

Philosophical Assumptions Across Paradigms: Implications for Educational Research

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Abstract

A research paradigm is a philosophical framework that guides an investigator to declare her/his position in research. Gaining deeper insights into different research paradigms is crucial for educational researchers to carry out research, either quantitative, qualitative, or mixed, in the field of education. The paradigm helps researchers select new and relevant research problems, formulate objectives, determine research questions or hypotheses, decide on research methodology, and analyze collated information credibly and authentically. In this regard, this article explores epistemological, ontological, and axiological assumptions of positivism, post-positivism, interpretivism, and critical paradigms with their implications in educational research. Methodologically, this article has been developed by using secondary data sources such as books, reports, and articles, especially published at international level. Twenty-three pieces of relevant scholarly works dated from 2005 to 2022 were consulted while preparing this article. Results of the article reveal that positivism emphasizes on objectivity, quantitative data, statistical analysis, and replication based on survey and experimental designs to study educational phenomenon. Post-positivism focuses on subjectivity, and acknowledges imperfection of knowledge, while interpretivism underscores subjective meaning of human experiences, culture, and practices. Critical paradigm examines the role of power and social structures in shaping educational policies and practices. These paradigms provide a framework of reference to investigators to research particular educational phenomenon in reliable and valid way.

Keywords: Paradigm, education, research, epistemology, ontology, axiology

Introduction

A research paradigm refers to a widely accepted framework to conduct research in different fields, education for example. It is a comprehensive belief system of research, which encompasses a loose collection of logically related assumptions, concepts, or propositions that orient the thinking and research activities (Bogdan & Biklen, 2007) of the investigators. In other words, it is the philosophical stance taken by a researcher to view the source of knowledge (epistemology), nature of reality (ontology), value of knowledge (axiology), and process of generating knowledge (methodology) in her/his research (Chilisa & Kawulich, 2012). either quantitative qualitative or mixed-method research. Paradigms help researchers determine the problem, objective, scope, conceptual framework, and methodology of research for making sense of the social world to find out something new in the study area. A paradigm in educational research is a model or framework that directs the investigator to make

decisions about design, population, sample, data collection techniques, data analysis process, and ethical guidelines that need to be considered.

Different paradigms are applied while conducting various types of academic research on educational issues. Generally, positivism, post-positivism, interpretivism, pragmatism, and critical paradigms are used in research (Creswell & Poth, 2018; Merriam & Tisdell, 2016), with their epistemological, ontological, axiological, and methodological assumptions (Creswell, 2014). An investigator's research is fully guided by the paradigm that s/he selects. It means; a hypothesis testing and detecting the relationship between independent and dependent variables under a controlled environment are considered in a positivist study. However, a focus on understanding lived experiences through qualitative interviews, focus group discussions, and case studies is given in interpretive research. Four paradigms namely positivism, post-positivism, interpretivism, and critical paradigm with their philosophical assumptions have been encompassed in this article.

The positivist paradigm, generally used in quantitative research, believes in objectivity, hypothesis testing, experimentation, interventions, and statistical analysis. It underlines the collection of numerical data through structured questionnaires, direct observation, and achievement tests with the goal of examining cause-effect relationships between variables being studied (Creswell, 2014). Researchers in the quantitative paradigm attempt to optimize objectivity, generalizability, and reliability through the use of statistical analysis to draw conclusions (Bryman, 2016). Positivist research intends to obtain reliable results that can be replicated under similar contexts. On the contrary, post-positivism conceives reality as a complex and socially constructed phenomenon, which can be better understood through both quantitative and qualitative methods of research (Cohen et al., 2017). It means; according to this paradigm, no single approach can fully capture the complexities of the educational phenomenon being researched.

