

Research Paradigms: A Slippery Slope for Fresh Researchers

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Abstract: As the plethora of literature on research paradigms is increasingly confounding for fresh researchers, the current paper attempts to discuss some of the fundamental issues in social sciences research with the aim to offer a lucid narrative for less experienced researchers in the field. The paper critically reviews literature on research paradigms, delineates the differences between Interpretive, Positivist and Critical paradigms, and explains their ontological and epistemological stances. It also precisely defines and examines different research methodologies, approaches and methods. It underscores that we should be careful in the choice our research paradigm and design our studies with a clear link between the paradigmatic nature and theoretical framework(s) of research. While encouraging a flexible approach in the choice of research methods or mixing of methods, it argues that ontological and epistemological beliefs do not prevent a qualitative researcher from utilizing data collection methods typically used in quantitative research approach. Hence choice of any research method(s) should not be interpreted as an indicator of an ontological or epistemological position.

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1. Introduction

As 'life overrides death through reproduction' it supersedes ignorance through knowledge (Durant, 1968: 94). In broad terms, human sources of knowledge include the knowledge based on perception (senses), conception (intellect), intuition and research. Unfortunately, all of these are essentially limited and imperfect in different ways. However, among these the most reliable one is the knowledge based on research. Hence, the foremost objective of research is the production and expansion of knowledge based on evidence. Bassey (1990: 35) defines research as 'a systematic, critical and self-critical inquiry which aims to contribute to the advancement of knowledge'. Following the same line, Ernest (1994: 8) considers research as 'a systematic enquiry with the aim of producing knowledge'. These two definitions emphasize the same point: systematic production and expansion of knowledge through research.

Indeed, there are some rules of thumb for any research endeavour. Research should link to and build on existing knowledge, use an organized process of enquiry, and engage in theory development (Cohen et al., 2007; Ernest, 1994). Some of the essential characteristics of research are that it should a) have an appropriate theoretical perspective, b) be purposeful, c) be carefully and keenly designed in order to produce genuine knowledge, d) use sound and robust methods for data collection and analyses, e) be able to make valid claims based on solid evidence and, f) last but not least, have relevance and worth (Richards, 2003). In

fact, a research fails in its very purpose if it does not make any worthwhile contribution to the body of knowledge.

A nascent researcher, who desires to refine their research skills and contribute to the body of knowledge, is increasingly confounded by the plethora of literature on research paradigms. Occasionally, the growing diversity of ideas and opinions about multiple methodologies, emerging paradigms, and theoretical frameworks vexes less experienced researchers and compels them to compromise their study designs by disregarding or overlooking the philosophical underpinnings of relevant theoretical frameworks.

The current research paper is primarily intended for novices in the fields of social sciences and educational research. It attempts to discuss some of the fundamental issues in the research with the aim to offer a lucid narrative for fresh researchers. It critically reviews literature on research paradigms, delineates the differences between Interpretive, Positivist and Critical paradigms, and explains their ontological and epistemological stances. It also precisely defines and examines different research methodologies, approaches and methods. It begins with a brief discussion about research with reference to education. After that, it surveys the major research paradigms in the light of their ontology, epistemology, and methodology and methods vis-à-vis educational research. Following a rank order in this analysis, top priority and more space is devoted to interpretive paradigm owing to its scope and suitability for social sciences and educational

researchers. Considering the fact that the spectrum of research is vast and marred by varied and overlapping perspectives, the authors have only presented a manageable minority of facts and opinions about the research paradigms' ontological, epistemological and methodological underpinnings.

2. Paradigm

The term *paradigm* was first introduced by Thomas Kuhn in his landmark book, *The Structure of Scientific Revolutions*. He defines it as 'an integrated cluster of substantive concepts, variables and problems attached with corresponding methodological approach and tools' (Kuhn, 1962, quoted in Flick, 2009: 69). Guba and Lincoln's definition seems most apt from the research point of view. They view a *paradigm* as 'a basic system or worldview that guides the investigator, not only in choices of method but in ontologically and epistemologically fundamental ways' (1994: 105).

The term *paradigm* can be used in three ways in human sciences: we can use it for the institutionalisation of intellectual activity, for the broad groupings of certain approaches and perspectives to the study of any subject, and for the description of broad approaches to research, e.g. the *positivist* or *interpretive* paradigms (Grix, 2010). Rest assured that the paradigms we build in our minds have a powerful effect as they create the lens through which we see the world (Covey, 1989).

