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A Principled Complementarity of Method: In Defence of Methodological Eclecticism and the Qualitative-Quantitative Debate

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I found PhD study to be a stimulating, challenging and ideal conduit for exploring knowledge via discussion, argument and defence: to have the opportunity to explore method, methodology, epistemology, ontology and what may constitute 'acceptable' research practice is an enriching experience. I had previously heard of intepretivists decrying positivists et cetera, but I was unprepared to find quantitative researchers and lecturers openly dismissing qualitative approaches, and finding dismissals by qualitative researchers of the use of a quantitative approach: such are disappointing and confusing to a trainee researcher. Thus, a far less enriching experience for a trainee researcher is being faced with assumptions and preferences of experienced researchers that extend from defending approach to decrying any approaches that may not be aligned to their own. As a result, this paper will focus upon the quantitative-qualitative debate (QQD) and offer a critical evaluation upon the issues surrounding affiliations between method and epistemological paradigm. It will also question the validity of 'traditional' divides between qualitative and quantitative methods. This discussion will facilitate an answer to the question: 'can the researcher complement quantitative with qualitative method - and vice versa - within the same research paradigm and subsequent design'? I will explore here a claim that no more than a rhetorical link exists between method and epistemology and that the 'distinctions' between quantitative and qualitative methods are often erroneous and do not always reflect differing paradigmatic assumptions. Further, I will suggest quantitative and qualitative methods be used in a complementary fashion as opposed to an integrated approach. I will further claim that the quantitative-qualitative debate has much to offer trainee researchers and should thus be kept open, as long as unprejudiced and tolerant discussion is encouraged.

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I found PhD study to be a stimulating, challenging and ideal conduit for exploring knowledge via discussion, argument and defence: to have the opportunity to explore method, methodology, epistemology, ontology and what may constitute 'acceptable' research practice is an enriching experience. I had previously heard of intepretivists decrying positivists et cetera, but I was unprepared to find quantitative researchers and lecturers openly dismissing qualitative approaches, and finding dismissals by qualitative researchers of the use of a quantitative approach: such are disappointing and confusing to a trainee researcher. Thus, a far less enriching experience for a trainee researcher is being faced with assumptions and preferences of experienced researchers that extend from defending approach to decrying any approaches that may not be aligned to their own.

As a result, this paper will focus upon the quantitative-qualitative debate (QQD) and offer a critical evaluation upon the issues surrounding affiliations between method and epistemological paradigm. It will also question the validity of 'traditional' divides between qualitative and quantitative methods. This discussion will facilitate an answer to the question: 'can the researcher complement quantitative with qualitative method - and vice versa - within the same research paradigm and subsequent design'? I will explore here a claim that no more than a rhetorical link exists between method and epistemology and that the 'distinctions' between quantitative and qualitative methods are often erroneous and do not always reflect differing paradigmatic assumptions. Further, I will suggest quantitative and qualitative methods be used in a complementary fashion as opposed to an integrated approach.

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Key Words: Please supply key words for your paper

Introduction

"In art and literature, the stylistic conventions of one generation are often made to be broken by the next. It seems likely that as we become more self-conscious about the rhetorical techniques used in research, some individuals will begin to test them and look for new ways to break the mould."

Firestone (1987)

To protect against common scepticism, the possibility and actuality of knowledge needs to be demonstrated by identifying sound means and methods of acquiring that knowledge. The advice of Hughes and Sharrock (1990) is that it is necessary for philosophical issues to be regarded as the preliminary ones that need to be addressed in order that sound methods for enquiry can be laid down in advance of the empirical work itself. They go on to state that although research methods may well be treated as simply instruments, in fact they operate within sets of assumptions; many of these contentious, theoretical claims about the nature of society, of social actors, of objective 'reality' and of 'interaction'. Wolin (1973, pp. 28-29) claims that no technique is self-validating and informs us that:

The employment of method...requires that the world be of one kind rather than another. Method is not a thing for all worlds. It presupposes a certain answer to a Kantian type of question. What must the world be like for the methodist's knowledge to be possible?

