

Challenges Experienced By Postgraduate Candidates in the Application of Conceptual Frameworks in Scientific Research

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Abstract

Conceptual framework brings all aspects of a study together through a process that explicates their connections and the contexts shaping a research setting as well as the study of the phenomena in that setting. It gives a theoretical meaning to what is contained in the main text of the study. The aim of this work was to understand challenges faced by postgraduate students in the application of conceptual frameworks in scientific research. The study was informed by a case study and interpretivist paradigm. Participants were made up of four lecturers and twenty postgraduate students. The study findings suggest that students did not understand what the conceptual framework was really about such that, even those who had some ideas could not precisely apply it. This situation was partly attributed to poor understanding by supervising lecturers and lack of prioritization in teaching conceptual frameworks during learning process as well as lack of interactive supportive materials. The study further revealed that students did not substantively review literature to understand their research area that would eventually help them develop shrewd conceptual frameworks. It was also found that many students who purported to have used conceptual framework failed to explain and relate it to methods and findings. Premised on the study findings, the study says that, postgraduate candidates lacked explicit and cohesive understanding of the relationships among concepts throughout the research process, they instead focused on the methods whilst overlooking the conceptual framework. The problem with application of conceptual framework was not only on trainees, but also on the trainers both of whose defensive arguments tended to be projected towards the opposite party. This therefore calls for a critical individual reflection and reflexivity on both parties and to ensure a co-engaged way of teaching and learning that is transformatively hands-on from the onset. The study proposes a framework that can generally enhance effective teaching of complex topics in research methodology courses at all academic levels.

Keywords: *Conceptual Framework, Science, Research, Methods, experiential learning, strength-based education, democracy*

1. Background

Conceptual framework is central to every scientific research. It serves as a guide and ballast to research (Ravitch & Riggan, 2016), functioning as an integrating system that helps researchers intentionally bring all aspects of a study together into one condensed thesis. Various authors offer insight into the meaning and definition of the conceptual framework advancing them as “the researchers map of the territory being investigated” (Miles and Huberman, 1994:33). They offer a lens to focus the work (Maxwell, 2005) and as such, provide an overview or ‘matrix’ (Smyth, 2004) of what will be studied. They also denote the ‘assumptions’ (Maxwell 2005), strategy (Leshem, 2007), ‘variables’ (Miles and Huberman, 1994), (Becker, 2007), ‘relationships’ (Leshem and Trafford, 2007) or underpinning concepts (Imenda, 2014) that connect the elements of a study.

As a researcher, it is vital to understand what a conceptual framework is, what its components are and how they interact, and how it is used to guide high quality research. Hornby (2005) contends that defining concepts is not an innocent exercise because meanings or interpretations of concepts are largely influenced by their context. Chinn and Kramer (1999) see concepts as the components of theory which convey the

abstract ideas within a theory, they also see a concept as complex mental formulation of experience. Liehr and Smith (1999) see a conceptual framework for a research as a structure that provides guidance for the researcher as study questions are fine-tuned, methods for measuring variables are selected and analysis are planned. Once data is collected and analyzed, framework is used as a mirror to check whether findings agree with the framework. Conceptual framework seems to agree with Kuhnian's notion of paradigmatic system thinking, where a philosophical lens conveys a way that the ontological position is seen through the researcher's perspective and interpretations (Miles and Huberman, 1994). In our own words, we liken a conceptual framework to a cinematic movie that within an hour, conveys the principal message of a thousand-paged novel or a piece of painting that intelligibly conveys complex issue just at a glance.

