



The Pursuit of Doctoral Studies in an African Context

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Authors' contributions

This work was carried out in collaboration between both authors. The authors MA and SMA designed, undertook literature search, wrote this article, and have both approved it for publication. Both authors read and approved the final manuscript.

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ABSTRACT

This paper discusses the pursuit of doctoral studies in an African context. Doctoral studies are not a new development worldwide. It has been reported that the first conferred doctoral degree was at the University of Paris. This paper examines the situation of doctoral studies in Africa, the role of doctoral students, the role of supervisors, doctoral studies across the globe, and the challenges facing doctoral students in Africa. This paper reveals that the role of a doctoral student is planning research, scheduling meetings, searching for literature, carrying out the research, drafting the thesis preparation, proofreading the thesis, writing the final thesis, submitting the final thesis, defending the final thesis, publishing the final thesis, and communicating the findings in the form of publications. The situation of doctoral studies in Africa, the role of supervisors, doctoral studies across the globe, and the challenges facing doctoral students in Africa have been discussed. It is

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recommended that the research work should be collaborative to enhance sharing of ideas and knowledge, involvement in presentations at seminars, participating in conferences/workshops, commitment to a research plan, and if possible joining research associations or groups. In this article recommendations for the quality doctoral programs in Africa have been provided. The conclusion states that the effort and input of supervisors also play a critical role in the quality of doctoral students who are turned out at any point in time. So, the future of research in the African context needs special attention regarding the role of role of doctoral candidates, supervisors and the government itself.

Keywords: Academic development; Africa; doctoral studies; doctoral supervision; education policy; higher education; research thesis; University.

1. INTRODUCTION

Doctoral studies are not a new phenomenon in the world. Several universities have conferred doctoral degree certificates. It has been reported that the first conferred doctoral degree was in University of Paris. Now, several doctoral degrees in different fields are conferred in all across the world including Africa [1].

Doctoral education differs internationally [2,3,4] and various models are used for education. The training was in research and/or in combination with coursework. However, they all aim to produce high-quality intellectuals with strong research backgrounds, who can contribute to national development. Consequently, every country uses the best resources available to train students at the doctoral level.

The title doctor is seen as prestigious because it denotes a knowledgeable person in society. Many people in society give audiences and attention to people when they find that the person speaking has a doctoral degree. Therefore, many more people have focused their attention on gaining doctoral certificates [5], especially in the business sector, religious leaders, and people in non-profit organizations. In the past, most people in Africa who had doctorates were in the older age group. The wearing of spectacles was synonymous with having a doctorate. This is because they were always seen reading in their libraries or in their laboratories busy performing experiments. Those who had doctorates were also very few and were mostly found in higher educational institutions such as universities or research institutions.

Considering the association of a doctorate degree and its relationship with old age and confinement to universities and research

institutions, it appears that most business executives, and people working in non-profit organizations were not interested in obtaining a doctorate degree. Many business owners prefer to engage people with doctorate holders as consultants and will not employ them. The doctorate has gained prominence and increased enrolment in the universities around the world [6]. Many universities today provide opportunities to guide doctoral students [7].

2. RESEARCH CONTEXT

Doctorates have been a major requirement for teaching in African universities. If you do not have a doctorate, you cannot be accepted for a teaching position in some universities. Furthermore, those who have joined the teaching staff of various universities without a doctorate are required to obtain the doctorate before specific times. This has put much more pressure on the need to obtain a doctorate and has led to recent demand and increase at that level of research.

The object of research at the doctoral degree level is said to be complex, dynamic, and a growing enterprise [8]. Research has shown that education at the doctoral level is not just an academic or professional ingenuity [9,10,11,12] but also contributes to national development in terms of human resources [13]. A nation can progress only if it invests in research and innovation. Therefore, research and innovation have attracted attention in recent years.

Globally some universities face challenges in the development of programmes and turning out research findings. However, some difficulties that have been suggested to be addressed include scholarship funding, ongoing learning and professional networking and partnerships [14].

