100%)
2	Statement of research objectives/questions	16 (64%)	6 (24%)	3 (12%)	25 (100%)
3	Justification of the study	7 (28%)	10 (40%)	8 (32%)	25 (100%)
4	Theoretical framework	14 (56%)	11 (44%)	0 (0%)	25 (100%)
5	Conceptual framework	6 (24%)	12 (48%)	7 (28%)	25 (100%)
6	Identifying and discussing the research gap	17 (68%)	7 (28%)	1 (4%)	25 (100%)
7	Literature review	12 (48%)	9 (36%)	4 (16%)	25 (100%)
8	Identification and discussion of research methodology	13 (52%)	10 (40%)	2 (8%)	25 (100%)
9	Identification and discussion of research design	12 (48%)	11 (44%)	2 (8%)	25 (100%)
10	Selection of sample size	5 (20%)	12 (48%)	8 (32%)	25 (100%)
11	Preparation of research instruments	13 (52%)	10 (40%)	2 (8%)	25 (100%)
12	Data collection	6 (24%)	12 (48%)	7 (28%)	25 (100%)
13	Research ethics	3 (12%)	7 (28%)	15 (60%)	25 (100%)
14	Data analysis	18 (72%)	5 (20%)	2 (8%)	25 (100%)
15	Making conclusions and recommendations	4 (16%)	12 (48%)	9 (36%)	25 (100%)
16	Publication of the work/parts of the work	6 (24%)	11 (44%)	8 (32%)	25 (100%)
17	Consultations with supervisor	12 (48%)	8 (32%)	5 (20%)	25 (100%)
18	Writing skills	14 (56%)	9 (36%)	2 (8%)	25 (100%)
19	Time management	15 (60%)	7 (28%)	3 (12%)	25 (100%)

The respondents were asked to indicate how they had counteracted the challenges encountered. From their responses it was found out that the solutions mostly employed included wide reading, consultations with the supervisors, lecturers and other experts, proper time management, setting of goals to be achieved, and self-discipline and self-motivation.

The findings concur with the sentiments by Maphalala & Mpofu [6] who postulate that most students that enrol for their post graduate studies do not complete their studies owing to various challenges. Kumwenda, et al, [9] found out that post graduate students face challenges such as lack of mentorship and time limitations. Rimando, et al [11] in their study on data collection challenges and recommendations for early researchers opine that researchers can be challenged during data collection. McCowan [13] in his study on the quality of higher education in Kenya found out that staff shortages were evident paramount even at the postgraduate level.

6. CONCLUSIONS AND RECOMMENDATIONS

The study concluded that graduate students faced various challenges in their research work. These challenges definitely affected the progression and completion rates as well as the quality of the research work. The most serious challenges faced included problem identification and statement, data analysis, identification and discussion of the research gap, statement of research objectives/questions, time management, discussion of theoretical framework, writing skills, research methodology, and preparation of research instruments. The most serious challenge faced was problem identification and statement and the least challenge faced by the students was centred on research ethics.

Nevertheless, the students overcame the challenges through various strategies that included wide reading, consultations with the supervisors, lecturers and other experts, proper

time management, setting of goals to be achieved, self-discipline and self-motivation.

The study recommended strengthening of teaching and supervision of graduate students and enhancement of student support mechanisms for graduate students for mentorship, consultations, guidance and counselling. In addition, the study recommended the need to strengthen faculty development for the academic supervisors in higher education. Such strategies would enhance progression and completion rates, quality research and coping mechanisms in the graduate students' research journey.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Author has declared that no competing interests exist.

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