However, are methods dependent upon ontological and epistemological assumptions as Wolin implies? Should epistemology dictate method? As these are contentious issues, it transpires that any 'mixing' of methods should be accompanied by a rationale that avoids the charge of creating an 'incongruent' research design.

Brannan (1992, p. xii) points to the fact that there has been a paucity of discussion on the topic of employing both quantitative and qualitative methods in one study design; this is despite Sieber (1973, p. 1358) claiming that:

...the adjustment in traditional research designs called for by the integration of field and survey methods would seem to produce a new style of research. At present, there are too few examples of this style to adduce general principles to be followed in organising future projects. The task of collecting specimens of projects that have sought to benefit from the interplay of fieldwork and surveys, rather than instances bearing on a single aspect of projects, remains for the methodologist of the future - *providing that the boundaries between the two traditions are dissolved and attention is turned to their intellectual integration in the interest of improving our strategies in social research* [italics added].

Oakley (2000) says that the quantitative-qualitative debate started in the early 1960s. Sieber (1973) was writing nearly thirty years ago, but his statement still holds true; I argue that the boundaries between the two 'traditions' have not yet been dissolved. According to Rabinowitz and Weseen (1997), in the field of psychology, for more than two decades calls for the integration of quantitative and qualitative methods have gone unheeded. They say that the debate (see also Creswell, 1994) is so common now that it is simply referred to by the acronym QQD (qualitative-quantitative debate), and that such debate appears in applied areas such as education, public health and programme evaluation.

Nevertheless, why not let the QQD continue? It could be argued that such dialectic is healthy and constructive. But, if it can be argued that the current QQD is not so much a debate as an obstacle damaging to both research itself and especially to potential researchers, then it may be argued

that it is time to actively readdress what such debate allows. Smith and Heshius (1986) argue for 'shutting down' the debate due to the incompatibility of both methods. I disagree with closing down the debate for reasons I address in the latter section of this paper. But I do agree with Bavelas (1995) and Sell, Smith and Sprenkle (1995), who say that antagonism between proponents of qualitative and quantitative methods is preventing recognition of the benefits to be gained by employing both methods in a single research design. Antagonism is an apt word; indeed Tashakkori and Teddle (1998, pp. 3-4) go further and claim that 'no discipline in the social and behavioural sciences has avoided manifestations of these paradigm wars'. In Oakley's (2000, p. 27) words:

The warfare proceeds on a number of levels. Researchers presenting the results of their research often feel it necessary to claim their adherence to one or other camp as part of establishing their academic and political credentials.

I will argue later that *redirecting* the qualitative-quantitative 'debate' has a positive purpose, whist the terms 'warfare' and 'paradigm warriors' (Oakley, 2000; Tashakkori & Teddle, 1998) do little to assist constructive dialectic.

This paper will offer discussion upon the issues surrounding affiliations between method and epistemological paradigm and question the validity of 'traditional' divides between qualitative and quantitative methods. This discussion will facilitate an answer to the question: 'can the researcher complement quantitative with qualitative method - and *vice versa* - within the same research paradigm and subsequent design'? It will then suggest quantitative and qualitative methods be used in a *complementary* fashion as opposed to an *integrated* approach, and end by offering reasons why the QQD should not be closed down - but simply redirected.

This article recognises the multifarious and complex issues that envelop any inquiry aimed at addressing the nature of the world; what may constitute knowledge; how best we may achieve knowledge; the position of human beings and the nature of reality. Here, the aim is to clarify assumption and defend for a congruency of approach, rather than to attempt to answer the myriad of questions that millennia of philosophy have attempted to reconcile. Despite two and a half thousand years of endeavour, there is no agreed canon of philosophical knowledge (Hacker, 1998). It is my assumptions and underpinning rationale for quantitative and qualitative methods complementing each other that is the focus of this article; it is the issue of congruency in research design that I have to address. This entails stating my assumptions and arguments for inspection, and thus, I cannot accept Montaigne's (1580/1992, p. 480) offer that "...all I say is by way of discourse and nothing by way of advice. I should not speak so boldly, were it my duty to be believed."