Interpretivism, also known as constructivism, gives priority to understanding subjective experiences and meanings of individuals or a group of individuals. Qualitative research guided by this paradigm usually explores a particular problem in depth by collating information through interviews, focus group discussions, and participant observations (Creswell & Poth, 2018; Denzin & Lincoln, 2018). This paradigm furthermore contends that reality is socially created, unpredictable, and contextual (Bogdan & Biklen, 2007). Interpretivism is usually used in phenomenological, ethnographic, grounded theory, narrative inquiry, and case study research design (Creswell & Poth, 2018). The critical paradigm, on the other hand, emphasizes issues related to social justice, power, inequality, and oppression. It endorses using participatory and emancipatory action research to challenge the prevailing power structure that plays a conclusive role in knowledge production (Kincheloe & McLaren, 2011). Understanding these paradigms therefore helps researchers adopt the most appropriate approach for their studies and offers a lens through which they analyze and interpret the results of their research.

This paper provides a clear concept for educational researchers to make informed decisions about their research study topic, methodology, design, results, discussion, and conclusions by clarifying philosophical assumptions of positivism, post-positivism,

interpretivism, and critical paradigms. Transparency in these paradigms helps investigators to answer research questions in a valid, reliable, and meaningful way. Furthermore, a deeper understanding of philosophical assumptions underlying each paradigm enables them to evaluate their own research choices and the limitations of their findings analytically. Educational researchers should be acquainted with different paradigms and their philosophical assumptions since the paradigm chosen in any research plays a decisive role in guiding the whole research process. In this regard, this article aims to explore epistemological, ontological, and axiological frameworks of positivism, post-positivism, interpretivism, and critical paradigms with their implications in educational research.

Methodology

This article has been written by consulting secondary sources of information. A systematic review was done to explore and discuss different research paradigms namely positivism, post-positivism, interpretivism, and critical paradigms by identifying their applications in educational research. In total, 23 pieces of literature published primarily at the international level from 2005 to 2022 (six from 2005 to 2010, 16 from 2011 to 2020, and one from 2021 and onwards) were selected and reviewed thoroughly to develop broader insights into discussed paradigms. Three criteria, namely relevant to the field of educational research, published from 2005 and onward, and reliable and authentic sources, were used to choose the literature for review. The consulted pieces of literature were chosen from academic databases, such as Google Scholar, SpringerLink, Sage Knowledge, and Routledge, including PDF Drive and LibGen. Various keywords such as research paradigm, positivism, post-positivism, interpretivism, critical paradigm, epistemology, ontology, axiology, etc. were used to identify related books, reports, articles, and chapters. Contents related to research paradigms, their philosophical assumptions, and their implications in educational research were explored and described by generating separate titles and sub-titles by paradigms. The consulted works of literature were properly cited in the text and referenced based on the APA 7th edition.

Results and Discussion

Four paradigms – positivism, post-positivism, interpretivism, and critical paradigm – including their philosophical assumptions primarily epistemology, ontology, and axiology have been discussed below respectively to provide their clear understanding to readers.

Positivism

Positivism is a quantitative research paradigm that strongly believes in objectivity and argues knowledge is derived from sensory experiences and observable phenomena (Creswell, 2014). The history of positivism dates back to the Enlightenment period of the 17th and 18th centuries, inspired by philosophers Descartes and Locke (Park et al., 2019). This paradigm moves towards universal truth by discovering objective and evidence-based reality through well-described experimentation, especially a quantitative approach to research. Positivism is a rejection of metaphysics (Trochim, 2008). Scientific reasoning and common-sense reasoning are essentially the same process. Positivism holds that the goal of knowledge is simply to describe the phenomena that we experience. The purpose of science is to simply verify what we observe and measure. This ‘scientific’ research paradigm strives to