Evans (2007) argues that conceptual frameworks help the readers understand the reasons and context in which they should read scientific text. Without one, a study lacks proper direction and a basis for pursuing a fruitful review of literature, as well as interpreting and explaining the findings accurately. In essence the conceptual framework is the soul of every research project. It determines how a given researcher formulates the research problem and how they go about investigating the problem and interpreting findings thereof. Indispensable though the conceptual framework is in the research process, it is one of the most poorly understood especially by novice researchers, but even some scholars who claim to be experienced enough face challenges in applying it precisely, this implies the need for continuous learning. Both qualitative and quantitative research designs require researchers to develop a conceptual framework, which provides a structured approach to guide the implementation of their study (Ravitch and Riggan, 2012; Marshall and Rossman, 2006; Smyth, 2004; Miles and Huberman, 1994). This is because conceptual frameworks do not arbitrarily exist; they are originally constructed by the researcher as a direct result of questions arising from experience, existing knowledge and exploration of extant evidence (Maxwell, 2005). In other words, building the interconnectedness among concepts in the research design is exclusively the task of the researcher and, as such, conceptual framework is something that the researcher constructs, unlike something that is derived from somewhere Leshem and Trafford (2007). This is what actually presents a challenge to most researchers. Leshem and Trafford (2007:95) earlier acknowledged this challenge stating that the majority of candidates could identify concepts and relate them to their intended research design and research process. "However, despite clarifying research questions and 'reading around-their-subject', one-third of candidates still had problems in visualizing concepts within a framework". They further add that students often struggle to identify what or how their frameworks develop, to see the conceptual links and progress beyond description. Despite several pieces of literature explaining conceptual framework, it remains quite enigmatic among students when it comes to application and hence, the need for further investigation and insights on why the problem is persistent. This study helps redress these issues by advancing and explaining the conceptual Framework as an essential tool to assist postgraduate students develop the architecture of their work by mapping out all aspects of their research design. It contributes to pedagogical debate around the teaching of complex topics in research methodology by proposing a model that can arguably improve the teaching and learning process by both trainers and trainees.

2. Methods

This study was informed by qualitative case study design (Yin, 1994). An interpretivist philosophical lens was adopted to inform this study (Guba, 1990). This allowed for transgressive exploration of ontologies and epistemologies based on multi-layered and unpredictable experiences of the participants and informants. A total of 24 participants were chosen, of which 20 were postgraduate students and four lecturers using a purposive and snowball sampling. Based on availability, participants were sampled from three of the eleven schools at the University of Zambia (Figure 1).

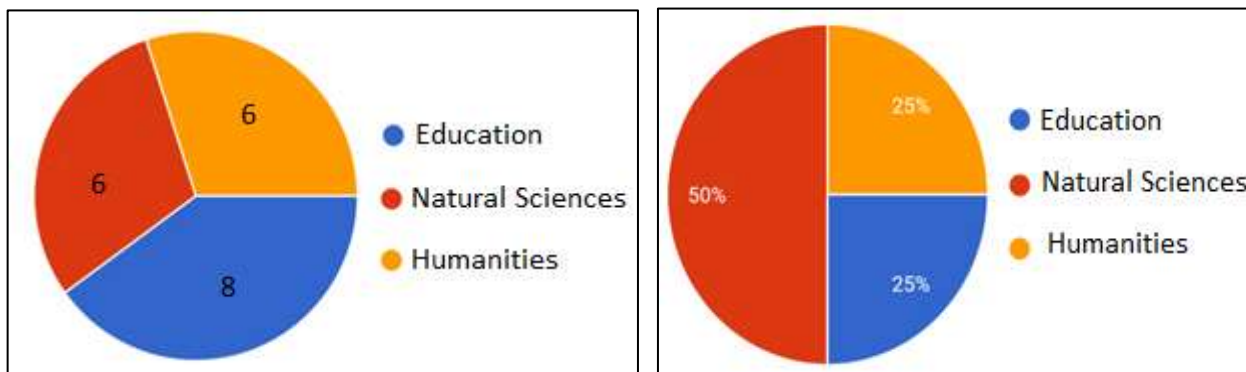


Figure 1: Distribution of student participants(a) and trainers (b) by schools

The study used qualitative method of data collection, which comprised semi-structured interviews and focus group discussion (Bryman, 2008). Emerging data was analyzed using narrative analysis, which involved bringing out related emerging themes from narratives and drawing meanings out of them. The responses were grouped in themes according to the research questions in this study, which helped provide answers to the research questions of the study (Hornby, 2005). The overarching research question was; what challenges do postgraduate candidates face in the application of conceptual framework during their research process and what should pedagogically be done to address them? This question brooded several other sub-questions in a semi-structured interview process. The study was guided by some ethical considerations namely, participants were allowed to decline or to participate freely through their consent; anonymity and confidentiality were upheld and in order to gain participants' trust, benefits of the study findings were explained to participants. Participants were also given freedom to ask any questions concerning the research as they were being interviewed.

3. Findings

Challenges faced by postgraduates in the application of conceptual framework

Student participants experienced diverse challenges in the application of conceptual frameworks based on their personally lived experiences. The study found that some candidates were barely aware of what the conceptual framework meant and why it should even be used in research. The other challenge identified was inability to identify principal variables and concepts, which could constitute conceptual framework and how the conceptual and theoretical frameworks work together.