This article will offer a rationale for its stance: it cannot prove its assumptions as *true* but it can *reason* for their adoption.

Epistemology and Method

A key observation here is that if a quantitative method is 'wedded' to a realist paradigm and a qualitative method to an idealist paradigm - which many (see Guba & Lincoln, 1994; Oakley,

2000; Sells et al., 1997; Tashakkori & Teddle, 1998) implicitly and explicitly claim - then the use of both methods would imply a 'switch' between such paradigms. According to Kuhn (1972), paradigms are ways of seeing the same things differently, or of seeing the world differently, and I offer my disagreement with Weick (1995) - who argued that researchers may 'alternate' ontologically - on the issue of fluctuating or alternating between paradigms. As Blaikie (1991) noted, all measurements should be based on a common ontology and epistemology. However, if an argument can be forwarded that method and epistemological assumptions are not logically linked, and that the qualitative-quantitative distinction is arbitrary, then there is a case for a *principled complementarity*, where both quantitative and qualitative methods may be employed within the *same* research design and a *single* (interpretivist) paradigm. The subsequent focus will thus be upon evaluating the place of method in terms of epistemological assumptions.

Hammersley (1996, p. 164) asserts that the distinction between qualitative and quantitative approaches has become a 'key axis' in epistemological discussion; although by no means insignificant, such discussion is by no means straightforward. What is apparent from inspection of the literature is the almost immediate appearance of dualism: Realist versus Idealist; Subjective versus Objective; Inductive versus Deductive; Natural versus Artificial; Positivistic versus Anti-Positivistic. As Oppermann (2000), Oakley (2000) and Bavelas (1995) have observed, this kind of dichotomous frame of reference has exaggerated what differences there are between qualitative and quantitative methods. However, as such a frame of reference is what the QQD is characterised by, it is necessary to address these dichotomies.

Within this theme, Firestone (1987) has identified two groups in the qualitative and quantitative debate: the 'purists' and the 'pragmatists' (see also Tashakkori & Teddle, 1998). The purists believe that the two method types are incompatible because they are inextricably linked to paradigms that make different assumptions about the world and what constitutes valid research. Thus, they claim that there is a logical relationship between the principles inherent in the paradigm and the methods chosen, and consequently, that epistemology informs method. The pragmatists do not agree. To them, methods are a collection of techniques that are not inherently linked to any paradigmatic assumptions. Thus, for the pragmatists, both method types can be associated with the attributes of a paradigm. Firestone (1987, p. 20) seems cautious in 'nailing his colours to the mast', although he admits, " ...one's choice of method is not as rigorously determined by the choice of paradigm as the purists suggest."

Bryman (1992) points out that one of the difficulties in representing the divergences between the two methodologies (used by him to refer to the epistemological issues) derives from a tendency for philosophical issues and technical issues to be 'treated simultaneously and occasionally to be confused' (p.75). He questions whether the former dictate the latter: what he makes clear is that if one *does* assign a method to an epistemological paradigm, and that since paradigms are meant to be incommensurable, then

In the context of this kind of discussion the question of techniques of investigation is no longer whether A is 'better' than B, but is A the most appropriate technique in terms of epistemological premise X?

However, he qualifies this by asserting that the question of the presence or absence of qualitative or quantitative data: "...is but a superficial manifestation of the underlying epistemological issues. Indeed, neither directly signifies the clusters of commitments for which they are presumed to stand" (Bryman, 1992, p. 80).

