Critical and Creative Thinking and Theory Application in Social Sciences Research Studies: A Sociological Musing

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Abstract

Critical and creative thinking are important in the application of theories in social research. However, sociology theories remain extant in many studies mainly because of the failure of researchers to apply critical and creative thinking in social research studies. This is attributed to inadequate skills for the pragmatic application of philosophical techniques of using theories to guide research work. This paper seeks to elucidate this problem within scholarly undertakings for post-graduate students and other scholars who must use critical and creative thinking in inculcating theories into their studies. The paper intends to elicit an in-depth discussion amongst social scientists on the best way to address these challenges. This paper moves further and proposes how sociological theories are integrated into social research studies and guide the construction and process of research from conceptualization, proposal writing, data collection, analysis, and report writing by focusing on specific theories a study may adopt.

Key Words: Critical and creative thinking; Philosophical techniques; Social research; Sociological theories

Introduction

The conceptualization of theories and the ability to apply them in social research studies is a challenge to many scholars, particularly student researchers, in the fields of social sciences and humanities. This is because the concept of theories and their innate pragmatism in guiding research studies may not be well understood, with a particular focus on sociologists. Many scholars, both researchers, lecturers, and post-graduate students of sociology, fail to appreciate the importance of sociological theories in the conceptualization of research projects (Luwemba, 2022). This is not the end, it goes all the way to the process of data collection in research, and subsequent analysis of data and the inferences derived therefrom. The theories must be present in the arguments researchers advance in the literature review, in addition to the construction of the discussion of findings and conclusions of a study to recommendations (Luft

et al., 2022). This is because the theories provide the direction a study takes. Secondly, they lay the structure upon which the variables are related, organized, data collected, analysed, and interpreted and the generalizations made therefrom the results.

Scholars, peer reviewing each other's works may realize that the subject matter of theory utilization in research studies at times is wanting (Ali & Watson, 2016). It is worth observing that many sociology and social sciences students identify specific theories to guide their studies and explain how that theory will guide their research. After elaborating the theories in the theoretical framework sections, they do not demonstrate infusing the theories into their studies. The theory technically dies a stillbirth at the onset of the study because the actuality of its assimilation remains blank. It is repeated nowhere else, neither is there a demonstration of

how it structures the organization of the research study and the direction it takes. In this way, the art of critical thinking influences the outcomes of abstractions and interpretation in research studies (Smith, 2020). Consequently, the theory does ground the literature review to the existing body of scientific knowledge within a specific subject area. What escapes many scholars is that theories are a summation of what is already known as they aim to explain phenomena or make predictions (Fried, 2020). Accordingly Meza et al., (2023) opined that it is correct to construe theories as models or postulates that can generally explain 'why, what, and/or how' questions about a given phenomenon. Therefore, being an aggregation of past research studies, they aim to forecast future occurrences based on similar observations and conditions (Petropoulos et al., 2022). Further, they can be either tested through experimentation or otherwise via empirical observation (*Ibid*).

While the placement of the theoretical framework for social research depends on the customized format that different institutions adopt for students, it should come before the actual literature review commences (Luft et al., 2022). This will allow both the researcher and his/her critics to identify and relate the gaps they identify based on the theoretical and philosophical constructs adopted for a given research. This approach links the study gaps, broadly situated within the premises of the research questions and the theories, to the context of the existing body of knowledge. The conceptual framework follows therefrom and is best developed, within the meaning of the theory. It will allow particularly novice researchers and scholars to organize their variables systematically within the dictates of a specific theory. At this point, one now begins to appreciate the way the theory sets the structural organization of the study (Passey, 2020). By electing to use a specific theory, a researcher subtly admits that there is a "boundary between current knowledge and ignorance" (Knudsen et al., 2023). The current knowledge is epitomized by the theory, while ignorance is captured by identifying gaps that are not yet answered. The theory will therefore validate how that which is known in general fits in providing a plausible explanation for the specific gaps identified in the literature review. Whether the theory will

ultimately explain the reason behind new information filling the research gap adequately or not will be a result of the study in findings.

