THE ROLE OF PARADIGMS IN RESEARCH FOR NOVICE RESEARCHERS IN HIGHER INSTITUTIONS OF LEARNING

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Abstract

The study investigated four paradigms namely positivism, Interpretivism, pragmatism and critical theory to establish their importance in research especially to novice researchers. The research was guided by a purposive sampling technique using descriptive and applied qualitative research techniques whose objective was descriptive as they exist and arrived at an inductive ex post facto research for descriptive purposes. Using secondary data the findings indicated that paradigms play important roles to novice researchers as they guide them to come up with a research plan. A paradigm it was established guides the researcher in all areas of his/her research plan starting from the aim of the study, research questions, instruments of data collection and analysis methods. The researchers thus recommended that novice researchers be exposed to paradigms before embarking on the research journeys to help them do research within the parameters of a particular paradigm to avoid mixing approaches, methodologies and designs. Having knowledge of paradigms will enable novice researchers to stick to the lane of the paradigm chosen and not crossing the lane anyhow as well as to choose which paradigm for which topic.

Keywords: Paradigm, Role, Positivism, Interpretivism, Pragmatism and Critical theory, Framework

1.0 INTRODUCTION

The word paradigm has become popular among researchers. Unfortunately it is being used interchangeably among beginners or novice researchers who often use words such as approach or method to mean the same as paradigm. The word paradigm was introduced by Thomas Kuhn in 1970 to discuss the shared generalisation, beliefs and values of a community of specialists regarding the nature of reality and knowledge (Kaushivik & Walsha, 2019).Without selecting a paradigm as the first step, there is no basis for subsequent choices regarding methodology, methods, literature or research design. Different people have defined the word paradigm in different ways depending on the context. The word paradigm is derived from a Greek verb meaning to show. In as much as many researchers define a paradigm in various ways but the common definition describe paradigm as a conceptual and practical tool that is used to solve specific

research problems (Kaushivik & Walsha, 2019). Punch (2009) suggests that a paradigm is a theory about Methodology and not the substantive nature of the enquiry. This implies paradigms are linked to research and are used to aid in solving research problems.

Bryman (2006) describe a paradigm as a cluster of beliefs and dictates which influences what should be studied, how research should be done and how results should be interpreted. This entails that a paradigm guides the process of research. When a paradigm guides research it becomes research paradigm. Research Paradigm according to Webster Dictionary (1987) is described as the framework into which the theories and practices fit to create the research plan. Kumatongo & Muzata (2021) describe a research paradigm as a set of common beliefs and agreements shared by scientists directing how research problems can be understood and addressed. However, this study has adopted the definition of Creswell & Plano (2011) where a paradigm has been defined as an assumption a researcher makes about reality, how knowledge is obtained and the methods of gaining knowledge.

1.1 **Purpose of Study**
The purpose of study is to investigate the role of paradigms in research for novice researchers in Higher Institutions of Learning.

1.2 **Dimensions of Paradigms**
There are various paradigms that guide the conduct of research and often used by researchers. These paradigms anchor on three dimensions or pillars as discussed below.

    a) **Ontology**: This is the study of the nature of reality. This dimension addresses the issue of reality and attempts to answer the question of reality that is whether there is a single or multiple realities or no reality at all. This dimension assist the researcher in choosing a particular paradigm that responds to what kind of reality is being sought in one's research. The ontology of a research Paradigm is the way the world is perceived to be and its nature (Makombe, 2017, Nyuyen, 2019). There are four types of Ontological positions that guide researchers when looking at the ontological aspect of research. These include

    i) Naïve Realism: This aspect assumes that the world of material objects could be known through the researchers' sense experience (Scotland, 2012).

    ii) Relativist Ontology: This aspect holds that the research problem have multiple realities that can be explored and meaning derived by the researcher through their interaction with the research participants (Fard, 201).

    iii) Historical Realism: This aspect traces history of social, political and economic oppression in order to bring about justice and emancipation in the society (Fard, 2012).