3.1 Interpretive Paradigm

Who thinks to rise above partiality...betrays his secret predilection in his choice of materials, and in the nuances of his adjectives. (Will Durant, *The Lessons of History*)

The interpretive paradigm is also known as humanistic, constructivist, naturalistic, anti-positivist and alternative paradigm of research. Some naive as well as experienced researchers call it the qualitative approach to educational research. Although, this usage is quite common, it is actually a misnomer. The qualitative research, in fact, refers to a cluster of methods, not a methodology or a research paradigm (Ernest, 1994).

The interpretive research seeks to understand values, beliefs and meanings of social phenomena and thereby extracts *Verstehen* or an empathetic understanding (*first discussed by Max Weber*) of human social activities and experiences (Smith and Heshius, 1986). Interpretivists believe in the inseparability of understanding from interpretation. They see all social research as interpretive because all such research is guided by the researcher's desire to understand (and interpret) social reality. Interpretive paradigm, in line with Nietzschean sense,

assumes that there are no facts, only interpretations (Bhattacharya, 2008). Therefore, it aims to explore individuals' perceptions, share their meanings and develop insights about the observed case (Bryman, 2008; Grix, 2010).

The interpretive paradigm has grown out of the philosophy of Edmund Husserl's phenomenology and Wilhelm Dilthey's and some German philosophers' study of interpretive understanding called hermeneutics (Mertens, 2005 as cited in Mackenzie and Knipe, 2006). Interpretive researchers, unlike the positivists, do not generally begin with a theory rather they 'generate or inductively develop a theory or pattern of meaning' (Creswell, 2003: 9) throughout the research process.

The interpretive research builds up rich and elaborate descriptions of the phenomena under study. As it mainly concerns human beings and their inter-relationship and contexts, these rich descriptions allow the reader to gain a deep understanding of the phenomena through identification and empathy. Thus, the main aim of interpretive research is to 'illuminate the general through the particular' (Ernest, 1994: 26). It is, in the words of a great Persian and Urdu poet, Mirza Ghalib (c1862), to 'see the whole of *River Tigris* in its one drop of water'.

According to Dornyei (2007), a 'good enough researcher' should have a genuine and strong curiosity, common sense, creative thinking and a sense of discipline and responsibility. But for an interpretive researcher, simply being a 'good enough researcher' is not enough; on top of all these qualities, he has to have empathy and a deeply reflective nature. As 'facts have no meaning whatsoever apart from the interpretation' (Covey, 1989: 29), an (interpretive) researcher should be 'a man that fortune's buffets and rewards hast ta[k]en with equal thanks' (Shakespeare, *Hamlet*): an individual with sound judgement and deep wisdom.

Interpretive research has some downsides as well. It has been criticized for being too impressionistic. Some critics are also concerned about the subjective nature of enquiry and results, which emphasizes a need for some special attention to the transferability of findings to other contexts (Ernest, 1994).

In a nutshell, as far as research in social sciences is concerned, particularly the educational research: 'the hardest-to-do-science of all' (Berliner, 2002: 18), the aim of *objectivity* is unrealistic. Therefore, for educational and social science researcher, interpretivism is a more suitable paradigm due to the enormous scope it offers for *investigative depth, interpretive adequacy, illuminative fertility, and participatory accountability* (Shank and Villeda, 2004).

3.2 Ontology¹

The ontological assumptions constitute the first set of assumptions 'which concern the very nature or essence of the social phenomena being investigated' (Cohen et al., 2007). Interpretivism adopts *relativist* ontology. Interpretive researchers believe that objects depend for their existence on the perception of people, the viewers (Cohen et al., 2007; Ernest, 1994). Reality is constructed and interpreted by individuals according to their ideological and cultural positions. A single phenomenon can have multiple interpretations or meanings. Interpretive researchers claim that reality is complex, local and specific in nature, and multi-layered. Therefore, they view themselves as part of the research instruments depicting the study under discussion (Cohen et al., 2007; Crotty, 2003; Grix, 2010; Guba and Lincoln, 1994).

3.3 Epistemology

Epistemology is composed of theory of knowledge and theory of learning (Ernest, 1994). The epistemological assumptions constitute the second set of assumptions, and concern 'the very base of knowledge - its nature and forms, how it can be acquired and how it can be communicated to human beings' (Cohen et al., 2007: 7).