investigate, confirm, and predict law-like patterns of behavior and is commonly used in graduate research to test theories or hypotheses (Taylor & Medina, 2013). Positivists believe in strict cause and effect of particular phenomena (Creswell & Poth, 2018). Positivist research is characterized by a scientific approach. Observation, gathering data, interpreting and evaluating data, and coming to demonstrable conclusions are typical strategies. Procedures, findings, and applications are intended to be replicable (Farrell, 2012). It focuses on ultimate reality and contends that reality depends on observation, logical thinking, and experiment (Trochim, 2008). Therefore, positivists believe in empiricism. This paradigm accepts those things that could be directly observed and measured and also argues that we can't observe and measure spirit, soul, supernatural things, etc. Therefore, the existence of these things is rejected by positivism. From the positivist view, the scientific method is taken as the main way of knowing the truth. It focuses on the deductive logic of thinking. Research guided by positivism is not affected by the personal thoughts, beliefs, and interests of the investigator. An educational researcher pursuing positivism usually focuses on testing hypotheses to identify the relationship between dependent and independent variables in education (Creswell, 2014). Hence, a researcher may use a standardized test to appraise the academic performance of students across schools by using statistical analysis, either descriptive or inferential, to ensure the results are reliable and generalizable. It means positivists give priority to value-free research. Philosophical assumptions of positivism are briefly discussed below:

Epistemology: Epistemology is a theory of knowledge, which usually explores the answers to several questions, such as: What are the primary sources of knowledge? What are the best ways of knowing? How do we know the truth? What are the criteria for distinguishing true and false knowledge? It also explains the nature and structure of knowledge, the possibility of knowledge, its scope and limits, and the ways of acquiring knowledge. Thus, epistemology addresses the philosophical problems of research by clarifying the nature of knowledge, sources of knowledge, and ways of knowing to a researcher. Positivists contend that knowledge can be developed objectively, without the values of the researchers or participants influencing its development (Park et al., 2019). From an epistemological perspective, positivists believe that knowledge is objective, universal, and scientifically proven. It focuses on measurable, evidence-based, and scientifically tested knowledge (Chilisa & Kawulich, 2012). In this perspective, sources of knowledge are observation, measurement, experimentation, and logical as well as statistical methods.

Ontology: Ontology is a philosophical assumption about the nature of reality (Omodan, 2020). The positivist paradigm is based on the assumption that there is a single tangible reality (Park et al., 2019), that can be observed, measured, and proved. There might be different ontological bases of different individuals, groups, and societies as per their philosophical backgrounds. Positivists believe that reality is scientifically, logically, and statistically constructed (Chilisa & Kawulich, 2012). In the positivist perspective, the material world can be known through sense experience. Under the research guided by this paradigm, a researcher attempts to ensure the relationship between independent and dependent variables by controlling extraneous variables.

Axiology: Axiology refers to the theory of value. It is concerned with several questions related to the value such as: What is good? What is bad? What do people prefer? What is acceptable under the research process? It means; that axiology is primarily concerned with right and wrong, good and bad, ethical and unethical, and the like. Positivism asserts that educational research is scientific and value-free. Under research conducted by following this paradigm, a researcher should aim at maximizing good outcomes for the research project and avoiding/minimizing any risk and harm during investigation (Chilisa & Kawulich, 2012). Therefore, Positivism relies heavily on objectivity and dismisses the importance of individuals' subjective experiences and values (Park et al., 2019). Based on the axiological orientation of positivism, scientifically tested and value-free knowledge is more important.

Educational Implications: The implications of positivism in educational research are multi-faceted as it gives priority to objectivity, scientific approach, and universally acceptable findings (Bryman, 2016). In the education field, researchers can investigate, develop, and apply different types of prototypes, interventions, and learning materials through surveys, experimentation, and statistical testing to improve theories and practices. Positivism advocates for value-free educational research and minimizes researcher bias in any type of study with a focus on the tangible, external, and empirical truth (Creswell, 2014). This paradigm usually tries to locate the relationship between independent and dependent variables regarding education and learning by exploring their cause-and-effect relationships and emphasizes evidence-based solutions to educational problems that can be generalizable into a broader context. These days, therefore, educational researches guided by this paradigm are practiced to experiment with interventions and identify the impact of education in a broader context.