I don't really understand what conceptual framework talks about and how to put it in research and why it should or not be put there. I have less knowledge on its application in research. How I structure material is usually difficult for the reader to understand (participant).

Another participant narrated that,

It is difficult to come up with a conceptual framework because sometimes it is not easy to identify variables. The issue of bringing up ideas together i.e. combination of theoretical framework and a conceptual framework mostly proves to be a challenge (Participant).

The study further found that some lecturers who trained postgraduate students also did not clearly have enough knowledge to share about conceptual framework; hence it was not given the prioritization it deserved. Although it is contestable, the study found that there was not enough material on application of conceptual framework and it was misconstrued to be only applicable to those doing doctoral studies. Going beyond trainers, the study also found that only isolated schools actually took the use of conceptual framework in research seriously.

There are few lecturers with the required knowledge on conceptual frameworks. Lack of supportive materials in teaching conceptual frameworks is another thing. I think conceptual framework is optional at masters' level and only mandatory at PhD level. You will also note that there is also lack of priority in teaching conceptual frameworks. Conceptual frameworks in research are only emphasized in the school of education, other schools in the university do not really care (Participant).

Although the majority of participants were expressing challenge in application of conceptual framework, others did not have the same experience as they were able to identify the variables and illustrate their inter-relatedness.

I do not have challenges, because what is key in a conceptual framework is identifying independent and dependent variables. The next step is showing how they interact and how independent variables influence dependent variables. This gives a researcher tentative expectations on research outcomes (Participant). A summary of main challenges is presented in Table 1.

Table 1: Summary of key challenges cited by participating postgraduate students

S/N	CHALLENGES
1	<i>Identifying of concepts and variables</i>
2	<i>Demonstrating how concepts interact</i>
3	<i>Few lecturers with the required knowledge on conceptual frameworks</i>
4	<i>Lack of priority in teaching about conceptual framework</i>
5	<i>Lack of supportive materials in the learning process about conceptual frameworks</i>

Trainers’ perspectives on students’ challenges in the application of conceptual frameworks

Supervising lecturers were also targeted in order to find out the number of students that effectively used conceptual frameworks correctly in their research. Four different lecturers were targeted and, Table 2 below shows the responses from different trainers who belonged to different schools.

Table 2: Summary of students supervised by four different lecturers

Lecturer	School	Students supervised by lecturer since career Commencement	Students that used Conceptual framework	Number of candidates that used it correctly
1	Education	15	15	10
2	Natural Sciences	40	25	25
3		17	17	10
4	Humanities and Social Sciences	9	9	2

Lecturers were asked to explain the most common challenges that they observed from students over the years regarding the application of conceptual frameworks. The following were the perspectives provided and, for ethical reasons, the responses were not associated with schools or lecturer’s number as presented in Table 2 above.

Students don’t review literature enough to understand their research areas, which would help them formulate conceptual frameworks; to avoid doing more work they want to do the barest minimum, just present frequencies and percentage in analysis and get the degree, and many supervisors also do not understand what conceptual frameworks are and thus not able to guide students (Lecturer).

The challenges include not knowing what conceptual framework is suitable for the topic. Not knowing how to present the conceptual framework in the thesis. Failure to apply conceptual frameworks in the analysis of findings. Failure to relate the conceptual framework to the study. Students feel forced to use it. I have problems convincing them that they need it (Lecturer).

Lack of originality where students simply want to copy and paste or adapt to other existing conceptual frameworks. There is also a challenge of understanding of what the conceptual framework is. Some students fail to explain and relate the conceptual framework in relation to methods and findings. Students simply do not understand conceptual framework (Lecturer). The Summary of all the responses is presented in Table 3.

Table 3: Summary of challenges observed by supervisors regarding postgraduate students' application of conceptual frameworks

S/N	CHALLENGES OBSERVED BY LECTURER'S
1	<i>Students do not review literature enough to understand their research area</i>
2	<i>supervisors not understanding what conceptual frameworks are and thus not being able to guide students</i>
3	<i>Not knowing how to present the conceptual framework in the thesis</i>
4	<i>Students fail to explain and relate the conceptual framework to methods and findings.</i>

The general picture that emerged from both students and trainers is that, they seemed to project blames or the problem on each other. However, in any transformative learning space, the most important thing is for both the trainers and the trainees to do a self-introspection on how they can respectively learn and teach in a very critical and co-engaged way and how both may simultaneously be part of the problem and solution. Having said that, the following were some of the possible solutions suggested by all participants.

