**The search for Truth**

The aim of research is to achieve true and certain knowledge (Eisner 1992). Achieving this is problematic as research is complex, diverse and pluralistic (Hodkinson, 2004). This diversity has resulted in the creation of many research paradigms, which provide a set of propositions on how the world is perceived; attempting to break down the complexities of the real world, in order to identify what is important and legitimate (Hammersley 1992). We get a sense of why these complexities arise when we examine the term ‘research’. It is not one that has a well-defined meaning, considerable disagreement exists to as what counts as research. At one extreme is the realist / objectivist ontology, claiming that objective detachment; elimination of one’s own values system and personal bias and neutrality is desirable when conducting research (Sarantakos 2005). At the other extreme is the constructionist ontology representation, based on interpretivist epistemology, claiming that reality is not objective but interpreted (Oakley, 2000), indicating that it is not possible to be detachedfrom individual bias and perceptions**.** Citing that acknowledgement of subjectivity is fundamental as individuals create realities of the world according to their own cultural and historical upbringings (Hammersley 2005;Eisner, 1992;). To a large extend the polarisation of these two extreme research positions stem from their theoretical origin. The former developed from an experimental psychology based on a scientific footing, the later influenced by philosophy on behaviour-modification.

This essay will explore the debates surrounding these two paradigms from an historical and psychological aspect, in an attempt to identify if objectivity is fundamental or even desirable in research. It will become clear that there are many contentious issues and criticisms concerned with the validity and reliability for both approaches.

The positivist or scientific approach tries to attain a perception of reality as an objectivist ontology, based on empiricist epistemology resulting in a quantitative methodological approach (Saranthakos 2005). This quantitative revolution in educational research joined a philosophical debate unresolved and providing a modern departure from conceptions of knowledge, decedent from the deductive reasoning approach provided by Plato and Aristotle (Cohen *et al.* 2000). This approach attempted to comprehend the world around them, in terms of providing hypothesis and conceptual frameworks.

The scientific approach of reality provides an understanding of knowledge as a rational approximation of reality grounded in universal cognitive structures (Hanan 2006). Such research is often embodied within the natural sciences such as physics and chemistry, where results of algebraic symbolisms and proof theories are replicable (Davis 2006). Consistency is a necessary condition of truth and significant in some fundamental domains of inquiry. For instance in the scientific approach, the concept of objectivity is seen as fundamental and scientists only claim truth and objectivity are obtained when results of experiments provide consistent results, such as the reaction of adding iron fillings to sulphuric acid must provide consistent results every time the test is ran. Such consistencies they claim ensure validity and reliability of the experiment (Eisner 1992;Davis, 2006)

Positivism in research is an influential movement, developed originally by Bacon and Locke (Hanan 2006). They were critical on the deductive reasoning approach to research on the grounds that the model’s major premise was often based on preconceived notions which inevitably biased the conclusions. They adopted an alternative inductive style of research arguing that their reality and truth exist objectively, as it can be discovered and measured adequately, claiming it is solid and uniform as it generates meanings for all actors (Hanan, 2006). They claimed that if enough data was collected without preconceived notion about their significance and orientation, objectivity will be maintained and generalizations can be formed (Cohen *et al,* 2000*)*. However, such ideologies can be difficult as an assumption is made that the mere act of *multiple* collections of data about the social world indicates that detachment from values and structures has been achieved.

This objectivist form of truth, observing the world without influencing it, existence of unquestionable truths (Fuller and Floyd 2013) was the only form of truth I was introduced to when I was studying for my science A levels. However there are those who suggest that even this type of research has its weaknesses, citing that later scientific theories disprove earlier theories. Whilst it can be argued that more precise scientific instruments over time helped to improve measurability, others argue that, the better knowledge of the natural world today cannot be attributed to better measuring instruments, but rather that in the past scientists have interpreted the same data differently from present day scientists (Hammerley *et al.* 2001), Implying that there is an element of subjectivity. Kerlinger (1970 as cited in Cohen *et al* 2000) provides counter arguments, suggesting on the contrary, that modern day studies provide more accurate representations due to experiences. They claim that experience, itself, is necessary, for validation of empirical and critical investigation. Reinforcement is provided by Mouly (1978 as cited in Cohen *et al* 2000) who says experience is the most single aspect of research guaranteeing that incorrect results will in time be duly revised and disregarded; emphasizing that both experience and reasoning must be regarded as the most successful approach to the discovery of truth.

