LEARNING REFLECTIONS ON COURSE WORK AS A DOCTORAL SCHOLAR

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Abstract:

In all fields of life science, research is a feeder system that provides essential knowledge, skill, and innovation. A six-month course of study that is required of all research scholars has been proposed and enacted due to research developments and quality improvements in doctoral research programs. The majority of difficulties were experienced during the thesis writing, viva, and correction phases of their research; nonetheless, better postgraduate centers and more accommodating financial aid policies are still required to foster inclusive learning environments for postgraduates. In order to meet the various requirements and expectations of full-time and distance-learning doctorate students, it is crucial for supervisors to be knowledgeable about a variety of postgraduate supervising methodologies. This research paper aims to study the scholar's perception of the coursework and assessment during the first year of doctoral study.

Keywords: assessment of course work, DSc Program, supervisory practices

1. Introduction

By supporting the notion of independent and self-directed learning in doctoral research in the medical/clinical sciences, I aim to take a controversial stance in this essay. After

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completing their higher education, motivated individuals often decide to conduct research in a field of interest and improve the country's economy, society, and sciences. Over time, more emphasis has been placed on high-quality research that affects society as opposed to studies that are recognized and archived online. As a result, enormous efforts have been undertaken over the past ten years to reform higher education research by implementing various systems and models. One of these gives hopefuls a comprehensive understanding of research: course work.

1.1 Background and Context

Doctor of Science (DSc) is a professional doctoral degree with emphasis on uncovering new understanding of clinical issues that leads to new effective solution to the real-world practical problems and normally of three years duration. Candidates need to complete the degree within a maximum time span of five to six years. The duration of the study might vary from one institute to the other. Aspirants have to possess a relevant master's degree prior so as to be eligible to pursue a doctoral degree programme. A typical DSc normally involves, a literature review (a survey of current scholarship in relevant field) with the following protocol:

1) Carrying out original research and gathering pertinent information.
2) Creating a thesis with sound conclusions.
3) Preparing a research dissertation and submitting it.
4) Oral viva-voce defense of the thesis.

Doctoral student discussions give students a greater opportunity to keep track of their own learning and develop a sense of independence from their professors/supervisors (Walton, 1997). The meeting for the presentation of concept papers for doctoral students happened on 16th August 2022 at School of Medicine, Copperbelt University, followed by research mentoring about doctoral studies. After the small group activity, the experienced professors evaluated the success of the session by asking reflective questions like did you understand the objectives of the topic, and are you motivated to learn objectively. The necessary steps to boost performance were determined as a result. It was possible to clearly see how it may be improved the next time by thinking back on the learning experience and collecting comments. Following this activity, PhD students went through a proposal development endeavor according to their individual subjects. The implementation of quarterly talks was crucial in a constructive way; summarizing the key points aided in introducing the next topic, which supported a new direction and gave the study of PhD course work at Copperbelt University energy. Real scientists do not inevitably make good managers, but anyone may improve their management abilities with thoughtful instruction and practice. African medical institutions should create such supervisor development training programs and administrative frameworks to clearly oversee the supervision process.

1.2 Course Work

The institution/university will require doctoral students to complete course work for a maximum of one semester/year in accordance with the regulations for any doctoral

degree, such as a doctor of philosophy (Ph.D.) for a science university. A course on research techniques with computer applications must be included in the coursework, which should be viewed as pre-Ph.D. preparation. The specific institution or university will choose the minimal standard for admission before enabling a student to continue with writing the dissertation. Students could develop their scholarly interests in niche areas of study through the course. Additionally, the training promotes the development of an appropriate mindset, values, and sense of empowerment toward research. It acknowledges the diversity of approaches to knowledge development and application, as well as the implications of pedagogy and views. The course work consists of the following two courses:

- Course I: Research Methodology;
- Course II: Research Statistics and Microsoft Office applications.

1.3 Assessing the Course Work during the First Year of a Doctoral Degree

There are three stages involved in assessing doctoral students' performances:

a) Setting the standards for judging the rough work of research technique;
b) choosing the relevant classroom evidence to present for evaluation against those standards of testing in the form of online assignments and seminars; and
c) analyzing the degree to which these standards have been reached in learning.

In all three assessment stages, the doctorate supervisor typically acts as the stimulus agent.