    iv) Non-Singular reality. This argues that there is no one way to interpret reality and understanding human behaviour hence advocate for a pragmatic way to understand human behaviour(Makombe, 2017). These four aspects of ontology guide researchers to choose which paradigm answers what they are looking for.

    b) The second Dimension is **Epistemology**. The term comes from a Greek word episteme which means knowledge. The term refers to the study of knowledge and how we can know reality. It encompasses the extent and ways researchers gain knowledge and how knowledge acquired can be validated as true knowledge or not. Thus, the epistemology adopted will determine the paradigm to use for the research. This pillar deals with the assumptions about how we come to know the world, how we acquire knowledge and the relationship between the knower and the known (Kaushivik & Walsh, 2012). The following are ways a researcher comes to acquire knowledge.

    i) Knowing Intuitively: This is where the natural source of knowledge is a belief or is by faith or intuition (Okesina, 2020).

    ii) Knowing Authoritatively: This is where the source of knowledge is the authority one possesses. Some people have knowledge about certain things because of the authority they have. Leaders and some books are authority of truth on certain topics.

iii) Knowing Logically: Some knowledge is acquired by reasoning from generally accepted to new knowledge. By rationally reasoning new knowledge is generated.

iv) Knowing Empirically: This is where knowledge is acquired by verifying facts and being objective in reasoning.

The researcher may use one or more of these methods to arrive at knowing the nature of knowledge in the particular field of study. The knowledge acquired will also depend on the research paradigm adopted (Okesina, 2020).

c) The third Dimension is **Axiology:** This pillar deals with beliefs about the role of values and morality in research (Kaushivik & Walsh, 2019). The value of research can be measured using different levels and values, adds and subtracts the value of research conducted. Below are the levels of values:

i) Value-Neutral Axiology : This demands that research is done in a value-free way without interference of the researchers' values or biases. Hence, findings must be separated from the researchers' values (Okesina, 2020).

ii) Value-Laden and Balanced Axiology: This type of axiology requires that the researcher accounts for his/her bias and those of the respondents so as to present a balanced report of findings.

iii) Value-Laden, Biased and Culture: This axiology intimates that the researcher is biased by cultural experiences which will have an impact on the findings. Thus it is imperative to acknowledge and respect the cultural norms and inherent bias (Fard, 2012). This pillar aims at adding value which is free from bias to research.

2.0 TYPES OF PARADIGMS USED IN RESEARCH

There are many paradigms researchers are using to conduct research. In this paper four paradigms commonly used by researchers and suitable for novice researchers will be tackled.

2.1 Positivism Paradigm

Positivism is a paradigm that is understood as a scientific inquiry which is based on rationalistic and empiricism philosophy of research (Okesina, 2020). The paradigm is based on the philosophical ideas of the French philosopher August Comte who believed observation and reasoning as the best means of understanding human behaviour (Kumatongo & Muzata, 2021). This paradigm is premised on the idea that science is the only way to learn about truth. Positivist paradigm is based on the assumption that a single tangible reality exists which is believed to be understood, identified and is measurable (Park, Konge & Antonio, 2020).This is its ontological perspective. As a philosophy, positivism postulates that only factual knowledge which is generated through observation should be considered trustworthy (Bryman, 2006). The paradigm is also in alignment with the empiricist's views which intimate that knowledge stems from human experience. In addition positivists posit it that knowledge must be developed objectively without the values of the researcher and research participants influencing its development (Park et al, 2020). This entails that there should be absolute separation between the researcher and research participants. The separation is believed to make knowledge objective and form the epistemology of the paradigm. Besides the paradigm also use value-neutral axiology. Thus it can be said that the epistemology of positivism is dualistic and objectivistic, in which the investigator and investigated exist as independent entities and the investigator is able to study the investigated without influencing each other (Sagyed & Al-Bagi, 2013). Hence, the role of the researcher is to keep an aloof distance and non-interactive position.