It is from that perspective that one can appreciate Kuhn's Theory of Scientific Revolution in explaining the concept of paradigm shifts (Ogundele & Ogunyomi, 2020). Knowledge development is dynamic and partly based on the cyclic nature of theories. Knowledge is not absolute, and what is known today may be subject to modifications tomorrow. To appreciate this, one must take note of the fact that knowledge development is best done within the human constructions of theories, and the limitations to lack of access to absolute knowledge by the current abilities of humankind guarantee limitations to theories that need to be replaced as knowledge develops (Disch et al., 2023). Philosophers opine that this creates the constant need to rethink theories because the realities that they address in social sciences do change frequently (Avelino, 2021). While this may be debatable, depending on one's position, it remains crystal clear that theories only change when new knowledge challenges the previous position of what was known. It is this very concept that many scholars overlook when they purport to use theories in guiding their research studies in sociology and other social sciences. It is evidenced by their failure to prove, and detail how the theory is present throughout the research. To demonstrate this, the theory must be inherently or expressly present throughout the research process. This is from the conceptualization stage of a study to the actual report writing of the findings and discussion. It helps connect the research study to the realm of known knowledge. If this is not done one may opine that the conclusion may be at variance with the theory that was purported to guide the study. This is because the findings and conclusions, in many instances, do not either come out challenging the status quo of a theory nor do they add value in support of it (Collins & Stockton, 2018).

Contextualizing Critical Thinking and Analysis in Research

With hindsight, many social researchers tend to confine the theories they are using in guiding

their research to mere descriptions of purported theories guiding their studies. They appear to be of relevance to their studies in the theoretical framework sections. Through scholarly interrogation and output in the verdict, they remain simply that, a description of theories. Additionally, they have not structured and given scholarly validation and form to the content of the research study. They, however, remain oblivious in anchoring the assumptions underlying their studies' specific hypotheses to the theories they use. This makes them lack justification for how the theories they use have a bearing on what they analyze. It also impedes the quality of inferences deduced, or induced, from the outputs of analyses in the conduct of their studies. This exemplifies a dearth in the scholars' ability and capacity to use critical and creative thinking in solving their research problems effectively.

The essence of critical and creative thinking is fundamental to advancing scientific knowledge and giving research studies a framework for reference to the existing body of knowledge in the fields of sociology, social sciences, arts, and humanities. When social scientists set out to investigate a social phenomenon, the concepts of subjectivity and objectivity keep cropping into their purview of interpreting the findings of their research work (Dansabo & Bello, 2019). This does not deter them from achieving the prime objective of making discoveries within the different domains of knowledge. Critical and creative thinking enriches a research study by allowing the researcher to get involved with the argumentation in their projects through critical analysis. Critical analysis in research refers to the ability to transcend three levels, the descriptive, interrogative, and evaluative stages (Dwyer, 2023). When the researcher sets to position the study within what is generally known about the subject area of research, describing the background information is not enough, therefore the first step is to contextualize the problem within what is known (Shehadeh, 2020). To achieve that, the researcher must answer questions such as what, where, when, and how. In the literature review, the researcher must examine related information in the submissions of others who have undertaken research in similar study areas.

In the literature review, the researcher must inquire about how a theory works in the context of examining the relationship parts of it. This allows the researcher to synthesise the research problem and relate to the relevant theory (Snyder, 2019). To achieve this, it requires applying a combination of critical thinking skills of "perception, assumption, criticism, recognition, deduction, interpretation and evaluation of logical reasoning" in the scrutiny of the research subject matters (Ghazivakili et al., 2014). The best way to achieve this is by organizing the literature review in the order of the objectives. Consequently, the theory helps the researcher to separate the different components of a study problem. They help in exploring through what is already known in identifying gaps that will best fit the needs of the research questions derived from the objectives (Nyanchoka et al., 2020). Critical analysis in literature review compels researchers to relate different elements of the theoretical constructs to the dictates of the research question. Ultimately, it leads to the fundamental question of how, why, and what if. Critical thinking propels the researcher to ask how and why (Salmon & Barrera, 2021). In this way one can pinpoint the gap in knowledge that qualifies the study to be undertaken. Furtherance to that, the why component facilitates justification of that gap as existing and needs to be researched on. By asking what if, the researcher can offer a balanced appraisal of what is known against what is unknown. This is possible by refocusing their literature review to the tenets of the theory guiding their study and viewing the variables from different perspectives.