Post-positivism

Post-positivism is taken as another important paradigm in the research field, which was introduced to address the limitations of positivism (Farrell, 2012). A post-positivist argues that the way of thinking and working between scientists and general people are not significantly different (Trochim, 2008). Post-positivists believe in subjectivity but do not trust strict cause-and-effect relationships. Propagators of this paradigm view inquiry as a series of logically related steps (Creswell & Poth, 2018) and claim that reality is complex, fallible, and socially constructed. It postulates that reality can only be approximated rather than fully known. It can be better understood through both quantitative and qualitative research (Cohen et al., 2017). The post-positivists also believe that all observations are guided by their cultural experiences, world views, and social phenomena. Most post-positivists are constructivists who argue that each of us constructs our view of the world based on our perceptions of it. They reject the idea that any individual can see the world perfectly. We never achieve objectivity perfectly, but we can approach it (Creswell & Poth, 2018) since it conceives reality as a subject to be changed time and again. It means; that knowledge is not simply discovered by an investigator but created through the interaction between the researcher and informants. It allows for a flexible and reflexive approach to data collection and analysis. Post-positivists therefore acknowledge the subjective contributions of researchers and

participants in the research process to mitigate the shortcomings of positivism (Creswell, 2014). The philosophical assumption of post-positivism is given below:

Epistemology: From a post-positivist viewpoint, knowledge that has been scientifically validated through empirical observation and common sense is considered dependable and valid (Creswell & Poth, 2018). Though positivists are completely dependent on observation and experimentation methods to generate knowledge, post-positivists conceptualize scientific inquiry as always influenced by subjective factors such as cultural values, personal hunches, and historical contexts (Farrell, 2012). It means; that knowledge is constructed by society and influenced by the perspectives and experiences of researchers and respondents. They believe that scientific knowledge is tentative and a subject to be revised. Thus, post-positivists raise questions on objective truth and give more priority to the subjectivity and reflexivity of investigators to interpret the nature of knowledge.

Ontology: There might be different ontological bases of different individuals, groups, and societies as per their philosophical backgrounds. The post-positivists believe that reality is changeable; therefore, in post-positivism, subjective and multiple reality as seen by respondents in the research process is acceptable (Farrell, 2012). Reality therefore is constructed through an interaction between the researcher and those being researched. A researcher's personal background, beliefs, social context, and cultural factors largely influence the ways of interpreting and understanding specific phenomena (Creswell & Poth, 2018). Reality is always a subject of change.

Axiology: Post-positivists acknowledge the subjectivity and reflexivity of a researcher. Investigator's perspectives, experiences, and background knowledge can significantly impact what is observed (Kawlich, 2012), how it is observed, and the results of the observation. Post-positivism highlights the scientific nature of research and emphasizes the importance of the researcher's values (Omodan, 2020). It emphasizes cultural context and phenomena and claims that individuals construct their worldviews based on their perceptions. It indicates that research is value-laden and reflexivity has a crucial role in minimizing bias and improving the rigor of research in education.

Educational Implications: Post-positivism challenges traditional notions of objective, static, fixed, single, and universal reality by emphasizing flexible, multiple, dynamic, and context-specific reality in education. Since it argues that knowledge is shaped by the cultural, social, and individual perspectives of both researchers and those being researched, educational research should work in a collaborative way to identify the truth in the educational arena. Unique experiences accumulated by educational stakeholders can have humongous contributions to finding new frontiers in education. The research guided by this paradigm involves human subjects in education and integrates ethical considerations such as informed consent, confidentiality, anonymity, and the like (Bryman, 2016). By using this paradigm, researchers can offer more grounded and contextually relevant recommendations for improving educational policies and practices (Denzin & Lincoln, 2011). In addition, post-positivism always contend that knowledge is a subject to revision. Therefore, educational policy, curriculum, and educational practices should be revisited periodically. It means;

ongoing and iterative inquiry in education is crucial to address the dynamism, needs, and aspirations of society and nation.