The lecturer makes the final determinations on whether the criteria for assessment were did meet by determining in advance that the evidence for learning consists of correct answers to a series of questions that, in the lecturer's opinion, again, address and represent the fundamental core content of the course being taught.

Students pursuing PhDs can and should participate in all three phases (Bell and Harris, 2013, Boud and Brew, 1995). In a learning contract system, students are involved in discussions with the supervisor during class about possible criteria, which need not apply to every student. As with assessment by portfolio, students can also be active in step [b] by choosing the evidence to compare against the standards. Lastly, students might participate in the stage of making the summative judgment [c]. This can be used as a teaching or learning activity as well as an assessment task. It can be self-assessed (SA) or peer-assessed (PA). Their evaluations must be factored into the final grade. All of these options are covered in detail later in this essay. In a research institution, self- and peer assessment also offer teaching and learning assessments (TLAs) that focus on important but typically underappreciated areas of student learning:

1.4 First-hand Knowledge of the Criteria for Good Learning

All doctoral students should be very aware of the standards for good learning, but when the teacher establishes the standards for learning, chooses the evidence, and evaluates the student's performance in relation to the standards, the students may not be as aware of what they should have been doing in school and where they made mistakes.

The doctoral pupils find it far too simple to simply accept the teacher's evaluation and stop considering their own performance. Knowing what the requirements actually entail, they ought to participate more actively in clarification. They should become adept at applying the standards to everyone including themselves.

1.5 What is Acceptable Evidence for Fulfilling the Requirements and What Is Not?
Simply telling students what is good evidence won't likely engage them; instead, they need to actively participate in choosing it through online mentoring. In any area of doctorate education, being able to evaluate whether a performance or output satisfies the required standards is essential for effective professional action. Professionals are required to assess both their own performance (SA) and others' performance (PA). Professionals claim that their undergraduate education is particularly weak in the learning experience (Boud, 1986). Considering the huge amount of information children are exposed to online, one study claims that they must learn to differentiate between reliable and unreliable sources: a university setting's lifetime learning critical skill (Brew, 1999). Alternatively, education is about empowering learners, and assessment can be used to play an empowering role. Conventional assessment, on the other hand, disempowers all learners. (Leach, Neutze and Zepke, 2001).

University students' academic preparation, learning progress, skill acquisition, or educational needs are evaluated, measured, and documented by educators using a wide range of methods and instruments. These methods and tools are referred to as assessments in university education settings. While tests are often associated with assessments, such as the standardized tests created by testing companies and given to large student populations, educators frequently use a wide range of assessment tools and methods to gauge everything from a four-year-readiness old's for kindergarten to a student's understanding of advanced topics in twelfth grade. Similar to how academic classes serve a variety of purposes, assessments are frequently made to gauge a student's proficiency in a particular idea or skill that the teacher plans to teach, or their capacity to understand and evaluate a variety of research texts and readings. In order to give specific academic help, educational programming, or mentoring services, educators might employ assessments to determine each student's areas of academic strength and weakness. Additionally, a variety of entities and individuals, including teachers, district officials, colleges, commercial businesses, state departments of education, and groups made up of both of these groups and educational institutions, create the majority of assessments (Macfarlane, 2004).

1.6 Can Universities Rely on the Assessment Results?
1.6.1 Reliability and Validity of Assessment
The fact that qualitative evaluation is frequently "subjective" and "unreliable" is a common critique of it. The debate about the measurement model is at hand. Let's change the wording such that reliability and validity can be used to describe both assessment models. The questions are:

1) Are the assessment outcomes reliable for the examiners? Are they usually trustworthy?
2) In research, are they assessing the appropriate things? Are they usually true?

In the measurement model, reliability meanings:

- **Stability:** Regardless of who administered and graded the test, it must produce the same results at different times. Giving the same test to the same group once more to check if the results are the same is the process of test-retest reliability.
- **Dimensionality:** The test items must assess the same characteristic, which is why standard reliability indicators, such as split-half and internal consistency (Cronbach's alpha), are used.
- **Testing Conditions:** Each testing session must be conducted in accordance with defined guidelines. Here, reliability is viewed as a test-related characteristic. Similar tests are designed, built, and applied within a complex framework of parametric statistics, which necessitates the fulfillment of a number of presumptions, such as the need that the score distributions to be normal or bell-shaped. But the standards model does not use these ideas.