Measures to address challenges in the application of conceptual frameworks

Postgraduates students were asked on what should be done to help them improve the application of conceptual frameworks in their researches. All their responses were purely influenced by their individual experiences with use of conceptual framework in research. The responses from semi-structured interviews were as represented below:

More training should be done on how to identify variables. Specific directions must be provided together with an understanding of how the research problem will be explored, and how the relationship between different variables in the study would be done.

Introduce many lecturers with the knowledge on conceptual frameworks to lecture students. Introduce supportive materials in teaching conceptual frameworks for better understanding. Make conceptual frameworks mandatory for all master's degree students and prioritize teaching conceptual frameworks.

I feel a program should be introduced where students learn about conceptual frameworks. I think it should be taught to appreciate its intended purpose. Attending short trainings in research or inclusion of the said topic in one of the course works e.g. Research Methodology would help a lot.

Lecturers who were also supervisors for postgraduate students were interviewed and asked about what should be done in order to improve conceptual frameworks application in research among students. Their responses suggested enhanced scholarship through promotion of studiousness and learning by doing. Other than that, the study suggests a formative evaluation approach to teaching and learning process as well as promotion of continuous professional development in research methodology.

Student should be encouraged to read and have critical reflections on their research; having a conceptual framework should be mandatory; more trainings on use of conceptual frameworks is also needed (Lecturer).

The research methodology courses should be more hands-on so that student's master the art. Also students should extensively read other works to see how others use the conceptual framework etc, without reading, it is difficult to learn enough of it (Lecturer).

There is need for commitment on the part of students and supervisor. Need for continuous mini-presentation of research by students so as to ensure formative evaluation. Need for Continuous Professional Development for lecturers. It has to be introduced early at undergraduate so that they can have a foundation (Lecturer). The key messages from the Lecturers' narratives are summarized in the Table 4.

Table 4: Summary of strategies to address challenges experienced in use of conceptual framework

S/N	MITIGATION MEASURES TO ADDRESS THE CHALLENGES
1	<i>Student should be encouraged to read and have critical reflections on their research</i>
2	<i>More trainings on use of conceptual frameworks to be done</i>
3	<i>The research methodology course should be more hands-on so that student's master the</i>

	<i>art</i>
4	<i>Need for commitment on the part of students and supervisors in order to improve CPD's for students and advisors alike</i>
5	<i>Need for continuous mini-presentation of research by students so as to ensure formative evaluation</i>
6	<i>Need to be introduced early at undergraduate so that they can have a foundation.</i>

4. Discussion

The findings of the study inherently and potentially suggest that candidates were aware of the conceptual framework, but not able to practically apply it in the research process. This points to theoretical learning process to which students are subjected by their trainers. Pedagogically, learning process always tends to be more meaningful when practically oriented than when it is merely theoretical. This scenario recommends itself to experiential learning process, which refers to an engaged learning process whereby students “learn by doing” and by reflecting on the experience (Kolb, 1984). Once upon a time, someone narrated how he theoretically learnt how to drive a car in the mind, but when he was taken to the actual drive test on the road, he literally sweated because he realized that, driving, no matter how one theoretically explains it, is nothing until one gets to practically do it. Similarly, merely explaining what conceptual framework means to students may not really mean anything until practically done. In fact, looking at it from the experiential learning theoretical lens, the teaching, as narrated by participating students only ended at abstract conceptualization, which is the preliminary stage in the experiential learning spectrum. Therefore, the implication for postgraduate training is, trainers should as far as possible complete the whole experiential learning cycle where they would first teach the conceptual framework from abstract impressionism context, then through iterative active experimental application, the candidates would assimilate the meaning such that they own a concrete understanding that would enable them apply the conceptual framework more effectively and expeditiously. Engaging students into reflective thinking about what they learnt about conceptual framework would then be easier because they would reflect on what they fully understood through doing unlike mere abstract ideations presented to them in class.