Interpretive Paradigm

Interpretivism is rooted in social constructivist theories and believes in co-constructed knowledge and meaning through interaction in small samples (Schwandt, 2014; Maxwell, 2012). This paradigm places more value on understanding subjective meanings and interpretations of social behaviors on the topic being studied. Interpretivists deem that social reality is shaped by people through their explanations of the world around them. In the research guided by an interpretive paradigm, the investigator does not uncover knowledge but constructs it (Merriam & Tisdell, 2016) in the study context. This paradigm explains the world as others experience it (Chilisa & Kawulich, 2012). An interpretive paradigm is usually applied in qualitative research designs such as phenomenology, ethnography, grounded theory, narrative inquiry, and case study. The primary goal of the interpretive paradigm is to construct knowledge by analyzing social phenomena being investigated. It believes in multiple realities, and subjectivity, and assumes reality is constructed through social interactions and individual perceptions by focusing on depth rather than breadth (Bryman, 2016). In research rooted in the interpretive paradigm, information is collated by using in-depth interviews, participatory observations, focus group discussions, and document analysis. An interpretive worldview is generally formed through the interaction with others in a particular social context (Creswell, 2009). In qualitative research, an investigator is guided by certain philosophical assumptions. These philosophical assumptions are the ways by which the researcher determines sources of knowledge (epistemology), clarifies the nature of reality (ontology), and expresses his/her value-stance (axiology). Hence, a short note of these philosophical assumptions is given below:

Epistemology: Epistemology primarily deals with the theory, nature and structure, possibility, and scope of knowledge, including the ways of knowing. Based on this philosophical assumption, interpretivists believe in subjective, dynamic, contextual, multiple, socially constructed, and culturally bound knowledge (Creswell & Poth, 2018). Truth lies within the human experience, which is culture bound and context-dependent (Chilisa & Kawulich, 2012). Thus, interpretivism attaches importance on subjective knowledge.

Ontology: There might be different ontological bases of different individuals, groups, and societies as per their philosophical backgrounds. The interpretivists believe that reality is socially constructed (Creswell, 2018), and there are many intangible realities created by people. Reality is, in this sense, limited to context, space, time, and individuals or groups in a given situation and cannot be generalized into one common reality (Chilisa & Kawulich, 2012). When a researcher conducts qualitative research, then he/she embraces the idea of multiple realities. In this regard, the reality is contextual, and cannot be generalized to a broader context.

Axiology: Interpretivists assert that reality is mind constructed mind-dependent and subjective, social inquiry is in turn value-bound and value-laden (Chilisa & Kawulich, 2012). In this paradigm, the researcher should be aware of the role of their own values in shaping the research process. Interpretivists assert that social research is value-bound and value-laden,

therefore, an investigator is influenced by the values, experiences, and biases that he/she carries with him/her while carrying out specific research. Reflexivity helps mitigate these biases and ensure the results of research are credible and authentic (Denzin & Lincoln, 2018). Investigators therefore must be transparent about how their values shape the interpretation of information and be conscious about the prejudices that may arise from these values.

Educational Implications: Interpretivism in educational research emphasizes understanding subjective meanings and interpretations that policymakers, curriculum developers, teachers, administrators, parents, students, etc. attach to their educational experiences. Interpretivists argue that social reality is constructed through the interactions and perceptions of people (Creswell & Poth, 2018). Therefore, educational researchers can investigate realities in the field of education through interviews and discussions. Educational research guided by this paradigm contends that knowledge is not discovered but constructed through the collaborative efforts of researchers and informants. It believes that knowledge in the field of education is subjective and context-specific shaped by various cultural and historical factors, which are dynamic, fluid, and multiple in nature. Research in education is always influenced by the values, biases, and experiences of people. Therefore, their subjective feelings, opinions, and experiences should be explored to disclose the reality of education.

