

Post-positivism: an effective paradigm for social and educational research

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Abstract

This paper attempts to justify the position of post-positivism as a rich paradigm for educational research, specifically pedagogical research. It aims to discuss how educational research has been dominated by constructivist or interpretivist approaches thus, ignored in the context of scientific investigations. In the context of education, scientific methods such as the use of quantitative approaches are not very much emphasised and the focus is mostly on qualitative data. Therefore, it is discussed that how post-positivism could be helpful in addressing the problem of the lack of the more scientific research approach in education. The position of post-positivism and its connection to educational research has been clarified and critically discussed. The article further goes on enumerating the advantages of post-positivism in education research specifically focusing on its pluralistic and critical multiplistic aspects. For example, despite the fact that post-positivism uses various instruments to examine a phenomenon clearly and closely, it still believes that no universal truth is found and post-positivist research is only an attempt to explore a phenomenon as much as possible. Finally, the article also discusses how post-positivism is suggestive of mixed methods research and it is different from pragmatism as a paradigm.

Keywords: Post-positivism, education, constructivist, research, multiplistic.

Introduction

Post-positivism stepped forward as a reaction of educational researchers to the limitations of positivism as a paradigm. Educational researchers discovered that positivism cannot fulfil the requirements for social sciences' research as it (positivism) bases itself on observable and empirical analytic facts. As a reaction to its orthodox nature towards quantitative empirical analytic based research, the researchers of social sciences and education came with the idea of mixed paradigm combining positivism and interpretivism and making a new paradigm named post-positivism (Petter & Gallivan and 2004 Deluca, Gallivan, Kock, 2008).

Post-positivism is 'a certain pluralism' which balances both positivist and interpretivist approaches. It focuses on researching issues in the context of involving experiences of the majority and announcing the results of what the majority says is acceptable (Wildemuth, 1993; Fischer, 1998; Phillips and Burbules, 2000), whereas post-positivism, along with quantitative analysis, includes the perspectives of historical, comparative, philosophical, and phenomenological analysis (Fischer, 1998). Although post-positivist research scientifically strives to explore the phenomena, it believes, unlike positivist research, that the absolute truth is nowhere to be found (e.g., Wildemuth, 1993; Guba and Lincoln, 1994; Phillips and Burbules, 2000). Post-positivism does not aim to disapprove the scientific/quantitative elements of positivism in the research, rather it emphasises a proper understanding of the directions and perspectives of any research study from multi-dimensions and multi-methods (Guba, 1990; Fischer, 1998). Furthermore Post-positivism is a form of justification for alternative paradigm after the failings of positivism/

neo-positivism. It is a revolt against the limitations of positivism which (positivism) solely associates itself with empiricism and rejects the existence of individual/subjective perspective of facts. Post-positivistic paradigm promotes the triangulation of qualitative and quantitative methods that explores the diversity of facts researchable through various kinds of investigations but respecting and valuing all findings as the essential components for the development of knowledge (Clark, 1998 and Fischer, 1998).

Methodology

This research paper aims to review and critically analyse the research on post-positivism and its relation to educational research. It, in fact, attempts to answer the following research question: *Can pure scientific methods be used in educational research with the use of post-positivist paradigm?*

Many educational researchers have limited education research to qualitative perspective only, and ignore the objective or quantitative side (e.g., Wolcott, 1992; Charmaz, 2008; McNiff and Whitehead, 2010). Many others consider education mixed methods where both quantitative and qualitative aspects are to be amalgamated with equal weightage (Tashakkori and Teddlie, 2003; Morgan, 2007; Creswell and Plano-Clark, 2011; Teddlie, and Tashakkori, 2012). Some focus on the on mixed methods aspect where qualitative aspect should predominate because they assume that educational inquiry should be also be scientifically conducted to find out the reliable and valid results (Guba and Lincoln 1994; Phillips and Burbules, 2000; Wildemuth, 1993). These researchers and educationist claim to be post-positivists (Philip and Burbules, 2000) and promote that educational research should be pluralistic and look into every aspect of educational phenomena being investigated.