Critical analysis creates the continuum that moves a researcher away from simplistic thinking to a level that is structured, organized and resourceful in nature (Ridder, 2017). It must be methodological and not inclined to be conducted on an *ad hoc* basis (Snyder, 2019). The aspect of applying the techniques of critical and creative thinking to analytical discourse within the milieu of research studies creates a fluid flow of the analysis work. When sociology researchers engage in critical analysis, it leads them to the aspect of critical evaluation (Harvey, 2022), where one is attentive, and has a better in-depth

understanding of social phenomena within the environments they are situated. Furthermore, they have the added advantage of the ability to anticipate and disclose contradictions in the arguments they advance in the conduct of their studies (Saunders et al., 2018). It helps scholars to eliminate unsubstantiated claims through better understanding of the subjects they engage in.

At this point, it becomes imperative to unpack the concept social theory in social research having explored the generalities of definitions that best capture the concept of critical analysis in social research studies. It is important to note that on this specific theme, researchers do not operate within the rigid boundaries of laboratory research like many of their counterparts in the natural sciences. While objects and themes studied in natural sciences can be controlled, this does not apply easily in the sociological field. The reason behind this is that humans are dynamic, ever changing and only conform to generalized pictures that is not entirely specific to any one individual or group, and that individuals have too greater a potential to change radically on the spur of the moment. With this danger, sociologists study aggregations of individuals, rather than single out each one out, in order to come up with postulates and theoretical models that reflect social aggregations of social phenomena. This justifies why sociological theories lack the rigid precision of predictions. There is a perpetual difficulty of subjecting human behaviours to rigid predictive mathematical calculations. This increases the power of prediction for theories developed and used in the natural sciences studies. In sociology, the exposition of theory implies the understanding of a statement that elucidates and provides linkages between variables and the outcomes of such interrelationships. In contrast to social theories, this advantage of greater predictability due to the uniformity in obeying the same laws as ordained by the natural world allows natural sciences theories to be highly precise, a fact that is still problematic for sociological theories. Critical and creative thinking allows one to demarcate these differences in the domains of the sciences, and as such, provide the critical and creative thought practices of interrogation and reference frameworks for scholarly discourse in research.

The rigidity, and the high chances of precision in prediction, do not negate the scientific methods of natural sciences from being pragmatically applied in sociology, where creativity forges better outcomes when implemented in sociological studies.

The purpose of critical and creative thinking is to provide a philosophical tool for scholarly discourse that examines the function, and applicability, of a given theory in a specific field of study (Himes & Schulenberg, 2013). The simplest way to understand sociological theories is to examine the principles that make them "logically interrelated sets of propositions about empirical reality" (Chijioke et al., 2021). Through the application of the techniques of critical and creative thinking, the researcher can engage in evidence-based research studies by questioning the definitions of the relationships of variables as expounded by, and within, the theories. It requires one to locate the right evidence in testing the hypothesis of their studies. Uncovering the right evidence is commenced by identifying the right variables that are measurable. It implies that a theory has a bearing on the selection of materials and methods that will be used to conduct the study (Michailova, 2024). A systematic review of the evidence and the literature supporting a given assumption that leads to a study, or a finding that is an outcome of such, must be incorporated within the meaning of the existing body of sociological knowledge. This body of existing knowledge is epitomized as summations of known facts in the constructions of the theories used to guide a study.

For this venture to bear fruit, then the philosophical techniques of critical and creative thinking must come into play. Critical thinking provides social scientists with intellectual tools of "reflective and independent thinking" (Witarsa & Muhammad, 2023). Critical thinking in social research is partly learned intrinsically, as one advances and masters the art of scholarly writing, one increases their competence in applying philosophical techniques of interrogation on a subject of interest. Social researchers ought to be guided by theories (Waldt, 2021). The researcher must be able to understand the structures and inherent relationship of variables constituting the

platform of research praxis; through theories. From the onset of conceptualization of research works, critical and creative thinking permits a researcher to interrogate and review information from a variety of sources, from their background information, and in their literature review, and consequently, integrate various arguments used in the background and literature review in their discussion of findings. This is where many sociology and social science researchers fail; the theory is stated in the theoretical framework but is not enmeshed solidly into the literature review, methodology, and the results and discussion of findings.