The scientific research approach however has had strong reactions against it. Criticism concerned with both the validity of the ‘hard data’ it claims to represent and with the ethical issues concerned with the research (Heikkinen *et al.* 2001;Hammersley *et al*. 2001). We can gain a sense of such criticisms when we investigate Piaget’s work, though quantitative in nature, has been criticised in literature for insufficient rigour. He conducted some experiments whereby children were asked to identify which container was larger. Even though when the experiment demonstrated that the different shaped containers had the same capacity, some children maintained that one was larger than the other (Rothbaum 1979). Piaget concluded that the children were unable to perform the logical task of identifying the capacity of the containers because they had not yet developed their cognitive development skills to a sufficient level (Hammersley *et al*. 2001). Critics of his work questioned his work pointing out that interpersonal interactions may have occurred which resulted in the children conveying the wrong answer or indeed the children may simply have misunderstood what the experimenter was asking (Donaldson 1978), Although such ‘technical’ problems, as Donaldson refer to, can be overcome with more rigorous experimentation, we see similar questions regarding validity of quantitative research being raised by Mehan (1973 as cited in Hammersley *et al.* 2001) their research indicates that when children were asked to circle an initial representing a picture of medieval fortress, rather than selecting C for Castle they often selected D for Disneyland. Mehan concluded that the wrong answer did not demonstrate a child’s lack of reasoning ability, only that the child indicated a different answer from the questioner due to their interpretation. Such criticisms question whether it is possible for research to be detached from individual’s perceptions and interpretations. Such rationalist epistemological positions rest on difficult ideological assumptions that perceptions, values and beliefs can be detached.

Critics of quantitative research have not only raised issues regarding the logic and statistical manipulation of such research but also about the complexities associated with the process of interpretation and negotiation that do not have determined outcomes (Hanan, 2006). They indicate that this approach brings in inherent risks when attempting to understand epistemology as the researcher may unconsciously induce their own bias in their research, similarly there is potential that the respondents will inhibit internal bias (Hodkinson, 2004), as was demonstrated in Mehan experiments. Such stimuluses’ brought about an adoption to the qualitative approach to research, which provide different viewpoints and representations of truth.

 The qualitative approach , in contrast takes a different philosophical approach to research and questions whether the positivist approach’s concern for objectivity and generalisations can cater for individual subjective perceptions. Claiming that projected generalisations cannot capture the dynamic nature of human discourse, when cultural and even linguistic contextualisation’s exists, indicating that it is undesirable to be detached from these embedded structures. (Hannon 2006; Biesta 2010).

Qualitative enquiry such as phenomenology and ethnography is grounded on constructivism, taking an interprevisits approach, attempting to understand human behaviour and experiences by observational studies, life histories or case studies; providing an alternative epistemology to the positivist orientation of quantitative research, this form of knowledge indicates that subjectivity is indeed desirable as it provides a more reliable view of reality. Here the researcher uses methods that enable him to get fully involved, as far as possible, within the participant’s world. In this situation reality is perceived as subjective so research cannot be expected to produce consistent results as individual perceptions are not always the same and need to be valued as they provide a perspective of the world (Hanan, 2006).