Critical Paradigm

Critical paradigm have come into action as a reaction to previously established paradigms since they do not fit for marginalized, disadvantaged, and subaltern individuals (Omodan, 2022). This paradigm is appropriate for studies that are based on social and emancipatory philosophy, approach, and research design (Omodan, 2020). The critical paradigm is concerned with social justice issues and seeks to address the political, social, and economic problems to create a just society (Chilisa & Kawulich, 2012). Researchers in this paradigm, therefore, do not only understand the world but change it by establishing micro-narratives and challenging dominant power structures (Kincheloe & McLaren, 2011). They explore how power dynamics either between policymakers and communities or between teachers and students shape educational experiences, internal efficiency, and external efficiency. This paradigm argues that knowledge is not neutral and it reflects the power and social relationships with society. This paradigm seeks to change the political structure to avoid social oppression and create social justice in society by respecting cultural norms and values. It means; a critical paradigm attempts to uncover the oppression and works for the liberation/emancipation of socially excluded people (Omodan, 2022). The researcher attempts to promote human rights, increase social justice, and reciprocity; and then tries to address the issues of power, and oppression, and develop trust among research participants. This paradigm gives voice to the voiceless. Different research methods such as the feminist approach, indigenous research approach, subaltern study, etc. are used to conduct research guided by a critical paradigm.

Epistemology: Critical epistemology recognizes that knowledge is neither neutral nor objective. Knowledge is shaped by social, political, and cultural factors (Omodan, 2020) and is used to challenge and transform existing power structures. So, it recognizes that the

production of knowledge is not a neutral process, but is produced by an interactive process between research and respondents, reflexivity, or self-awareness or subjective process. Knowledge can be constructed through mutual collaboration between researcher and informants. Investigators cannot understand power, culture, and other social dynamism without an effective relationship with respondents (Creswell & Poth, 2018). In this paradigm, the issue of relationship and trust in the process of knowledge generation is essential because it seeks to understand versions of reality and power issues (Omodan, 2020). While carrying out critical research, the investigator interacts with participants, and assumes that we cannot separate ourselves from what we know. How we understand the world is a central part of how we understand ourselves, others, and the world (Chilisa & Kawulich, 2012). Thus, knowledge is generated through the interaction between the researcher and those being researched.

Ontology: The ontology of the critical paradigm is based on the idea that reality is socially constructed. Social, political, and economic forces play a crucial role in shaping reality. Since reality is constructed based on sociality, the researcher needs to critically examine the issue of sociality, power, and politics in the quest for reality (Omodan, 2020). It acknowledges subjective reality shaped by social, cultural, political, economic, ethnic, and gender values (Chilisa & Kawulich, 2012). It means; that reality is socially constructed and power dynamics are prevalent in all aspects of society.

Axiology: Critical paradigm emphasizes the importance of action and social change. It believes in the responsibility of researchers to work towards social justice, equality, and empowerment. The critical paradigm values diversity and promotes the voices of marginalized groups. It also promotes moral, and cultural respect and human rights, and equally addresses inequities (Omodan, 2020). Furthermore, it contends that reality is shaped by social, cultural, political, economic, ethnic, and gender values (Chilisa & Kawulich, 2012). Therefore, this paradigm attaches importance to socio-economic, political, and cultural value to disclose the reality of the phenomenon under study.

Educational Implications: The critical paradigm advocates in favor of social justice, equity, inclusion, and freedom of marginalized, underprivileged, oppressed, poor, and people with disabilities through education. It attempts to solve the issues of power, oppression, and inequality prevalent in society through education to create a just and inclusive society (Creswell & Poth, 2018). Educational research guided by this paradigm believes in knowledge through interaction between the researcher and informants; educators, teachers, and students for example. It means; that reality is socially constructed and shaped by cultural, political, historical, and economic forces. Education, based on this paradigm, should play an imperative role in representing the unrepresented by promoting human rights and dignity through action, social change, and empowerment of marginalized voices.