Critical analysis and review

Pluralist Nature

Post-positivism is pluralist in its function which balances both positivist and interpretivist approaches. The post-positivist theoretical perspective is a flexible research perspective which allows the researcher to use multiple methods to carry out the research according to the nature of the research questions. Therefore, it tends to reduce personal biases and prejudices of the researcher and the participants because it offers the use of more than one research methods and techniques in a research study to make sure that the subject is studied from more than one angle (Phillips 1990; Wildemuth, 1993; Guba and Lincoln 1994; Clark, 1998; Miller, 2000; Phillips and Burbules, 2000). Through its multiplistic approaches, different instruments were used in the present study to investigate the issue from various perspectives which helped in minimising the risk of bias and maximising reliability. Phillips and Burbules, (2000, pp. 86-87) very nicely clarify the post-positivism in the following lines:

Part of the post-positivist view of research, as we have presented it here, is a certain pluralism of method. It is not the particular type of research that makes it scientific, on this view. One can study individuals or groups; one can study personal actions or patterns that appear at a higher level of social aggregation or organisation; one can study intentions or unintended consequences; one can pursue experimental, interview, observational, statistically oriented or interpretive research – or some combination of these (even if some will say these can't be combined) [emphasis added]. The post-positivist approach to research is based on seeking appropriate and adequate warrants for conclusions, on hewing to standards of truth and falsity

that subject hypotheses (of whatever type) to test and thus potential disconfirmation, and on being open-minded about criticism.

In the light of the above lines of Phillips and Burbules (2000), it may be argued that post-positivism did not only emerge as a reaction to positivist research, but it also emerged as a reaction to the recent dominance of constructivist research in education. The limitations of outmoded neo-positivism/positivism and constructivism have put barriers in the ways of so many young researchers. These limitations decree young students and researchers to limit themselves to either the quantitative or qualitative approaches only that ultimately leave them desperate because the outmoded models of neo-positivism/positivism unlike post-positivism remain inflexible. Post-positivist flexibility introduces the inception of a new orientation by constituting a unification of new methods and approaches. Thus, it offers to use the multi-disciplinary research methods/approaches for the projects being carried out. Post-positivism is not just rejection of outmoded scientific methods, but it rather gives a new life to them by amalgamating them with other disciplines' methods and thus opening the way to a wealthier and more fruitful approaches (Fischer, 1998).

Post-positivism suggests the turning of the empirical data of a neo-positivist/positivist result into knowledge through interpretative collaboration with other viewpoints. Post-positivists believe that the assumptions can only be discovered and explained properly when their data is investigated through contradictory frameworks (Toulmin, 1990). Such processes of discussions and arguments may create newer and healthier understandings of phenomena than just empirical proofs. This brings a shift from a narrow interest in empirical analytic theory to the progress of an affluent perspective on the affairs related with human beings (Fischer, 1998).

For many researchers and educationists post-positivism is not just the combination of interpretivist and positivist or qualitative and quantitative approaches. It is rather based on the variety of research approaches and methods. Post-positivism comes as a help to eliminate the intractable problems of 'a forced choice' between qualitative or quantitative research methods which rather recommends the selections of multiple research methods by looking at the nature of hypothesis and research questions (Lather 1992 and Wildemuth 1993 and Fischer, 1998). This diversity of methods helps the researcher interact with the participants. Post-positivism, with all research approaches, takes objectivity as relative and tries to understand the biases that exist in all studies. Understanding biases and taking efforts to minimise them is like coming closer to objectivity and truth (Fischer, 1998 and Deluca, Gallivan, and Kock, 2008). Post-positivism unlike positivism stands challenging the finding of the absolute truth and denies accurate claims of knowledge when studying human behaviours and actions. Post-positivists study the problem by reflecting a need to examine causes that affect results. It (post-positivism) tests selected variables that form hypothesis and research questions by adopting the methods best suited to them (Khumwong, 2004). Thus Post-positivists are critical realist, because they believe that it is not possible for human beings to perceive perfection of natural causes with their imperfect intellectual powers/senses (Guba 1990 and Letourneau & Allen, 1999).