The students' inability to identify concepts and variables that they could use to design a conceptual framework could partly be attributed to the scenario above where the teaching about it ends at abstract level in a classroom setup. If students cannot identify concepts and variables, building conceptual frameworks remains a wishful thinking and, not even a convincing word would make them design one. Moreover, students' inability to identify concepts and variables in their own researches goes on to show that, perhaps they did not understand their own research decisions and why they even chose particular topics. So going beyond conceptual framework, trainers are challenged to rethink the training model so that content is as epistemically inclusive as possible for both parties. Muchanga (2020) earlier noted that probity and perspicacity of any scientific work depend on philosophical, conceptual and theoretical considerations, which precede methodological decision irrespective of whether one is doing qualitative or quantitative research. On the contrary, it is quite common for trainers to be so articulate about methodological choices in their teachings without due consideration for the frameworks that influence methodological decisions and this cascades to the trainees who tend to articulate the methodology without consideration of building blocks that influence such methodological and interpretational decisions.

Within the spatial context where this study was conducted, findings further suggested that, trainers in educational and social sciences research were more likely to effectively teach about conceptual framework in research than their counterparts in the natural and physical sciences research. This was premised on the participants' view that, some schools such as education took the teaching of conceptual framework more serious than other schools who just focused on methodological theorization. Lotz-Sisitka *et al.* (2012), noted that, in order for the science to contribute in a meaningful way, the direction and meaning of the science must be understood from the correct philosophical, theoretical and conceptual way. In his work on the reflexive use of philosophy in scientific research, Muchanga (2020) further postulates that, claiming scientificity without being informed by such parameters as stated in Lotz-Sisitka *et al.* (2012) works is like attempting to build a skyscraper without a foundation or claiming to be self-existent without parents. Arguably, what natural scientists misconstrue to be hardcore science is a ‘difficulty formula or model’ ‘out

there' unlike such frameworks, which actually make the science scientific. Nonetheless, in actual sense, even such principles of natural science are prototypically informed by some philosophies and conceptual frameworks, which are just never emphasized by end users. The perspective that, educational and social science researchers tend to take teaching of conceptual framework more seriously than those in natural science research actually provides an opportunity for further investigation as far as research science is concerned.

Whilst some perspectives proposed the teaching of conceptual framework to be starting at undergraduate level, some perspectives took it to the other extreme that, such topics as conceptual frameworks should only be for doctoral candidates. The two perspectives imply that conceptual framework would better be understood at masters' level if it was foundationally taught at undergraduate level. This idea emerged from the trainers' perspective and indeed, it can possibly be a game changing move to enhance proper understanding and application of conceptual framework at postgraduate level and beyond. Lack of foundational teaching about conceptual framework could possibly be the reason why some student participants thought conceptual framework should be confined to doctoral candidates. Given that conceptual framework is central to every scientific research irrespective of the level at which it is being carried out, this paper, in unison with previous works (Ravitch & Riggan, 2016; Miles and Huberman 1994; Evans, 2007; Leshem and Trafford, 2007) on conceptual frameworks takes the ontological position that universalizes experiential teaching about conceptual framework and other complex topics from undergraduate up to doctoral level. However, pedagogical intensity must vary depending on the level of the learners. It should also be noted that, successful implementation of such, largely depend on enlightened trainers as some participants both from the trainees' and trainers' side outrightly lamented that some supervisors did not have sufficient knowledge and specialized competencies to help postgraduate candidates understand application of conceptual frameworks in their research processes. Newman (2001:86) states that, "improving trainers' knowledge, skills and dispositions is one of the most critical steps to improving student achievement", hence, the need for continuous reskilling and training of trainers so that their trainees can appreciate the knowledge and apply it correctly.

Since some trainers may understandably not be able to teach certain topics in research methodology even after undergoing further training, the paper also suggests a strength-based model of training where different trainers specialized in certain methodological and scientific topics such as conceptual framework can be engaged to teach such topics if substantive trainers are not comfortable teaching them. However, strengths-based training approach should not be confused with some of the parochial whims that have swept through higher education, that is, those which are only loosely-based principle of filling in the gaps. Instead, scholars within broader landscape of research methodology should be engaged to practically share well developed novel approaches aimed at navigating away from 'traditional pedagogical nonsense' to transformative pedagogies that promote optimal understanding of not only conceptual framework, but also other aspects of research methodology. Well understood, Lopez and Louis (2009) state that, a strengths-based educational approach could best be used as a philosophical stance and daily practice that shapes how an individual engages the teaching and learning process. All participating lecturers collectively supervised 81 postgraduate candidates of which, 66 used a conceptual frameworks and, out of these, 47 used it in a correct way, which represented about 71% of the 66 candidates. However, the 47 of 81 was quite a red line from the correct practice context of research science and, it goes on to confirm the high number of students who actually had challenges with application of conceptual framework in their researches.