He notes that in the context of a particular study, a researcher may perceive areas in which a useful contribution might be made by both quantitative and qualitative *methods*, but that the epistemological issues are not, *ipso facto*, reconciled. I agree, hence the need for this discussion. The aim here is to explore the possibility of a rationale existing for the use of both methods on a technical level, whilst remaining in the same - interpretivist - paradigm.

He goes on to say (Bryman, 1992, p. 81) that there may indeed be a case for saying that techniques are *neutral* in respect of epistemological issues and debates. Such arguments:

...seem to be that quantitative and qualitative methodology (and their various synonyms) are or exhibit distinctive epistemologies, and that particular methods of research are appropriate to each. The argument of this article is that, while they are highly stimulating suggestions, they need to be subjected to considerable investigation before they can be considered axioms of research in the social sciences.

If the 'link' between epistemology and method is not axiomatic but rhetorical, as Firestone (1987) and McLaughlin (1991) assert, then this rhetoric, it is felt, is not sufficient to constrain against the use of both methods within the same epistemological paradigm. It will be taken here that rhetoricism seemingly dominates and no axiomatic position is held on the issue of epistemology informing method. If this can be reasoned, then I contend that the interpretivist paradigm does not preclude the deployment of *both* quantitative and qualitative methods.

The argument for epistemology informing method is seemingly derived from the 'logic of justification' issue: this is the central argument offered by Smith and Heshius (1986). Their paper is articulate and persuasive. Their concern, echoing Bryman (1984), is misconceptualisations about the issues; these misconceptualisations arising out of confusion of the term 'method'. They propound that method may be taken as technique, which is acceptable, but that the wider debate is about epistemological assumptions. Method - as 'logic of justification' - means that two methods, quantitative and qualitative, may not be combined in any form. 'Logic of justification' is explained (Bryman, 1984, p. 8):

This conceptualisation involves such basic questions as, 'What is the nature of social and educational reality?' 'What is the relationship of the investigator to what is to be investigated?' and 'How is truth to be defined'?

The focus here is upon validity, and if the two epistemological positions define truth differently, each will have a different conceptualisation of validity. It is clear, that Smith & Heshius (1986, p. 8) see a causal link between method and epistemological position, disagreeing with Oakley (2000), Sells et al. (1997), Bryman (1984, 1992), Hammersley (1992, 1996), Firestone (1987) and McLaughlin (1991), who consider the link far from certain. Smith and Heshius (1986, p. 8) assert that "The point here is that method as logic of justification, involving as it does basic

philosophical assumptions, informs method as technique, and the two terms cannot be used interchangeably."

Again, the basis of this assertion is the 'logic of justification' that one accepts. Smith and Heshius show a rather explicit bias towards quantification and the associated paradigmatic assumptions of positivism. In discussing the quantitative approach, they give that (1986, p. 9):

In fact, procedures [quantitative]...in that they assure objectivity and so on, lead to results that are thought to be compelling. Rejection of such results may provoke the criticism that one is being irrational or stubbornly subjective.

Firstly, Smith and Heshius make no mention of confidence levels, the correct application of 'valid' statistical techniques or a 'valid' interpretation of such. They make no defence of how such results may be 'compelling'. *There are lies, damn lies and statistics!* Their inference, that one who does not accept such 'compelling results' - or more accurately, the interpretation of such results - is being 'stubbornly subjective', will be sad news to those who take a constructively critical view of any research. Secondly, it appears that Smith and Heshius are firmly entrenched within the positivistic paradigm: thus, can they 'objectively' evaluate, from within that paradigm, the use of methods associated with another? Consider (1986, p. 9):

For quantitative inquiry, a logic of justification that is epistemologically foundational leads to the position that certain sets of techniques are epistemologically privileged in that their correct application is necessary to achieve validity or to discover how things really are out there.