Positivism paradigm sits well with quantitative approach to research and therefore utilises scientific methods of study which among others includes experimental (cause and effects) and non-experimental wherein questions and hypotheses are posited in advance in a proportional way and are subjected to an empirical test for verification under conditions that are carefully controlled and results not influenced at all

by the researcher. This entails that experiments, tests and numbers are used, which are not subjected in any way, to measure and compare outcomes. It can be said that positivism paradigm anchors on quantifiable observations that leads to statistical analysis (http://research-methodology.net/research-philosophy/positivism). It is characterised with large sample sizes whose results leads to generalisation of findings to other similar contexts. Positivism in its epistemological assumption hold it that knowledge is produced and verified by use of human senses (Majeed, 2019). As a general rule, positivist studies adopt deductive logical reasoning and usually utilise the existing theory to develop hypothesis to be tested during research process (Bryman, 2006). The research process tend to propose an empirical hypotheses which is supported or refuted through data collection and analysis.

Due to its features of producing objective results, positivism is credited for validity and reliability of the findings. However, it is criticised for its generalisation of findings to similar context. Okesina (2020) contended that generalisation is problematic and inapplicable in some disciplines such as social sciences due to variations in culture, beliefs and human experiences. Secondly Positivists approach is limited in that the data that is generated can be inflexible and fails to address aspects of feelings, attitudes, personal beliefs and experiences of participants among others.

2.2 Interpretivism

The paradigm is sometimes referred to as constructivism or naturalism. Interpretivism is a paradigm that aims at understanding people and social phenomenon (Fard, 2012). It is a critic of positivism paradigm (Yoong, Maizaitulaidwati & Kararudin, 2021). This paradigm is used mostly by qualitative researchers who believe in gathering in-depth information by using multiple research strategies to understand the phenomenon. Thus, interpretive researchers believe in the existence of multiple realities and their ontology is relativist. Interpretivist researchers aim at exploring and understanding phenomenon being investigated inductively and believe that the social event is understood from the point of view of the individuals who are part of the ongoing action being investigated (Okesina, 2020). Researchers using this paradigm believe that knowledge is constructed. They study people in their natural settings. The paradigm is more concerned with the meanings participants attach to the phenomena and interpretations research participants attach to behaviours and events. Interpretivist further believe that there is no single correct or particular method of knowledge. They argue that there is no objective knowledge which is independent of thinking or human reason hence they do not believe in the separation between the researcher and research participant, instead they believe that the researcher must be a passionate participant within the world being investigated (Yoong et al, 2021).

Interpretivist researchers argue that different people in society experience and understand reality in different ways. It is widely accepted that while there may be one reality, every one interprets it according to his/her own view hence they believe in multiple realities. It is also a common belief that all research is influenced by researchers' worldview and theories. In addition, the paradigm uses research methods that are capable of generating in-depth information such as interviews, open-ended questionnaires, Focus Group Discussions (FGD), observations, Document analysis among others. The paradigm does not use numbers except where numerical data generated is meant to describe and provide rigor to the understanding of the phenomena under study (Kumatongo & Muzata, 2021). It is imperative to state that findings of the study are usually not generalisable to similar contexts. Suffice to say, the paradigm extrapolate loose and flexible methodology which among others includes phenomenology, symbolic interactionism, etho-methodology, narrative research and Hermeneutics, all of which aims at explaining or studying the experiences and perceptions of participants in study contexts (Okesina, 2020).

The ontology of Interpretivism is relativist (Fard, 2012) which asserts that any phenomenon has multiple realities. This is because knowledge can be understood from the point of view of the individual directly involved. The epistemology is subjective because the researcher and the object who in this case is the respondent are involved in the knowing process which influences how knowledge is acquired. The axiology

is value-laden and entertains bias because the paradigm permits interaction of the researcher and research participants with their worldviews, theories, opinions and beliefs to be part of data collected. Nonetheless, the paradigm is criticised for its subjective nature where research is influenced by the researchers' opinion, feelings and experiences. These compromise the trustworthy of the findings. Its inability to generalise the findings also compromises the credibility of the findings.