The epistemology of interpretive paradigm is *subjectivism*. Interpretive researchers believe that knowledge is personal and unique; it urges them to get involved with their participants in any related social event. They have an influence on the observed phenomena and can make a difference. Their roles are not only restricted to showing how individuals or social groups interpret the world around them, but also how the researchers' interpretation are further interpreted in terms of concepts, theories and literature guidelines (Bryman, 2008; Cohen et al., 2007).

3.4 Methodology and Methods

Methodology is the philosophy underlying the procedures and principles in a particular field of inquiry (Crotty, 2003). It refers to general principles which underscore how we investigate the social world and how we demonstrate that the knowledge generated is valid. *Methodology* depends on ontological and epistemological assumptions about the nature of reality and the best ways of gaining access to that reality. There are differences based on methodological characteristics, procedures and techniques. These differences affect the way each approach treats data and the data collection procedures (Cohen et al., 2007).

Research methodology of interpretivism is *hermeneutic and dialectical* (Guba and Lincoln, 1994). The aim of interpretive inquiry is to carefully look into details, complexity, and situated meaning of

the everyday life of individuals or social phenomena (Schwandt, 1994).

Interpretive researchers do not agree that quantitative research methods alone can be satisfactorily used in understanding social behaviours. That's why, they claim that interpretive research methodologies with their varied and diverse approach seem more appropriate for this purpose. These methodologies encompass a broad spectrum of our life, and consist of phenomenology, grounded theory, ethnography, case study, Symbolic Interactionism, narrative research, historical and documentary research, and ethno methodology. These are briefly defined in the following lines.

Phenomenology discusses the experiences of several individuals or a phenomenon. It focuses on what all participants have in common as they experience the phenomenon. 'Phenomenologists talk about the 'primordial phenomena', the 'immediate, original data of the consciousness'' (Crotty, 2003: 79). **Grounded theory** is a common term and is often synonymous with qualitative research. The theory develops from the research study, and is generated from the data in the process of conducting research. **Ethnography** symbolizes the essence of qualitative research enquiry. It aims to describe and analyse the practices and beliefs of cultures, groups, or people from participants' perspective. It also investigates the influence of cultures or contexts on people. **Case study** is a common methodology in social research. It employs in-depth investigation of any social phenomenon, using various sources of data. A 'case' may refer to an individual, an event, a social activity, group, organization or institution (Jupp, 2006). It could be descriptive, explanatory or exploratory form of research inquiry. **Historical and documentary research** commonly perceives researching historical studies that are qualitative in nature, because it depends heavily on verbal and other symbolic materials derived from past societies or cultures. **Ethno methodology** deals with the world of everyday life. 'It foregrounds the intentional activity of human beings' and describes 'inter-subjective negotiations between individuals' (Scott and Morrison, 2005, p. 93). Ethno methodologists focus on how common sense reality is constructed in everyday social interaction. Their main interest is to interpret how people make sense of social settings. **Symbolic Interactionism** 'explores the understandings prevalent in culture as the meaningful matrix that guides our lives' (Crotty, 2003: 71). The hallmark of this approach is that it shows how human beings interpret and define each other's actions rather than reacting towards each other. **Narrative research** is a form of inquiry in which the researcher studies the lives of individuals and asks one or more

individuals to provide stories about their lives (Creswell, 2003; Dornyei, 2007; Grix, 2010).

Research *methods* refer to the more practical issues of choosing an appropriate research design to answer a research question, and then designing and adapting instruments to generate data (Cohen et al., 2007). In other words, research methods are the 'techniques or procedures used to collate and analyse data' (Blaikie, 2000, p. 8, quoted in Grix, 2010). The data collection *methods* used for the methodologies set forth above include observation (participant / non participant), open-ended questionnaires, interviews (semi structured / unstructured / interactive) and document analyses. For data analysis, this paradigm does not depend solely on statistical analysis. In fact, it employs an investigative, holistic and inductive approach for data analyses (Cohen et al., 2007; Creswell, 2003; Dornyei, 2007).

In interpretive paradigm even the 'quantitative data may be utilized in a way, which supports or expands upon qualitative data and effectively deepens the description' or vice versa (Mackenzie and Knipe, 2006: 3). Keeping in view the specifics of research requirements, **Triangulation methodology** can also be utilized for enhancing the credibility and persuasiveness of a research account. For example, in qualitative research, a researcher can combine observation and interviews with questionnaires, etc. (Bryman, 2008; Creswell, 2003; Grix, 2010).