Hughes and Sharrock (1990) characterise positivism as 'bordering on the arrogant'. The above demonstrates Smith and Heshius' commitment to objective reality and positivism, which in itself is fine, but is it a congenial base for one to discuss the possibility of combining both methods of investigation? Consider their approach to qualitative inquiry (1986, p.8):

[qualitative inquirers]...are not foundationalist and, by extension, do not allow that certain sets of procedures are epistemologically privileged. The idealist-oriented assumptions of reality as mind-dependent, no separation of facts and values, truth as agreement and so on, are antifoundational; they undermine the prospect of independent access to an independently existing reality and, in so doing, undermine the possibility of certitude.

Thus, for Smith and Heshius, the question of the logic of justification separates the two methods at the epistemological level: they argue that there is a direct causal link between epistemological position and method. However, for this to be supported, they invoke - not without bias - the idea of the privileged position of quantitative method due to its arising from a paradigm that allows certitude of how the world 'really' is. They are against, it appears, not the use of both methods in the same research design, but the use of qualitative methods and the interpretive paradigm *per se*.

Smith and Heshius' argument that quantitative and qualitative method cannot be combined complementarily is rejected. They promote not a discussion on complementarity but on the superiority of the quantitative method, deriving as it does from the positivistic paradigm. Consider their statement (1986, p. 11):

The phrases "research has shown..." and "the results of the research indicate..." are subject to different interpretations, given different paradigms. For quantitative inquiry, these phrases are claims to an accurate reflection of reality or the claim of certitude that one has discovered how some bit of the social or educational world really is. For qualitative inquiry, these phrases announce an interpretation that, to the extent it finds agreement, becomes reality for those people as it is at any given time and place. *The former expresses certitude; the latter presents a description constrained by values and interests to be compared with other descriptions constrained by other values and interests* [italics added].

But this 'certitude' is overplayed. In earlier writings, Smith (1984, p. 380) complained that Dilthey (1977) had an incongruency of argument when he argued for 'understanding in context' and his acceptance that interpretations could vary. Smith (1984) says that 'given this position, could there be any such thing as correct interpretation?' But Smith is adjudging this in terms of 'correct' when measured against an objective 'truth' and an objective 'correctness'. He further (p. 383) complains that

The assumptions of multiple realities and reality as mind-involved seriously undermine the notion of applying criteria to distinguish trustworthy results from untrustworthy ones...if one accepts these assumptions, different claims about reality result not from incorrect procedures but from one investigator's interpretation of reality versus another's.

However, this is to want a definite, objective reality and certitude. I argue that the complexity of human interaction cannot be reduced to certain and definite answers that constitute knowledge. Clear statements of assumptions and approaches adopted will assist in the evaluation of any study; this evaluation can adjudge on congruency of approach and design. Wanting such certitude may lead to favouring the quantitative method and the decrying of the qualitative. This is an unfortunate reason for rejecting the utility of qualitative approaches. Smith's assertions above are neatly countered by Popper (1963, p. 25):

The question about the sources of our knowledge...has always been asked in the spirit of: 'What are the best sources of our knowledge - the most reliable ones, those which will not lead us into error, and those to which we can and must turn, in case of doubt, as the last court of appeal?' I propose to assume, instead, that no such ideal sources exist - no more than ideal rulers - and that *all* 'sources' are liable to lead us to the question of the sources of our knowledge by the entirely different question: *'How can we hope to detect and eliminate error?*

The quantitative analysis and interpretation of data is also often subject to values and interests: quantitative method as a 'value free' method - implied above - is not accepted here. Neither is it accepted by Bavelas (1995) who doubts whether there are ever any inherently 'objective' methods and data. Within any study, the logic of justification will come from careful consideration of the results of both methods, and not rely upon the tenuous notion that 'proper' quantitative application of method automatically allows such logic of justification. *'No technique is self-validating* (Wolin, 1973). Thus, Smith and Heshuis' (1986) argument against complementarity will be rejected.

Several other such 'distinctions' between the methods will now be discussed.