Critical multiplism

Post-positivism may also be called critical multiplism which indicates that there is no perfect scientific method which can bring hundred per cent accuracy in the findings as all methods have their limitations and shortcomings (Houts, Cook & Shadish, 1986). Critical Multiplism, as a methodology of post-positivism, works as a form of methodological pluralism allowing both the qualitative and quantitative approaches along with other contextually required

methods to be components in the research activities. For post-positivist research truth is probabilistic and provisional. Researchers can be influenced by the subjects/situations they observe. This may lead them to face potential error and prejudice if they are carrying out the study through certain fixed and standardized methods such as positivist methods. To reduce, not totally indeed, uncertainty of the findings/results, post-positivism offers the use of more than one research methods and techniques in a research study to make sure that the subject is studied from more than one angle and aspect (Phillips 1990; Guba & Lincoln 1994; Clark, 1998 and Miller, 2000).

The term critical refers to rational, experiential and ultimately social efforts to recognise the suppositions and prejudices inherent in the options of methods and theories picked up to explore a phenomenon. It is the identification that one can never find full accuracy and perfection in a scientific method as all methods have their faults. Likewise theories derived from these methods have existent limitations. Post-positivists, therefore, supports the use of imperfect methods and theories together in a way that curtails perpetual biases(Guba, 1990; Shadish, 1993; Wildemuth, 1993 and Letourneau & Allen, 1999).

This methodological term multiplism takes into consideration educational researchers' own acquaintance of the strengths and weaknesses of diverse approaches to research questions. To balance limitations, defensible possibilities are chosen in the research studied. It, therefore, makes sure that research questions posed are investigated from all the aspects. Critical multiplism also advocates the open scrutiny of research questions, research designs, data analysis and justifiable interpretations from a vast diversity of positive and negative theoretical perspectives (Cook, 1985; Houts, Cook & Shadish, 1986 and Letourneau & Allen, 1999).

The followers of critical multiplism consider that total research studies are social (education is social) and necessarily biased. Critical multiplists welcome biases because individual emotions and scholarly obligations make researchers motivated to keep the undertaken research's knowledge claims intact and protected from untimely abandonment. Although for all studies the idea of objectivity remains present that reinforces all investigations for the same, yet it is accepted that objectivity and subjectivity are the part and parcel of any given concept/theory. This acceptance permits researchers to delve into reciprocal and productive discussions, censure and assessment that are the symbols of critical multiplism(Cook, 1985; Phillips 1990a; Phillips 1990b and Letourneau & Allen, 1999).

Subjectivity and its significance are recognised in post-positivism. Post-positivist critical multiplism unlike positivism recognises people as animate subjects that are studied and investigated contextually. Moreover, it accepts that various personal views together form more impersonal views. As in the qualitative interview, personal experiences are appreciated that add to recognition of phenomena more abstractly and less objectively. Thus, the phenomena, being studied, become factual and objectified to a certain degree (Phillips, 1992 and Letourneau & Allen, 1999).

A number of phenomena in the context of educational research appear to be non-pliable to more objectification owing to a high degree of intricacy and context-related reliance that prevents from identifying and testing of hypothetical associations to further polish the nature of specific phenomena. But some other phenomena of highly personal psychological and health related experiences may be greatly pliable to further investigation and more accurate refinement. Post-positivist flexibility in the use of methods and paradigms offers its services to re-study the phenomena to further objectify it in other research projects from the different perspectives. Post-positivist methods keep the objectivity obtained in a study open to be critiqued, challenged and evaluated by other researchers for further refinement (Letourneau & Allen, 1999).

Post-positivist critical multiplism may not be considered as a final remedy. It, definitely, has some flaws. These flaws, however, can be diminished by the perpetual pursuit of alternative elaborations and collaborative discussion and criticism. Post-positivists criticise any research characterized by the excessive context free variables and emphatically emphasise the context-oriented research in more natural surroundings. The combination of both qualitative and quantitative methods provides richness to the development of knowledge (Letourneau & Allen, 1999).

Critical multiplism of post-positivism has power to enrich theory and practice by improving probability that designs and occurrences are recognised through the course of studying research questions from various different perspectives. The recognition of designs can ensue when not only several methods are used but also when researchers' sharing takes place from a vast diversity of methodological experiences and backgrounds (Cook, 1985 and Letourneau & Allen, 1999).