Some candidates did not have challenges designing one good conceptual framework, but how to apply it to the overall methodology and interpretation of research findings still proved to be a challenge. Ravitch and Riggan (2017) argue that, in order for one to develop a meaningful conceptual framework, one must critically read and make connections between, or integrate and synthesize existing work related to one's own emerging research topic and its multiple theoretical and practical contexts. On the contrary, the current study noted that poor reading culture was a principal source of all challenges that postgraduate candidates experienced in the use of conceptual frameworks. Inculcating a reading culture must be part of scholarship for postgraduate candidates, instead of merely subjecting them to recitation of trainers' thoughts, which produces educated weaklings. Masters and doctoral candidates need to be more critically engaged with reading and application of what they read than what they merely learnt in class.

Although Leshem & Trafford (2007); and Jabareen (2009) clarify that conceptual framework should be originated by individual researchers, but informed by what others have done, the current study noted that, most candidates were fond of adapting conceptual frameworks and in some worst scenarios, some candidates simply copied and pasted from other sources because they did not know what to do to develop one. Due to certain conservative practices that had solidified in learners' mindsets regarding research methodologies, some candidates were not convinced regarding the importance of using conceptual framework. It took strong conviction from the supervisor to see the sense out of a conceptual framework especially those who had never heard about it before and who also argued that they had always done research without a conceptual framework. This seems to point to the issue of democracy in teaching and learning process at postgraduate, it can either be correctly used or abused. Gribble (2022) simply defines democratic education as teaching and learning process in which trainers and trainees work together as equals, it is based on respect and tolerance. However, the question to reflect on is should trainers under the panoply of democratic education tolerate and respect candidates who subscribe to the *argumentum ad antiquitatem* fallacy regarding for example, none use of conceptual framework and others that qualify a science just because they had always done researches without conceptual frameworks? The answer is profoundly no, but democratic training should be critically engaged with, so that both parties are respected without compromising the required scholarly standards in research science.

On the other hand, the study notes with concern the tendency by both trainers and trainees to project the blame on each other, which implies the need to re-think and critically democratize postgraduate training so that both trainers and trainees can be free to co-exist and co-produce knowledge and to engage each other freely where certain concepts and themes are not clearly understood during teaching-learning process. For example, some lecturers were cited to not have required knowledge on conceptual frameworks because they confused them with theoretical frameworks, for fear of potential and actual victimization, candidates would not come out to share their perspectives so as to arrive at a shared common understanding. This scenario seems to qualify Maxwell (2005) argument that, there is lack of common language regarding the notions of conceptual and theoretical frameworks, because sometimes theoretical frameworks are referred to as conceptual frameworks. These two are only related, but not the same. Nonetheless, in instances where theoretical frameworks are not clear for research context, conceptual framework can provide theoretical basis and it is conceptual framework that actually precedes theory development. Hence, the need for simplified materials that clearly illustrate how these interact in a research process. As an alternative to mainstream pedagogies in research methodology courses, Figure 2 proposes conceptual model that can perhaps improve understanding of seemingly difficulty and complex topics in research methodology courses.