Quantitative and Qualitative Distinctions

What of other 'traditional' distinctions between qualitative and quantitative techniques? May they prohibit the deployment of both techniques within the same research design? Hammersley also refers to 'pragmatist' and 'purist' approaches, placing them initially upon two ends of a spectrum. However (1992, p. 160),

...there are some serious problems with the 'paradigm' view of the relationship between qualitative and quantitative approaches: for one thing, if we look at research today in the human sciences, we find that much of it does not fall neatly into one or the other 'categories.' There are multiple methodological dimensions on which research varies: these do not lie in parallel and each involves a range of positions, not just two.

Consider the distinction, often given for qualitative and quantitative methods, that one deals in 'verbal data' and the other 'numerical data'. Miles and Huberman (1984, p. 1) say that qualitative data consists of words rather than numbers. This is not a comprehensive distinction and certainly does not recognise the *degree* of each that may be used. This distinction is, therefore, questionable. Most quantitative data is ultimately accounted for in words. Qualitative researchers often code their data, and use terms such as 'regularly', 'frequent', 'sometimes' and 'often', and the fact that they use words does not alter the nature of their claims. Systematic observation involves quantification: some qualitative interviewers may use quite direct interviewing strategies (Croll, 1986). Bavelas (1995, p. 59) asserts that to maintain such a dichotomy would require all words such as 'many', 'often', 'several' and 'usually' to be 'expunged from the word processors of qualitative researchers.' Is such a 'divide' acceptable? I claim not.

The 'precision of description' is another area of supposed distinction. Consider Hammersley's assertion (1992, p. 61) on precision of description:

...this does not allow a clear-cut decision between the two options. The levels of precision adopted by quantitative researchers vary according to the nature of the data available and the purposes for which their measurements have been carried out...it is also true that adequate precision may not always require the use of numbers. It may not be legitimate to use terms that are more precise than 'sometimes', 'often', 'generally', and so on.

Thus, there appears no stark contrast between the 'verbal' and the 'numerical' data treatment, or even between 'precise' and 'imprecise'. Rather, there is a *range* and *degree* of judgements involved. Thus our decisions about what levels of precision, structure and context are appropriate in relation to any particular study should depend upon the nature of what we are trying to describe, upon our purposes, and upon the resources available to us, not upon ideological commitments to one methodological paradigm or another (Hammersley, 1992).

A further distinction is that of the quantitative researcher collecting data in a 'natural' setting and the qualitative researcher collecting in an 'artificial' one. This is not another simple dichotomy, as Hammersley notes (1992, p. 163),

...over and above this, though, the distinction between artificial and natural settings is potentially misleading. What happens in a school classroom or a court of law is no more natural than what goes on in a psychological laboratory. To treat classrooms as natural and experiments as artificial is to forget that social research is itself part of the social world, something that should never be forgotten.

Bavelas (1995) raises the point that all behaviour is situationally grounded, that there is always a context that affects behaviour, and that context can be hidden but not eliminated by being held constant.

Further dichotomies encountered in the quantitative-qualitative debate are realism versus idealism; naturalism versus anti-naturalism, and deductivism versus inductivism. Hammersley (1992, p. 164) deconstructs the realism versus idealism distinction by quoting the work of George Lundberg, 'a positivistic champion of quantitative method' who says,

In any valid epistemological or scientific sense we must say that the substitution of a Copernican for the Ptolemaic theory of the universe represented a major change in the universe. To say that is was not the universe but our conception of it that changed is merely a verbal trick designed to lead the unwary into the philosophical quagmires of Platonic realism, *for obviously the only universe with which science can deal is 'our conception of it'.* [italics added]

Here is a 'positivistic champion' giving an idealist account in natural science. Lundberg was strongly influenced by the 'operationism' movement in psychology, a position whose advocates insisted that it made no sense to see measurement operations as representing some reality existing beyond them, since there could be no knowable reality beyond experience. Hammersley (1992, p. 165) tells that researchers such as Porter (1993) and Miles and Huberman (1984) who claim allegiance to qualitative method, also 'declare their allegiance to realism'. What this suggests, he notes, 'is that there is no simple match between the realist/idealist and quantitative/qualitative distinctions'.