In this paper, the situation of doctoral studies in Africa is examined under the doctoral studies, role of doctoral students, role of supervisor(s), doctoral studies across the globe, and challenges facing doctoral students in Africa.

2.1 Doctoral Studies

In recent years, doctoral studies have gained recognition and a marginal increase in enrolment in Africa. For example, South Africa has a marginal increase in enrolment due to government support for doctoral studies [15-17]. In other African countries, there is no much support provided by the governments. Therefore, fewer people are guided at the doctoral level.

2.2 Role of Doctoral Students

In carrying out research, doctoral students must work in tandem with their doctoral supervisor or supervisory committee. It is a period where independent research is expected, and the supervisor or supervisory committee only serve as mentor(s) to provide research guidance. The roles of a doctoral student are planning research, scheduling of meetings, search for literature, carry out the research and data analysis, draft preparation, proof reading, writing, submission, defending (Viva voce), publication of the final. Detail descriptions of what to do at each stage are provided in Table 1.

2.3 Role of Supervisors

Supervisors play a crucial role in mentoring, coaching, supervising, and guiding doctoral students. In certain countries, for example in Germany, Austria and Switzerland, there is this doctor-father (*Doktorvater*) relationship in the training of doctoral students. Usually, supervisors recruit doctoral students and support or guide them to follow in their academic paths, with minimal guidelines from the university or research institution [5].

There are various methods that are used in training doctoral students across the world [18]. In Africa, the most common method used in training doctoral students is the single supervisor model. In this model a student is assigned a main supervisor and one or two other

supervisors. Most often the student deals directly with the main supervisor and the other supervisor(s) gets involved at certain periods or when the student has prepared the draft.

The supervisor(s) provide the enabling environment to the doctoral students to carry out the research. This enabling environment is in the form of provision of office, access to reference materials, participation in seminars, and conferences. The supervisor(s) can also provide support letters to enable the students to search for funding for conferences, and other academic visits.

2.4 Doctoral Studies Across the Globe

There are different models that have been used by different countries in the training of doctoral students. Some of the models are classified into centers where transferring of specific research skills are conducted [19]. The models that award doctorate are classified into traditional, publication, taught, professional and work-based, and practice-based [20]. This classification can be in the form of an individual doctoral training or a doctoral training within a structured doctoral program in the case of the German system.

In African countries there has not been any such specific classification exclusive to the African context. However, different universities adopt the various models that are being used worldwide. In some universities the recent development is that individual traditional doctoral guidance within the initial year has taught courses and seminars (for example University of Ghana, Accra).

2.5 Challenges Facing Doctoral Students in Africa

The challenges that doctoral students face can be categorized into availability of libraries, lack of offices, poor internet connectivity, unresponsiveness to work submitted to supervisor(s), students' commitment to their research and lack of memorandum of understanding (MOU). This paper also looks at the challenges and provides suggested solutions to solve them. Table 2 shows the challenges and how to address them.