The following factors must be present for the assessment findings to be trusted:

- Intra-judge reliability: Does the same individual consistently evaluate the same performance over time?
- Inter-judge reliability: Do different judges consistently reach the same conclusion regarding a given performance?

In this case, consistency of judgment on the part of the teachers or judges rather than the test itself determines reliability. The criteria need to be spelled out in what is now known as grading criteria or rubrics, which are simply unambiguous criteria of grading standards. This insists that they are aware of their framework of judging and how to use it. The key to reliability in this context is being extremely clear about what we are doing, the learning outcomes we seek, what will serve as the evidence for those objectives, and why. In other words, effective doctorate teaching is inextricably linked to valid assessments.

1.7 Do the Evaluation Outcomes Reflect What They Ought to Reflect?

To demonstrate that the characteristic being measured behaves as it should if it were being assessed accurately, the test must be validated against an external criterion according to the measurement model. The results can then be used to forecast an independent test outcome or to correlate the results with results from another benchmark test. By contrast, the standards model believes that the interpretations and applications of test results are what give them their validity, that is, in how well the test's syllabus and overall instructional context correspond. The test results would be invalidated, for instance, if students learned model answers by heart while taking an exam. An assessment task that is aligned, or properly criterion-referenced, is valid, but one that is not aligned is invalid. The judgment serves as the connecting thread between the ILOs, the teaching/learning environment, the assessment activities, and their interpretation.

Regarding reliability and validity in qualitative assessment, there is a lot of consensus (Messick, 1989, Carver et al., 1992, Moss, 1992, Moss, 1994).

2. Literature Review

2.1 Pivotal Concepts in Assessment

When considering and putting constructive alignment into practice, several concepts are essential. Decontextualized assessment is more suited for declarative information while authentic assessment actively engages the students with functioning knowledge in its context. By letting students know how effectively they are handling different aspects of the assignment, formative feedback should be analytical. The summative evaluation should focus on the entire task rather than the sum of its parts. Students must participate in all levels of assessment, including peer and self-evaluation, because open-ended assessment assignments allow for unexpected, desirable, and varied outcomes.

2.2 Reliability and Validity

Qualitative assessment techniques are criticized by measurement modelists as being "subjective" and "unreliable." However, they overlook the fact that the ideas of validity and reliability are not the sole purview of number crunchers. As the quantitative framework is removed, we discover that the notions of validity and reliability largely depend on the teacher's fundamental professional duty to assess the level of student learning.

2.3 Measurement Model of Assessment

The individual differences psychology field, which is focused on quantifying stable individual traits so that they may be compared to one other and to population norms, served as the inspiration for the measurement model used in educational evaluation. Anyhow, a lot of issues arise when using this paradigm to evaluate educational achievements. Although marking is universal and has unacceptable implications for the nature of knowledge, many practices derived from the measurement model are still used today. These practices include separating assessment from teaching, which ignores alignment and imposes a separate culture of assessment as distinct from the culture of teaching and learning. Grading on a curve forces students to compete for higher grades. Doctoral students are given strange instructions by the measurement model regarding the nature of knowledge as well as assessment preparation techniques that should be utilized in the classroom and promote superficial learning.

The Han Dynasty in China, which began in 206 BC, had a very selective educational system. Confucius believed that "*those who excelled in their schools' study should become officials,*" which is mentioned in (Shepard, 1993). No matter how humble their beginnings, the winners were driven by a generous prize: a lifetime of wealth and prestige. The goal was to choose those with the best combination of stable traits, including "*not just brilliance alone, but also character, determination, and will to succeed.*"