The quality of a piece of research not only depends on an appropriate methodology and instrumentation but also on the suitability of the sample (Cohen et al., 2007). Although, there are three broad approaches to selecting a sample in interpretive research (convenience, purposive or theoretical sample), the most common sampling technique is **purposive sampling**, which helps in acquiring in-depth information from those who are in a position to give it (Cohen et al., 2007; Marshall, 1996).

In terms of the quality of research, some qualitative researchers, such as Mouton (1996), tend to gauge the reliability and validity in ways similar to quantitative research; others, like Esiner (1998), reject this notion and argue that reliability and validity are incompatible with and irrelevant to qualitative research. In this regard, Guba and Lincoln (1994) propose the following alternative terms: credibility, neutrality, conformability, dependability, consistency, applicability, transformability, trustworthiness and transferability. These criteria have been greatly appreciated and, in some recent publications, many qualitative researchers have started supporting and advocating the implementation of these terms in qualitative research (Bryman, 2008). To a certain extent, this effort seems to improve upon

the quality issue in interpretive research, but further developments in this area are strongly encouraged (Guba and Lincoln, 1994).

4.1 Positivist Paradigm

As soon as questions of will or decision or reason or choice of action arise, human science is at a loss. (Noam Chomsky)

Positivism is referred to as an umbrella term for a host of philosophical ideas or perspectives which include or overlap with positions such as empiricism, behaviourism and naturalism, etc. In short, positivism embraces any approach which applies scientific method to human affairs (Grix, 2010).

Positivism has been the most dominant paradigm of last century. Inspired by Descartes' famous saying, 'cogito ergo sum,' 'I reflect therefore I am', which epitomizes the 'dualism' concept of mind and matter as separate entities. It comprises theories that view *reality* as independent of the observer. It also excludes all non-empirical concerns from its preview (Cohen et al. 2007; Grix, 2010). Positivist researchers assume that the world is stable and organized and their job is to measure data, process information and propose the most suitable solution to the identified problems. They also believe that there is only one universally acknowledged and best solution to any problem.

Positivism gains its strength from the works of several French philosophers of the Enlightenment (Comte, Condorcet and Saint Simon) and the 'Vienna Circle' of philosophers. Most prominent among them is Auguste Comte, who is unjustifiably attributed to have coined the term 'positivism'; in fact he is the populariser of this term (Crotty, 2003). Positivists posit that the social world can be studied and explained in a scientific manner, and it is still possible even if ideational factors (meanings, beliefs, ideologies, culture, ideas...) play a central role in the social world. They view research as systematic, controlled, and empirical which is subject to any challenging theories or new understanding in the future (Kuhn, 1962, as cited in Mackenzie and Knipe, 2006).

The research in this paradigm has been quite fruitful in hard sciences because when it is successful it results in replicable and objective laws which can lead to generalizations. The strengths of positivism are its clarity, precision, rigour, standardisation and generalizability (Ernest, 1994). However, it has certain inherent weaknesses: the measurement process developed by some positivist researchers seems to be artificial and false rather than real (Cicourel, 1964, cited in Bryman, 2008). Moreover, it fails to differentiate social sciences from the natural sciences. That's why it treats human beings like

natural objects and denies human uniqueness and individuality (Bryman, 2008; Ernest, 1994). It is really hard to agree with some of the positivist assumptions which seem to be inapplicable to human beliefs, values and their lives in different contexts and cultures.

4.2 Ontology

The ontology of positivism is *realism*. Reality is out there in the world and driven by permanent natural laws (Guba and Lincoln, 1994). Positivist researchers believe that social reality exists independently of the observer (Pring, 2000), and it can be observed, measured and studied objectively through the scientific method without any interference from the researcher or the observer. They claim to be able to study human being as any other scientific discipline where the world exists independently of our knowledge (Cohen et al., 2007; Crotty, 2003; Grix, 2010).

4.3 Epistemology

The epistemology of positivism is *objectivist and dualist* (Guba and Lincoln, 1994). Objects respond mechanically to their environment and have an identifiable existence independent of the knower or the inquirer. Positivists believe that human experience of the social world is objective and reflects an independent reality, which provides the foundation for human knowledge (Weber, 2004). They also restrict that the role of a researcher is to observe only, without any interference into the research procedure (Cohen et al., 2007).