2.3 Pragmatism Paradigm

The word pragmatism is derived from a Greek word pragma which means action (Kaushivik & Walsh, 2019). As a research paradigm, pragmatism is rooted in historical contributions of the philosophy of pragmatism. Thus, it accepts the use of plurality of methods of research. Pragmatist researchers believe in research approach which works. They prefer addressing their research questions with any research tool available using the pragmatic creeds of **"what works"** (Kaushivik & Walsh, 2019). Researchers who subscribe to this paradigm, are not restricted to one particular method, multiple or mixed methods. For them what matters is whether the method (s) used would address the research questions effectively, though the paradigm is associated more with mixed methods. Pragmatists reject the statement that social science inquiry can access reality by using a single scientific method. This is because they believe reality is not static, it keeps on changing at every turn of events just as the world is not static. Hence, there ontology view reality as what works. The paradigm content that knowledge is constructed (Morgan, 2014) through experience. Epistemologically pragmatists argue that knowledge is always based on experience, that people acquire knowledge based on what they have experienced. Therefore, human actions can never be separated from past experience and beliefs. However, pragmatic epistemology does not accept knowledge as reality, rather that knowledge is constructed with a sole purpose to better one's existence and to take part in the world. Thus, the paradigm advocates for a non-singular reality ontology, and relational epistemology where relationships in research are best determined by what the researcher deems best for the study and a value-driver axiology where research conducted should befit people (Nguyen, 2019).

Pragmatism is associated with abductive reasoning that moves back and forth between deductive and inductive. In this way the pragmatist researcher is actively involved in creating data as well as theories. Besides, pragmatists recommend a balance between subjectivity and objectivity throughout the inquiry which align the paradigm to mixed methods. The use of mixed design enables researchers to thoroughly understand the phenomena under study. Research methodology such as experiment, quasi- experimental, phenomenology, narrative inquiry, action research are favored in this paradigm (Kivunja & Kuyini, 2017). Data collection techniques such as open-ended interviews, Focus Group Discussion (FGD), participant observation, questionnaires, combined from qualitative and quantitative are often used by pragmatists researchers. The combining of methodologies and methods of data collection aims at enhancing research validity and credibility. The paradigm is often used by researchers from social sciences (Creswell & Creswell, 2018). This is so because of the flexibility inherent in the paradigm to select methods, techniques, and procedures appropriate to the needs and purpose of the research (Kumatongo & Muzata, 2021).

However, pragmatism paradigm is criticised for mixing subjectivity and objectivity without providing a conceptual framework to hold the two together.

2.4 Critical Theory Paradigm

This is another paradigm which is also referred to as transformative paradigm. It was developed to oppose positivism and interpretivism paradigms on understanding that the two paradigms did not accurately represent the experiences of marginalised people. Therefore critical theory paradigm is not a singular worldview but rather an evolving family of perspectives which connect through a unit of purpose (Denzin & Lincoln, 2005, Magasu, 2020).The aim of this paradigm is not merely to explain or understand society but to change it (Rheman & Atharthi, 2016) through scientific investigations. Critical research paradigm aims at emancipating people from abuses emanating from pre-existing social, political and cultural structures (Eusafzai, 2014). It is pre-occupied with questions of power, control and epistemology of social

constructions with balance benefits which favor some and not others. Researchers using critical theory paradigm study issues of oppression, domination, suppression, alienation and hegemony and expose these issue and give participants a voice and raise their consciousness in order to improve their lives (Sayyed & At-Bagi, 2013, Eusafzai, 2014).Thus, critical paradigm is more concerned with issues of power relations within the society and interactions of race, class, gender, education, economy, religion and other social institutions that form social system (Asgher, 2013). However, critical theory challenge the status quo of all these in order to bring about a balanced and democratic society.