Approximately 23 centuries later, in the nineteenth century, psychologists also developed an interest in grouping people based on a few fixed traits for academic success. The disparities in height, weight, and performance on various mental tests, which Sir Francis Galton referred to as "traits," were discovered to be distributed in an illogical and gorgeous sort of regularity (Zeng et al., 2011). Naturally, he was referring to the normal distribution, which is caused, among other things, by the degree of polygenetic inheritance of such qualities. Galton's beliefs about statistical methods, as well as regarding the heredity of aptitude and educability, were incorporated into the expanding human mental testing market in the early 20th century. Back in the Han Dynasty, education was seen to be a tool for sorting people out, generally the smartest, and occasionally to sort out those who weren't educable in regular schools and universities. Educability was assumed to be about how intelligent individuals were. Alfred Binet created one of the first intelligence tests for academic use a century ago. However, Galton's influence is still quite strong today. Based on Galton's research on individual differences and the normal curve, parametric statistical techniques like correlation and factor analysis are used to create educational assessments and verify their reliability and validity. These individual differences approach is known as "*the measuring model*" of educational assessment in previous research. (Galton 1889). Psychologists used the assessment model to assess stable characteristics and skills on a graded scale so that students may be contrasted with one another or with the general population. This is OK for a research study or for diagnosis when dealing with people who like to comment on how unusual a person's reading skill is, but the model was collected and used to evaluate educational outcomes using norm-referenced assessment (NRA). Results of assessments are provided in NRA using student comparisons. The rank order is the most straightforward example of NRA, showing who performs better than who. However, there are more complex variations of NRA, such as grading on the curve, which we will explore later.

2.4 Standards Model of Assessment

The institutional learning outcomes (ILOs) and grading system are used in the standards model of educational assessment to describe the types of information that must be attained at the conclusion of each teaching session. The framework requires more discretion on the part of the teacher than does quantitative evaluation alone when determining how closely the students' performances fit the ILOs. The ILOs stipulated that the evaluation tasks for PhD course work had to be "genuine" and set performance standards for students. Thus, the standards-based methodology can be summarized as an assessment of student learning as well as an assessment of learning for learning. All students are encouraged to be more thoughtful about their learning at university teaching by having a defined goal and being aware of the standards expected for various grades. The standards model of assessment aims to determine what has been learned and how well it has been learned by measuring changes in student performance as a function of learning. Criterion-referenced assessment, or CRA, is a type of assignment-based evaluation that measures how well a student has learned in accordance with

predetermined standards. This approach is appropriate for use in assessments at schools and universities (Galton 1889). The goal is not to identify students in terms of some attribute when developing constructively aligned outcomes-based teaching and learning, but rather to identify performances that reveal what has been taught and how well. Because each student is unique, unlike in norm-referenced assessments, the results of one student are quite independent of those of any other student. R.L. Thorndike, an educational psychologist, said explicitly in 1918 that criterion-referenced assessment (CRA) will eventually replace norm-referenced assessment (NRA) in public schools (Taylor, 1994, Airasian and Madaus, 1972).

Despite his incorrect prognosis, Thorndike was partially correct. There is still the lingering notion that education is a selective activity that takes place in schools and that norm-referenced evaluation is the way to go. However, even when this concept is implicit, parametric statistics are used in school to create and administer tests, verify reliability and validity, and evaluate and report test results. The normal curve was created using the biological assumptions of polygenetic inheritance, which were considered adequate for use in educational assessment. As previously indicated, correlation statistics and standard reliability and validity tests, which presuppose that test results are normally distributed, are wholly inappropriate for assessment purposes. Although the reliability and validity of evaluations are significant, the standards model gives them various meanings.

3. Conclusion

This study argues in favor of a "semi-structured program" approach to doctoral evaluation, in which doctoral candidates get a deeper comprehension of the nature of the learning philosophy through a critical examination of the paradigm change in higher education toward a student-centered approach. According to research, a good supervisor is "people" oriented, a confidence builder, a motivator, and regards the student as a fellow researcher (Sidhu et al., 2013, Krauss and Ismail, 2010). Some of the most distinguished scientists in the world have come from the traditional UK approach to PhD students, but it has also generated a lot of exhausted, lonely, and isolated academics. The discrepancies may result from failing to take into account the philosophy that undercuts PhD programs (Sidhu et al., 2014). This essay makes the case that this should read that PhD research is a social activity because it involves an argumentative process. It is crucial that both students and those in charge of doctoral programs understand that the final result is not simply a PhD but rather a collection of capable future scholars. The best way to do all of this is to adopt Aristotelian viewpoints; observation must be interpreted from several points of view; the doctoral study should be seen as a social activity; and advancement should be supported by well-reasoned arguments. The isolation of PhD students should be understood as their capacity for independent thought and reasoning as one member of a socially engaged community of students challenging one another's claims regarding effective learning practices. As a result, there is a recommendation for new areas to be investigated in the first year of study for doctoral aspirants, such as guest lectures on

statistics, online classes on basic material, professional advice, scholar grouping systems, and creating a more favorable learning environment for PhD course work in various streams at the university level (Katuu, 2019).

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