4.4 Methodology and Methods

Central to Positivist research enquiry is the *empirical experimentalism*: where proposed questions or hypotheses are subjected to empirical test under carefully controlled conditions (Guba and Lincoln, 1994). Positivist research enquiry, commonly associated with quantitative research methods, can be broadly defined into two categories: experimental (*cause and effect relationship*) and nonexperimental research. The aim of the experimental research is to study and analyse the central relationship between variables that are consistent in time and context. It mainly deals with the researcher's control and manipulation of conditions independently to determine the events according to their interests. On the other hand, in the nonexperimental research, particularly in correlational studies, the researcher does not manipulate the independent variable. It is mainly concerned with researcher's links between the variables (Cohen et al., 2007). It seems, however, that this linkage may not allow the researcher to generalize the findings, as in cause and effect research, due to the possibility of alternative explanations.

Positivist researchers use different methods of data collection, such as test, structured interviews and close ended questionnaires. The choice of method is up to the researchers to decide according to their specific paradigms, theoretical perspectives and study designs. They usually analyse the data statistically (Bryman, 2008; Creswell, 2003).

According to Bryman (2008), there are three vital factors that need to be considered in deciding whether a result or a measurement of research is reliable: stability, internal reliability and inter-observer consistency. To ensure the quality of quantitative research, reliability and validity (internal and external) need to be addressed in a study. However, the concepts of reliability and validity could be influenced by participants' concern to protect their interests. For example, research participants may feel anxious when they are asked to take part in questionnaires or interviews. As a result, they may give wrong answers or give responses that the researcher wants, simply to save their jobs. Furthermore, reliability and validity are subject to participants' hidden aims. They may get low scores on a research study test intentionally in order to force their institutions or policy makers to make some desired changes. Sometimes, there are some difficult items that are beyond the level of respondents' understanding, or any contradictory items in enquiries of nonexperimental research (e.g. correlation studies), which may lead to unreliable findings. These issues highlight the challenges faced by positivist researchers in accomplishing reliability, validity and generalizability for their findings.

For a positivist researcher, selection of sample is of crucial importance. All quantitative studies aim at selecting in order for the results of the study to be generalized back to the population. Hence, the quality of quantitative research is not limited to an appropriate use of methodology and instruments, but also contingent on the suitability of sampling strategy adopted by the researchers (Creswell, 2003). Positivists commonly use random or probability samples. A random sample defines the nature of population and offers all members an equal chance of selection. Area sampling and stratified random sampling are variants of random sampling, which allow sub-groups to be studied in more detail.

5.1 Critical Paradigm

Diseases desperate grown

By desperate appliance are relieved

Or not at all (William Shakespeare, *Hamlet*)

Critical research aims at emancipating people by transforming their social, political, and cultural contexts (Alwan, 2007). Researchers working in this paradigm desire for a change that shakes the social

institutions and power structures, and thereby leads to equality and justice in society (Carspecken, 2008; Crotty, 2003). They challenge the existing social order and cultural practices in favour of the underprivileged, and they often take an activist stance – with action as a goal of research (Habermas, 1984) – that can be both confrontational and interventionist. In practice, the researchers' roles are to be transformative intellectuals who liberate people from their historical, mental, emotional and social situations (Crotty, 2003; Guba and Lincoln, 1994).

Jurgen Habermas, the main exponent of this theory, worked at the Frankfurt School in Germany to develop an approach of investigation and action in the social sciences, which could describe the historical forces that restrict human freedom and provide the ideological justification of those forces (Dash, 2005). Habermas has successfully developed a comprehensive account of critical social theory. According to him, a critical researcher is supposed to uncover social realities and injustices to emancipate individuals from disempowering practices through political intervention and change. He identifies three types of interest that define critical social science: a technical interest concerned with prediction and control, a practical interest concerned with understanding and interpretation of situated meaning, and an emancipating interest aimed at a change in society for the better with the provision for growth and critical knowledge that exposes conditions of constraints and domination (Ernest, 1994; Dash, 2005).

Like other research paradigms, critical paradigm also has some shortcomings. Habermas' claim about three forms of knowledge has been criticised for being too simplistic. Limiting the research interests and understating of life to three types seems superficial and shallow, and contradictory to the uniqueness of human beings and the variety of human life (Cohen et al., 2007). Another grey area is the critical theorists' desire for political change, which may have hidden agendas that encourage them to motivate people for a change. Conversely, the hidden institutional sources of resistance to change, such as teachers, students and institutional structures, etc. may prevent the attainment of desired results, thereby rendering the whole exercise a waste of time and resources. These caveats notwithstanding, one cannot deny the immense strength of this paradigm because of its upfront declaration of transforming the phenomena under study (Ernest, 1994).