Many student researchers in the social sciences and humanities, particularly, focusing on sociology, ignore that a research notion(s) emanate(s) from some intuition(s), raise a doubt, or have a possibility of confirmation, or otherwise, through research. A research notion never originates from a lacuna. The best way to develop that notion into a research topic is to clearly define what they want to achieve in their research works before framing a topic that is informed by the operationalization of a particular theory. Incorporating sociological theories, thereafter from this point in the research study, becomes a function of philosophical processes of critical and creative thinking. Critical thinking facilitates the detection and identification of relevant sources of information in building various arguments throughout the research process (Dong et al., 2023). On the other side, the creative aspect of thinking allows one to substantiate the existence of that gap they identify, illustrate the need for investigations, and valid the reasons they concur, disagree, contradict, and/or doubt the submission of others who have researched or opined about what they are investigating. Depending on how one constructs his/her arguments in their review of literature, they have the potential to develop a wide series of objectives that can be justified as emanating from a single research topic. Through critical and creative, the creative aspect of the thought processes allows a sociology researcher to correlate various arguments, findings, and existing knowledge with the central themes and objectives of their research studies (Kim, 2023). Stephen Turner has been quoted as stating that "sociological theories are better understood as

models that work in a limited range of settings, rather than laws of *natural* science which hold and apply universally" (Shaw, 2021). At this juncture, by making recourse to critical and creative thinking, one may appreciate that it is irrational when researchers do not give sociological theories form and power to direct their work. This is based on the understanding that theories set the limitations of a study by acting as prisms for analyzing and interpreting the sociological findings of their research.

Lynch (2020) opined that social research studies have set standards that must be satisfied for them to meet the minimum threshold for scholarly acceptance. The conceptualization of research studies as embodied in the research topics must be outcomes of the "quality of … thinking carefully, taking charge of the structures inherent in thinking, and imposing intellectual standards upon them" (Erikson & Erikson, 2019). How one goes about applying critical thinking in sociology has not been deeply evaluated in a survey of available literature. This problem is aptly captured in the statement "… how one defines and utilizes critical thinking in practice, has been absent from discussions about critical thinking and learning" (Raymond-Seniuk & Profetto-McGrath, 2011). This provides a clue as to why students' use of critical thinking in the operationalization of theories in their research works remains wanting. Having looked at how critical thinking provides an avenue for integrating research studies into existing social theories, there is a need to demonstrate how the process of thinking critically has a positive bearing on the social research expeditions in scholarly spheres.

Creative Thinking in Social Research Studies
Thinking by itself is not creative. Creative thoughts are products of the greater power of abstractions that gives form to the notion of ideas, time, and space through the active engagement of thought processes. Creative thinking gives form to an idea and allows a researcher to have ideas supported by solid argumentation that overcome fallacies in the development of new knowledge. The conceptualization of research studies must be based on the existing knowledge, where the abstraction systems produce substance of form for engaging, conducting, and interpreting the

findings of a study. Creative thinking advances the progressions of ideas in a linear continuum from logical reasoning to the product of critical thinking. It gives the social researcher the power to derive new meaning(s) and fact(s) from the generalizations they make from their studies. New meaning or fact is always evident from the findings of a research, whether supporting an existing idea or not or knowledge or radically modifying them. It constitutes evidence of the power of applying creative thinking in social research. It must be considered that the construction of new facts by itself is inherent to creative thinking and supports the whole process of research work.

In the conceptualization and conducting of research studies by both academics and other researchers, one must learn how to be purposeful in their thinking by organizing their arguments, discussions, and conclusions in a thoughtful, constructive, and organized manner in their "interpretation, analysis, evaluation as well explanation of evidential, conceptual, methodological, and criteriological considerations upon which judgment is based" (Riddell, 2007). From Riddell's statement, within the realm of social sciences and humanities, the easiest way to organize one's thoughts purposefully is to engage their argumentation within the frameworks of the theories they propose to guide their studies. The arguments advanced in a study must be reconciled with the conceptual pillars encapsulated in the theories that guide their studies. Secondly, they must congregate in meaning at the central foci of that specific theory's tenets that predict outcomes. It is only through this that the researcher can point out contradictions in his/her research findings and dispute what is already known. Eventually, it may lead to paradigm shifts based on Kuhn's Theory of Scientific Revolution. Finally, it can help the researcher provide concrete evidence as to why they concur or dispute what is already known based on the findings of their studies.