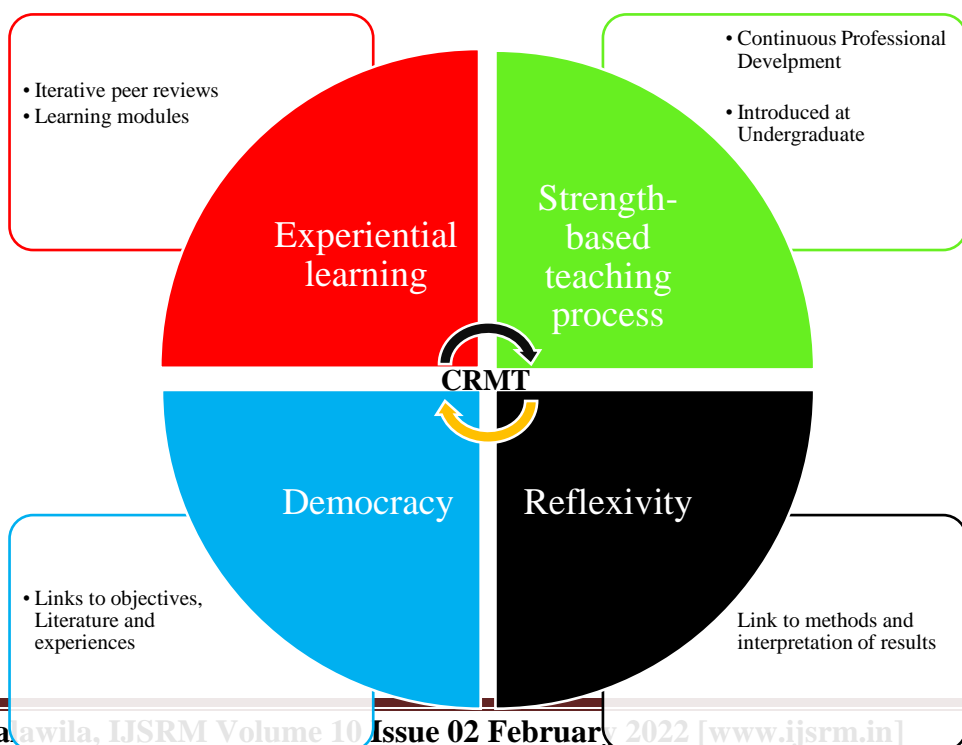


Figure 2: Proposed model for improved teaching about complex topics in research methodology (CRMT: Complex Research Methodology Topic)

The model above depicts an idea on how effective and practical teaching of complex topics in research methodology can be achieved. Trainers ought to integrate experiential teaching strategies that embrace learning by doing, which may lead to concrete practical understanding and critical reflection on research practice context. This can arguably enhance the ability of learners to iteratively and interactively learn and revise the initial thoughts in view of arriving at better ones as they mature over time. In instances where trainers feel uncomfortable to teach about conceptual framework, the strength-based approach can be adopted where different experts with different, but detailed understanding of various topics in research methodology are brought together to complement each other so as to prepare postgraduate candidates who can epistemically engage with what they learn in classroom setting.

There are instances where learners subliminally suppress their views about topics that they may not have understood possibly because the trainer is closed-minded and has not created an academically-democratic learning space for candidates to freely express their perspectives. This often defeats the philosophy behind postgraduate training and, the end result is academic diplomacy, which in this context refers to the highest-level of academic hypocrisy where everyone maintains the 'it is well status' when the exact contrary is the case. To extirpate this academic power gradient and pedagogical-idolatry, democracy would play a critical role and if well integrated with other techniques, it can evoke best learning outcomes. Reflexivity is basically inherent in all of the already mentioned variables within the model. This would help trainers and trainees alike to always keep on rethinking their initial thoughts and practices to arrive at better ones. This requires time as ideas keep on maturing to highest refined level possible. Had both students and trainers critically engaged in reflexive practice, there would not be some potentially blame games against each other, instead each party would engage in critical reflection on why for example, conceptual frameworks could not be well applied and what should be done to address the challenge in a collaborative way possible. Through a systemic integration of the above-mentioned concepts into the teaching process, the model assumes that with time, learners would be able to succinctly link conceptual frameworks, philosophies and theories to their research questions, objectives, methods and interpretation of results. They would appreciate critical and practical engagement with text in the literature and, even when such topics as conceptual frameworks are provisionally introduced at undergraduate level, trainees would be more receptive to them as a preparatory space for more advanced learning at postgraduate level. The same principles are envisaged to enhance confidence and understanding among trainers as they learn from each other and explore best ways to assess candidates' progression especially through iterative peer reviews.

5. Concluding remark

The study conclusively says that, postgraduate candidates generally had a poor understanding of conceptual framework due to lack of prioritized teaching about it, lack of simplified learning materials, lack of hands-on engagement with the text around conceptual frameworks and poor reading culture among candidates. The study also noted that, the problem was not just with the candidates, but also with the trainers although they both seemed to cast the blame outwards. The study proposed an experiential and strength-based learning model to possibly improve understanding of not only the conceptual framework, but also other aspects of research methodology that seem problematic to both trainers and trainees. These approaches are to be characterized by critical democratization where both parties would openly engage in the co-production and sharing of common understanding during the training and supervisory process.

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