Table 1. The roles of doctoral students in doctoral research process

No. Roles	Details about what to do
1. Planning the research	<p>Planning the research enables the researcher to complete the training within an agreed period according to the rules and regulations set out by the graduate school or university in which the student is enrolled. This is usually made possible by having a timetable of the research indicating when literature would be searched, data is to be collected, data is to be analyzed, analyzing, interpretation writing the results, writing the discussion, writing the conclusions, and making recommendations. The plan and budget that would be used to accomplish the research is also written at this stage.</p>
2. Schedule of meetings	<p>Related to the plan is a schedule of meetings with the supervisor(s) for the guidance of work to completion. Depending on the availability of time of the supervisor(s) and the student's commitment it can be biweekly, monthly, quarterly, and so on. During such meetings the student and the supervisor(s) will review the progress of work and the way forward. It is advisable for the doctoral student to keep minutes of such meetings. The minutes serve several purposes including guiding both the student and the supervisor, serving as a record for reference purposes and helping the student to compile reports of progress of work and final reports depending on the requirement of the department or the university. Some employers who provide study leave with pay will sometimes require the student to provide periodic progress and final report.</p>
3. Literature review	<p>Literature review is crucial to research. This is because the student will get to know the gaps and/or areas to work in and to find out what has been done in that area of research. Afterall, the student need not waste time and energy to work on something that has been done before and which would not add on to the existing knowledge. It is possible to build on existing research which would enhance the findings of previous research, since time will have elapsed, and the research findings may be obsolete. Afterall, the main purpose of doing a doctorate is to come out with new findings that has not been carried out. In that case the research can be basic or applied.</p> <p>The literature review reveals theoretical underlings of the research. When research has a theoretical underpinning, it enables other researchers to understand the viewpoints of the researcher.</p> <p>A good literature search can be published as literature review or sometimes referred to as systematic reviews. In that case other researchers would understand all previous studies that have been conducted. Such review can show evidence of interventions which have been effective especially in medicine and health.</p>
4. Draft Thesis	<p>The preparation of the draft is the responsibility of the doctoral students. Depending on the agreement with the supervisor(s) a student may have to provide the chapters and not as a whole draft. This is sometimes useful because it makes it possible to guide the student as they make progress rather than wait to receive a draft that is not in line with the guidance. Such students usually end up with what is referred to as a monograph Thesis.</p> <p>In cases where the mesarch final is by publication the student will be guided to publish the required number of articles which will be put together as the Thesis. This is referred to as Thesis by publications.</p>
5. Proof reading of thesis	<p>It is the responsibility of the doctoral student to proofread the draft before submitting it to their supervisors or doctoral committee(s). A well written draft allows the supervisory team or supervisor to read through the thesis to understand the substance of the work, enabling speedy response from the supervisor(s), by making it possible to work according to the</p>

No. Roles	Details about what to do
	<p>schedule. In fact, when doctoral students present poorly written work to their supervisor it does not only lead to delays but can be annoying to read by attracting negative comments which could be avoided.</p>
6. Write of final Thesis	<p>The student needs to write the final draft and submit it to the supervisor(s). The supervisor(s) will then go through and provide the necessary feedback. At the end, if supervisors are satisfied with the draft, they will grant permission for the printing and submission of the draft. The preparation of the final Thesis is guided by the respective university rules and guidelines of doctoral supervision and specialty submission of the final draft.</p>
7. Submission of final Thesis	<p>The final draft after approval and printing is submitted to the graduate school or department depending upon the university regulations. Usually, students are expected to pay attention to the conclusions and recommendations, the font type, font size, spacing, number of words, number of pages, referencing style, type of binding and the required number of copies to submit. In certain situations, the university will ask that the draft must be submitted with a soft copy of the work and/or deposited in a repository of the university library.</p>
8. Defending the final draft	<p>The end of a student's research work is usually marked by a defense (Viva voce). This is where a student demonstrates that the work is original, and that the student really owns the work. This is done by an oral presentation to a panel of examiners. Students who have worked on their draft by themselves usually will have fun and present their work with interest. It must be noted that, the defense of a draft can only happen if the student is successful in completing the written part. In some countries or universities there is a public presentation; however it is only the examiners who can ask questions. Usually after the defense, the student may have to excuse the panel, or the panel will go into a meeting in the absence of the student to decide whether the student is successful or not. Thereafter the student and the panel of examiners as well as the audience come together, and an announcement is made on the outcome of the defense. Where the student is successful, a congratulatory message is given, otherwise a failed student will have to prepare and defend the Thesis at another opportune time.</p>
9. Submission of Final Thesis	<p>It is the duty of the student to submit the thesis in their university's repository. In some universities it is a requirement to deposit the data from which the draft was prepared at the university library or the department of the student. The data is then kept for a specific period.</p>
10. Communication of Articles from final Thesis	<p>This usually takes the form of presentations at conferences, seminars, scientific meetings, and research communities' meetings. However, it must be noted that in recent years there has been a new trend where students must publish several articles before graduation and in some situations the Thesis is exclusively published.</p>

Table 2. Challenges and how to address the challenges of doctoral students in Africa