The paradigm ontologically considers reality a commutable, tangible and historically located in social and institutional structures. Researchers using this paradigm believe that reality is shaped by social, political, culture, ethnic and gender values that were considered plastic at one time but have become crystallised with time (Eustafzai, 2014).The epistemology of critical paradigm is transactional and subjective. This is because the researcher and participants are interactively linked and closely related to the practical conduct of research that is likely to influence the inquiry (Crotty, 2003). This is supported by Atharthi (2016) who asserts that no phenomena can be researched without being influenced by the researcher.

Methodically critical research is dialogic and dialectical in nature. It requires the investigator to engage the subjects in dialogue with the aim of bringing in the open a change in their outlook on social systems that deprive them of the intellectual and social needs. Critical theorists often fall on one of the two methodologies namely ideology critique and action research. Ideology critique aims at uncovering the illegitimate actions of those in authority and raise awareness to marginalised people. Action research mostly used in education deals with practices which give researchers a voice and aims to change the situation being researched on and improve the standard of practice (Cohen et al, 2007). Further, critical research is not restricted to one approach of research though is often attributed to qualitative approach. But, in a real sense it can use qualitative, quantitative or mixed method in order to critically examine the realities from the cultural, historical or political stance (Eusafzai, 2014). The triangulation of research methods enables researchers to obtain valid and reliable results.

The critical theory research may also use data collection techniques such as open-ended interviews, Focus Group Discussions, open-ended questionnaires, observations, diary, Journals, document analysis among others. Most of these techniques fall under qualitative approach, may be that is why some researchers align the paradigm to qualitative approach. Moreover, purposive sampling is often used as it aids to understand and identify target groups, their challenges and expected change to take place.

3.0 The Role of Paradigm in Research

Paradigms play a critical role in research especially for beginners or novices in research. A research paradigm is a framework into which theories and practices of one's discipline fit to create research plan (Wester Dictionary, 1987). As one embarks on research, h/she needs to come up with a research plan. But a research plan becomes easier to make when a paradigm has been chosen. A paradigm lays the foundation for a research one intends to undertake. Once a paradigm has been settled on it prevents the researcher from wandering from one idea or approach to the other. The paradigm guides the researcher in all areas of his/her research plan starting from the aim of the study, research questions, instruments of data collection and analysis methods. In other words the research paradigm chosen enable the researcher to create the structure and lay the foundation for a research project.

The philosophical aspect of whatever paradigm is chosen will guide the researcher of what knowledge to sought, how that knowledge can be obtained and how to form the collected information or data into the knowledge being sought. The paradigm will guide what methodology to use and clearly outlines the path to investigate ones' topic which in turn brings clarity to the study and enhances the quality of the methods and analysis. Knowing the underlying research paradigm and how it frames the study allows researchers to better understand the effects of their perspectives of the study results. Majeed (2019) intimate that

paradigms are important in research as they give views and dictates that affect what is to be studied, how it is to be studied and how the research findings are to be interpreted in a particular discipline. Yoong, Maizaitulaidwati and Kararunid (2021) also posit it that paradigms help to establish the criteria for the research tools to be used and permit the development of models and theories that enable researchers to solve their research issues. Further, paradigms provide principles, procedures and methods to be considered when similar problems re-appear. Eusafzai (2014) postulated that a paradigm is the basis of all research approaches. It forms a foundation for differentiating one type of approach from another and may also provide a reason for choosing different methodologies. Chala (2020) also hold it that choosing paradigms provide a base for understanding the nature of findings appropriate to a particular form of research and for critiquing research conclusions.

Novice researchers therefore need to understand the importance of locating their research in a particular paradigm as doing so will give them direction of their research, and the research tools to use in terms of research design, methodology, methods of data collection and tools to use, methods of data analysis and conclusion of findings. Having knowledge of paradigms will enable novice researchers to stick to the lane of the paradigm chosen and not to be crossing lanes anyhow. It may also help them to come out with valid and reliable results after conducting their research located in a particular paradigm.

3.0 Conclusion

It is imperative that novice researchers are introduced to paradigms immediately they embark on their research journey. This will help them to understand how research works and how the trajectory of their research will be moving. Introducing them to paradigms serves time for them to immediately be moving in the right direction and in the right boat to their destination.

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