Social researchers have to determine the scope of their studies using a given theory's limits (Akanle et al., 2020). This is only possible through the application of creative thinking in accruing its benefits for analysis to lead to higher-level evaluation. It needs creative thinking in addition to critical analytical thoughts for a researcher to be able to synthesize new ideas from what they observe from studies. Infusing new ideas either challenges the theory or fortifies it to justify the worth of their research based on the existing body of known knowledge. It affords scholars an easy leeway to relate their research concepts, and discussions in literature review through to the findings and recommendations to the foundational tenets of theories used in studies. The critical thinking skills necessary for this venture in academic dialogues are analytical on the very basic. One must be competent in applying equal standards to the different themes they are addressing as exposited by the theory in the conduct of their research. By indulging in creative thoughts, scholars can find innovative ways to apply the theories in novel ways hitherto not yet done before. This simple fact demonstrates success in challenging the normal application of a given theory. It ultimately ends up expanding its boundaries to new realms of academic research and knowledge. When this happens, Kuhn's Theory of Scientific Revolution is repeatedly validated.

Combining Critical and Creative Thinking in Social Research Studies

Critical thinking does not operate in isolation with creative thinking in the application of philosophical principles in the realm of sociology. Rightly, as one masters one, the qualities of the other become alternately evident in it too. The use of logic or rationality in digesting social phenomena enables social researchers to make correct inferences (Bruch & Feinberg, 2017). They, therefore, pinpoint areas that they want to research precisely, question the conduct of their own research studies and the methodologies they use. By doing so, they can have a higher degree of certainty that the findings of their studies will be a movement towards absolute knowledge/truth. (Absolute knowledge/truth, with the limitations of undertaking research studies in social sciences, borders near-impossibility in our view).

As one thinks critically through their research, he/she can break down arguments, explanations, and observations they make in their conceptualization of ideas in the propositioning stage of their research. They can propose what they will examine, and how they will collect

evidence that will support the outcomes of their studies embodied as the research findings within the meaning of the theories they used to guide their studies. These activities are then tailored to suit the specifications of the definite theory engaged as the guiding beacon for the study. The element of creative thinking will enable them to synthesize the information they gather, move further, and expose and justify the loopholes in the existing body of known knowledge about the areas of concern for their research studies. Furthermore, the creative process of thinking will lead to their synthesis of new ideas and discoveries that answer the research questions that need to be responded to in their studies.

Creative thinking is what situates the findings and conclusions of a study with the existing body of knowledge. Creativity has been noted to play a very critical role research process (Rodríguez et al., 2019). This allows a scholar to justify why they have added something new to known knowledge by adding value to the existing theories. Critical thinking facilitates a researcher to give a theory form and coalesce it into the components of his research works. This will enable them to view the different parts of the research separately, examine the techniques they have used to collect data and question the arguments and evidence they used in disqualifying or accepting, in whole or in part, the theories used in research through the creative thinking process. It is up to the researcher to validate the theory's power and direction by agreeing to its propositions, or invalidate the same, by disagreeing regardless of the extent of divergence. Every time a scholar analyses an argument, he/she must rebuild, re-shape, accept, modify, or reject it in totality, or part thereof. We believe, that within sociology, each theory is affected by all these actions of critical and creative thinking when a research study is concluded.

Conclusion

The ability to give form and use the power of theories in guiding research is anchored on the critical and creative aspects of thinking. Through theory, they assist in understanding of existing known knowledge within the specific field the theory covers (Collins & Stockton, 2018). The result is a platform upon which scholars get a means of challenging the validity of existing

theories in order to refine them better. Thinking creatively here will allow a sociologist to apply knowledge embodied in sociological theories pragmatically in the constitution of their research. This is because creative thinking is manifested through cognitive flexibility of the researcher. This leads to higher ideation abilities by a research in the analysis of findings and placing it in the context of what is already known (Ritter et al., 2020). Sociological theories are aggregations of various findings that have been abstracted into a generalized form. Creative thinking gives a researcher the ability to synthesize information, as related to the theoretical abstractions, comes up with new ideas, rejects or modify existing ideas, critique, defend and/or object propositions as defined from generalized sociological abstractions (theories) in developing and building the existing body of sociological knowledge. That is our discourse of creative thinking in sociology. Creative thinking, in our opinion, is the key ingredient that combines with critical thinking leading to the correct idealization of sociological thoughts, theories and knowledge through research studies *per se.*

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