Scientific researchers often attempt to undermine the truth obtained by qualitative research by accusing it of bringing in subjectivity and thus removing objectivity. However Eisner (1992) indicates that truth by verification has consistencies with the interpretative approach and questions if quantitative methods, designed to gain true and certain knowledge is indeed possible within the positivists approach? Eisner (1992) also queries whether we can neutralise ourselves from research; after all, as he claims we discover the facts not create them and thus does not the actual process of discovery bring in inherent bias; the very selection of a research method and data collection is subjective (Heikkienen 2001; Holland 2007). Thus no evidence can be independent of presuppositions of the researcher. The philosophers claim that not only can these presuppositions be wrong (Hammersley *et al.* 2001) but which ones can be true varies across cultures and their individual historical circumstances, often tainted by one’s own ethical, aesthetic or political criteria (Davis, 2006).

Eisner (1992) questions whether there is even a need for objectivity, and claims that if he were to even propose a world where biased and unbiased perceptions exist and suggest that ontological objectivity, (which captures phenomena as they truly are, independent of the researcher) is not possible as individual histories bring in bias. Such a proposal he claims will make scientists feel that they have lost all bearings, as a neatly defined objectively knowledgeable world would not exist. I would further add that if we were to adhere to Eisner’s claim then not only would the scientific world be unsettled but also other worlds such as that of theology will also be shaken, as do not the writings and constant rewritings of all religious scriptures bring in their own historical and cultural bias, slowly eroding the concept of truth. Such a position lays doubt to whether discovery of truth is ever possible!

What Eisner and other constructivist researchers are questioning is that, is there even a need for ‘truth’ as we have known it from the positivism constructs or is it possible to have pluralistic realisms : an acceptance that there is no single truth only different perspectives. Kant raised this issue as far back as in 1928 where he provided the readers with examples of subjective responses to his comment that : ‘*the thing is beautiful*’. He does not count on others agreeing with his judgment only that there is an acceptance of a range of feelings and possible judgmental outcomes (Davis 2006).

Eisner (1992) goes on to criticise scientists who are unwilling to relinquish the notion of objectivity, suggesting the concept of truth can be achieved by ‘procedural objectivity’ (a method that attempts to minimise the scope of personal judgement and subjective bias) in the form of a ‘*framework of understanding of the world out there*’ (Hammersley *et al.* 2001). He claims that accepting the creation of frameworks or perceptions does not prevent us from the concept of truth as long as we acknowledge there are ‘shared’ frameworks of perception and understanding. Suggesting that even though we cannot have knowledge whose validity is certain, we can judge if their beliefs are sound and achieve some consistencies thereby gaining a reliable view of reality. However such an attempt to understand reality attracts disapproval. Philips (1990 as cited in Hammersley *et al.* 2001) critics Eisner suggesting his realism is flawed as the particular frameworks of presuppositions can never be fully assessed as all assessments themselves rely on presuppositions, once again emphasising that subjectivity is ever present; thus the validity and reliability of a shared framework is distorted resulting in false beliefs and false alignments. Although the two authors are not in agreement, they are not in conflict as they both still are advocates of the subjectivist theories but are simply critiquing opposite polar positions of constructivism.

To conclude in the pursuit of knowledge via research, attaining objectivity is problematic. Initially I was inclined to favour the positivist paradigm, as that is where my journey into education began. From a scientific perspective, empirical research is fundamental and needs to be precise, obtaining truth, and accepting that the concept of objectivity is possible, is fundamental for such a realism, as it removes doubt and ambiguity. I concur with Eisner (1992) when he says that accepting the possibility of different realities, which allow for ambiguities shakes the scientific world, as indeed it shook mine. However after reading the works of Eisner, Hammersley and others I have an acceptance that objectivity is not necessary, that there are pluralistic realisms of truth, different subjectivities, perceptions and understandings are possible. Such truths should be sought after by researchers, with an acknowledgement that this truth will be tainted by personal bias, historical and cultural realities.

I am now left questioning if truth is ever possible, because researchers themselves have personal bias. I am resolved in thinking that if we were to question which is more superior - the pursuit of knowledge or truth then to me finding truth is not essential, rather the journey that unfolds with the pursuit of knowledge brings with it such excitement and rich wisdom as it identifies different perspective of truth, be it via empirical research or through the interprevisit prism.

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