Likewise, critical multiplism confirms that convergence is diminished because it protects against premature abandonment on matters of theoretical or practical concern. The decrease in convergence may lead researchers to over-generalization or limiting of exploration. To add and decrease in convergence might increase communication among investigators that is healthy sign for research. For instance, educational researchers may get fruitful criticism about possible sources of prejudices and less heterogeneous elements in their research. This may be ultimate encouragement for other researchers to move their research further with the increase in heterogeneity, interdisciplinary approaches and collaboration thus allowing wider grasp of the being observed phenomena and adding in knowledge development in every discipline (Letourneau & Allen, 1999).

Mixed Methods

The post-positivist perspective puts emphasis on using a hybrid design, a combination of both quantitative and qualitative approaches, because the hybrid design research aims at investigating objective and subjective or internal and external phenomena. However, pragmatism as a paradigm is frequently used in and suggested for mixed methods research (e.g., Morgan, 2007; Creswell, 2009; Creswell and Plano Clark, 2011). Post-positivism is selected because this paradigm emphasises to investigate the phenomena objectively with the help of quantitative and qualitative data (e.g., Guba and Lincoln 1994; Phillips and Burbules, 2000). Although Post-positivist research scientifically strives to explore the phenomena, it believes, unlike positivist research, that the absolute truth is nowhere to be found (e.g., Wildemuth, 1993; Guba & Lincoln, 1994; Phillips & Burbules, 2000). The post-positivist approach prioritizes quantitative data and emphasises to strengthen their finding with the help of qualitative data (Wildemuth, 1993). Similarly, the present study gives more weightage to the quantitative data, confirms/disconfirms their findings with qualitative data through the triangulating process. Giddings (2006, p. 1) argues that mixed methods, as it is presently supported, is not a methodological drive, "but a pragmatic research approach that fits most comfortably within a post-positivist epistemology." Wildemuth (1993) perhaps is arguably an appropriate example of empirical research based on the post-positivist paradigm. In the first stage of the study, the researcher uses the positivist data to investigate the problem. Secondly, the interpretive data is used to further explore why, when and where the problem occurred and how could it be addressed based on the views of the participants.

Sometimes it is argued that for mixed methods design, the best paradigm is pragmatism. However, the mixed methods research does not practice the "exclusive rights over the use of pragmatism" as the philosophical basis for research (Denscombe, 2008). There are many examples of mixed methods research which show that many contemporary

mixed methods studies have been conducted without clearly admitting that the exercise “relates to the mixed methods approach or its practical and philosophical premises” (e.g., Bryman, 2006; Gorard & Taylor, 2004). Bryman (2006), with the help of content analysis of the results from 232 journal articles that used both the quantitative and qualitative data, discovered that about 27% did not mention why these had selected the mixed methods approach. Thus, it can safely be argued that the pragmatist approach is not only the philosophical premises to be used arbitrarily with the mixed methods research as suggested by many supporters of the pragmatist mixed methods research.

Conclusion

In a nutshell, post-positivism is the synthesis of ‘rigor/relevance objective, positivist/interpretive epistemology, qualitative/quantitative methodology, and confirmatory/disconfirmatory evidence’. Grasping and acting on the synthesis may support researchers to get more cognizant of the multiplicity of research methods in social and educational research practised in other studies/disciplines. It appears as innovative triangulation which gives the context based research studies and approaches top priority. Since educational and social research is naturalistic, post-positivism recommends conducting research in natural environment and repetition and use of multi-methodology for achieving less biased and more objective results (Phillips & Burbules, 2000; Deluca, Gallivan & Kock, 2008). Social and educational phenomena vary from place to place and from time to time. Therefore, the use of post-positivist paradigm and mixed methods research in post-positivistic framework is likely to be more effective because this type research encourages and promotes investigation and reinvestigation of specific phenomena from different perspectives, with various tools and methods and in different contexts. As Philip and Burbules (2000) argue that post-positivism is a pluralistic and critically multiplistic research paradigm that allows to conduct socio-educational research scientifically (involving quantitative and qualitative data) by partially concluding and recommending further research.

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