Conclusions

The research process in education is highly influenced by the choice of research paradigm since it not only determines the underlying assumptions of knowledge, values, and reality but also shapes the population, sample, data collection techniques, and analysis process of a study. Understanding the epistemology, ontology, and axiology of any paradigm

in educational research helps researchers to clarify their philosophical stance in their research activity. Both positivism and post-positivism usually offer structured frameworks for hypothesis testing and quantitative research generally by using experimental and quasi-experimental designs. On the other hand, interpretivism focuses on the subjective meaning of social phenomena by prioritizing qualitative methods that capture the complexity of human experience. Furthermore, the critical paradigm questions established power structures and advocates for educational research to address inequality and marginalization to give voices to the voiceless. By getting a deeper understanding of the paradigms including their philosophical assumptions and educational implications, researchers can make more informed decisions about their research approaches to education. By combining these paradigms, they can make their research rigorous not only from a methodological perspective but also be aware of sociocultural factors that shape the educational experiences of informants.

References

- Bogdan, R. C., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to theories and methods* (5th ed.). Pearson Education, Inc.
- Bryman, A. (2016). *Social research methods* (5th ed.) Oxford University Press.
- Chilisa, B., & Kawulich, B. (2012). *Selecting a research approach: Paradigm, methodology and methods*. <https://www.researchgate.net/publication/257944787>
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education*. Routledge.
- Cohen, L., Manion, L., & Morrison, K. (2017). *Research methods in education* (8th ed.). Routledge.
- Creswell, J. W. (2009). *Research design: Qualitative and quantitative approaches* (2nd ed.). Sage.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- Denzin, N. K., & Lincoln, Y. S. (2005). *A handbook of qualitative research*. Prentice Hall of India.
- Denzin, N. K., & Lincoln, Y. S. (2011). *The SAGE handbook of qualitative research* (4th ed.). Sage Publications.
- Denzin, N. K., & Lincoln, Y. S. (2018). *The SAGE handbook of qualitative research* (5th ed.). SAGE Publications.
- Farrell, M. (2012). *New perspectives in special education: Contemporary philosophical debates*. Routledge.
- Flick, U. (2009). *An introduction to qualitative research* (4th ed.). Sage Publications.
- Kincheloe, J. L., & McLaren, P. L. (2011). Rethinking critical theory and qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.). *The SAGE handbook of qualitative research*, 163-177. SAGE Publications.
- Maxwell, J. A. (2012). *A realist approach for qualitative research*. Sage Publications.
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). John Wiley and Sons, Inc.

- Omodan, B. I. (2020). The trajectory of transformative research as an inclusive qualitative research approach to social issues. *Multicultural Education*, 6(3), 34-44. DOI: 10.5281/zenodo.4071952.
- Omodan, B. I. (2022). A model for selecting theoretical framework through epistemology of research paradigm. *African Journal of Inter/Multidisciplinary Studies* 4(1), 275-285. DOI: <https://doi.org/10.51415/ajims.v4i1.1022>
- Park, Y. S., Artino, A. R., & Konge, L. (2019). The positivism paradigm of research. *Academic Medicine: Journal of the Association of American Medical Colleges*. <https://10.1097/ACM.0000000000003093>
- Schwandt, T. A. (2014). *The SAGE dictionary of qualitative inquiry* (4th ed.). SAGE Publications.
- Taylor, P. C., & Medina, M. N. D. (2013). Educational research paradigms: From positivism to multi-paradigmatic. *The Journal of Meaning-Centered Education*, 1. <http://www.meaningcentered.org/journal/volume-01/educational-research-paradigms-frompositivism-tomulti-paradigmatic>
- Trochim, W. M. K. (2008). *The research methods knowledge base*. https://www.researchgate.net/publication/243783609_The_Research_Methods_Knowledge_Base#fullTextFileContent