5.2 Ontology

The ontology of critical paradigm is *historical realism*. Critical paradigm considers reality as tangible and composed of historically situated structures (Guba and Lincoln, 1994). Critical

researchers view society as a cultural practice that needs to be explored in terms of interests, power structures and policy implications. They interpret issues of prediction, measurement, domination, and control from the perspectives of marginalized people.

5.3 Epistemology

The epistemological stance of critical paradigm is *subjectivist* (Crotty, 2003; Guba and Lincoln, 1994). This paradigm claims that knowledge is derived from social context where values are established and encouraged, and human perception is value-laden and based on prejudice. Therefore, critical researchers assume that our actions are informed by the meanings we embrace (Ernest, 1994). They suggest reflexivity (or constant questioning) as a solution to the dilemma of scepticism. In practice, critical researchers and participants or the researched objects are actively engaged and closely related to the process of research, which inevitably influences the enquiry (Creswell, 2003).

5.4 Methodology and Methods

Critical research inquiry is *dialectic* in nature, and it employs two methodologies: ideology critique and action research (Cohen et al., 2007). The former is used by powerful groups to promote and legitimize their particular interests at the expense of the marginalization of others. The latter is a powerful tool that can be used for change and transformation in different contexts. In education, it aims to gather information for gaining clear insight about educational practices in general and to improve students' achievement through developing reflective practice and effective positive changes in the school environment (Mills, 2003). Moreover, it stresses for establishing a close link between the participants, the institutions, and the researcher for conducting any piece of research (Creswell, 2003).

Critical researchers may use qualitative, quantitative or mixed methods, but they are more inclined towards qualitative research designs. Open-ended interviews, focus groups, observations, open-ended questionnaire, and journals are the commonly used methods in this paradigm. Critical researchers usually utilise purposive sampling for their studies.

6. Pragmatism: A Paradigm or an Approach?

When some pragmatists spoke of a belief having 'once' been true because once useful, they talked learned nonsense; it had been a useful error, not a truth; and we shall never be certain that our dearest truth may not be, in Nietzsche's phrase, merely 'the most useful form of error' that we have known. (Will Durant, *The Pleasures of Philosophy*)

Pragmatism is founded upon utility and efficacy in any given situation. It is difficult to consider

pragmatism a paradigm as it is not aligned with any philosophical system (Mackenzie and Knipe, 2006). However, it may be considered a research approach or a framework which is not concerned whether the nature of reality is real or socially constructed. The pragmatists only aim at finding out what works for their ends. With utter disregard for the nature of reality, being single or multiple; their sole purpose is to search answers that help inform their research questions (Lodico et al., 2006). According to Biesta (2010), pragmatism as an approach to use mixed-method research is not problematic, but things become complicated when pragmatism is claimed as a philosophical paradigm. Pragmatists commonly utilize mixed-methods approach without considering the ontological and epistemological underpinnings of a research design.

7. Final Word

In this paper, a critical review of the three major research paradigms has been presented. Indeed, a comprehensive understanding of these paradigms is central to any research endeavour. By adopting a paradigm a researcher establishes their position vis-à-vis a research phenomenon. Regardless of the paramount importance of the role of a paradigm, some researchers tend to design studies without establishing a clear link between the paradigmatic nature and the theoretical framework of their studies (Troudi, 2010). It is imperative for a researcher to make a careful choice of a research paradigm; otherwise they will have no basis for the selection of any suitable research design and methodology.

Another important point is the right choice of research method(s). With the increasing complexity of research designs we should become more flexible in the choice of research methods or mixing of methods for a more reliable and valid research. In any case, ontological and epistemological beliefs do not prevent a qualitative researcher from utilizing data collection methods typically used in quantitative research approach (Johnson and Onwuegbuzie, 2004). A researcher's use of any data collection method, qualitative or quantitative, should not be interpreted as an indicator of an ontological or epistemological position (Troudi, 2010). It is also incumbent upon us to let our values inform our research studies (Dornyei, 2007). Hopefully, 'choosing our evidence with a brighter bias, we might evolve some more comforting reflections' (Durant, 1968: 97).

End-notes

¹ We have drawn heavily on the work of Guba and Lincoln's (1994) for the choice of terminology as we find their definitions very helpful in developing the

basic concepts of a novice researcher. Their framework about the major research paradigms is accepted as a benchmark by many researchers (Allison and Pomeroy, 2000).

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