No.	Item	Challenge	How to address it
1.	Library	Libraries are poorly resourced. So, students are unable to find the needed published articles.	Universities should collaborate with other universities and philanthropic organizations to provide opportunities to students to have the needed research materials.
2.	Lack of offices	On many occasions students do not have offices to sit down and do their work.	There should be opportunities for students to have offices. If a university lacks office space, the university can create a common office where students can use it when the need arises. Such common offices can also offer the student an opportunity to interact and learn.
3.	Poor internet connectivity	Most universities do not have internet access, or the internet quality is poor.	Reliable and high-speed internet is very important for research purposes. Universities should partner with Internet Service Providers to give them discounts on their use. This is because the Internet Service Providers will be interested because they can advertise themselves with those provisions.
4.	Unresponsive to work submitted to supervisor(s)	There have been several reports of how unresponsive the work submitted to supervisors is in some universities.	There should be regular meeting schedules for the successful progress of research. During these meetings students must write minutes such that it guide their future discussion of their work. Universities should also provide an avenue for students to discuss their progress on a periodic basis (quarterly, half yearly or annually). Students and supervisors should be made to write reports (quarterly, half yearly, or annually) of their research progress and supervision, respectively.
5.	Financial difficulties	Students are usually faced with funding for their research. Therefore, there are times there is a break in their research work due to lack of research funds.	Governments in Africa should provide research funding for students. Students should also look for external research funding support. Supervisors can also assist students with information on sources of funding for research.
6.	Students' commitment to their research	There are times when there is no progress because there is lack of commitment on the part of the students.	Students should have a written timetable to guide them in their doctoral studies. Supervisors should review these timetables to find out if they are on track.
7.	Lack of Memorandum of understanding (MOU)	There is a lack of memoranda of understating that will guide the research	It will be a great idea to have a memorandum of understanding (MOU) to guide the research. This MOU will spell out the most important items that have to accomplished by both the students and their supervisor(s).

3. KEY IMPACTS

3.1 Doctoral Programmes in Africa

Doctoral studies worldwide is not an easy task. The recommendations for successful and effective doctoral studies programmes are the provision of well-equipped libraries, the provision of office space for doctoral students to study effectively, the provision of high-speed internet connectivity, training of supervisors(s) to realize the importance of providing timely feedback to their students, governments in Africa providing funding for research at the higher level of education for doctoral studies.

3.2 Doctoral Students in Africa

Doctoral students should recognize the fact that their research is important, and they should take responsibility for its success. The supervisor is only to serve as a guide, motivator, mentor, teacher, and to provide support. The credit for obtaining the doctoral certificate goes to the student.

The following are recommendations for doctoral students in Africa:

- i. hard work and dedicated to the research work,
- ii. the signing of a memorandum of understanding between the student and the supervisor(s),
- iii. effective planning to achieve the objectives of the research,
- iv. collaborative work to enhance sharing ideas and knowledge,
- v. involvement in presentations at seminars,
- vi. participating in conferences,
- vii. participation in workshops,
- viii. commitment to research plan,
- ix. joining research associations or groups.

4. IMPLICATIONS FOR POLICY AND PRACTICE

This material would contribute to the training of doctoral students in terms of their role, the role of their supervisors and what can be done to improve doctoral studies and programmes in Africa. Universities and research institutions will need to restructure their doctoral programmes to take care of the increase in demand.

Programmes in higher education for doctoral studies will need to be designed to take care of

the current trend in the use of artificial intelligence (AI), machine learning, social media, cybersecurity, programming with purpose, digital marketing, and E-commerce.

5. CONCLUSIONS

The quality of doctoral programmes and graduating students in Africa depends on how the students see their role in the programme.

The effort and input of supervisors play an important role in the quality of doctoral students who are turned out at any point in time due to their roles as guidance, motivators, mentors, teachers, and supporters.

A comparison of doctoral studies programme across the globe is very important. After all, one does not need to invent the wheel since that is already available since time in memorial. At the end, challenges facing doctoral students need to be addressed if Africa is to develop.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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