The naturalist/anti-naturalist 'distinction' would also appear to be to be a tenuous one. Quantitative method is often regarded as taking the natural sciences as its model, whilst qualitative researchers reject that model. However, what natural science is being taken as the 'model'? Physics? Biology? Geology? What interpretation of the methods of natural science is being adopted here? Positivism? Realism? Conventionalism? In terms of Naturalism then, Brannan (1992, p. 166) asserts "...we do not find a contrast between just two incommensurable philosophical positions, and neither quantitative nor qualitative research is exclusively wedded to one position."

What of deductivism versus inductivism? Qualitative research may be characterised by the hypothetico-deductive method (see Bavelas, 1995). Strauss (1987) refined his and Glaser's previous (1967) method of grounded theory saying that it 'involves not only induction but also deduction and verification'. Quantitative research may be concerned with theory generation, as found in any formulative studies. In fact:

...of course, all research involves both deduction and induction in the broad sense of those terms: in all research, we move from ideas to data as well as from data to ideas. One can distinguish between studies that are primarily exploratory, concerned with description and with generating theoretical ideas, and those that are more concerned with testing hypotheses. But these types of research are not alternatives: we need both. Nor is the former necessarily quantitative and the latter qualitative...thus, it seems clear, then, that the paradigm view of the relationship between quantitative and qualitative approaches is empirically inaccurate, not just at the level of method but also at that of the philosophical assumptions guiding research. It is also misleading in its portrayal of the options available to researchers: it implies that we are faced with two homogeneous traditions that are internally coherent and base upon opposing philosophical views. In fact, there is a considerable range and variety of techniques for data collection and analysis in psychology and the social sciences; *and there is no fixed relationship between particular views and the use of particular methods* [italics added]. (Hammersley, 1992, p. 167)

He balances his advice for 'methodological eclecticism', by claiming that researchers should not forget the inherent differences that the paradigms of phenomenology and positivism have when it comes to their view of the world and the nature of reality. However, he notes that the quantitative-qualitative distinctions are unhelpful here; that 'wedding' each to a respective paradigm blurs the issues of epistemology.

Hughes and Sharrock (1990, p. 15) argue

It is common, but, in our view misguided to present the case against positivism as an argument against, for example, the social survey. Or, alternatively, to suppose that indicating some valid uses to which the social survey may be put...is to offer a defence against the critiques of positivism. The fact that one can concede some utility to the social survey is largely irrelevant to the argument over positivism.

It will be argued here that the use of an inventory and the resulting quantification do not suggest an adherence to positivistic philosophy, thus diluting the problem, seemingly apparent at the outset, of 'fluctuating' between paradigms. The social survey is a pragmatically developed device that has no necessary identification with the ideals, aspirations or requirements of positivism (Hughes & Sharrock, 1990).

It is felt sufficient acknowledgement of the importance of epistemological issues has been forwarded here. The argument is that one must not, or more accurately cannot, alternate between paradigms. It has been argued that by using both quantitative and qualitative methods, such a fluctuation will not occur, as method is not linked to epistemology in a manner that prohibits such an approach. In short, quantitative method may be used in an interpretivist paradigm. The use of quantitatively analysed inventories by no means antagonises the acceptance of and adherence to the ontological and epistemological assumptions of an interpretivist paradigm. A fluctuation between paradigms is not necessary, even if it were possible.

Integration or Complementarity?

Nau (1995, p. 47) in a concise and fluent piece refers to the Tripp-Reimer study (1995) where qualitative questions are used to inform the quantitative ones. He says

Qualitative and quantities methods used in conjunction may provide complementary data sets which together give a more complete picture than can be obtained using either method singly.

The key term here is 'complementary'. Along these lines, Sells, Smith, and Sprenkle (1995), talk about quantitative and qualitative methods 'building upon each other'. This again is in the *complementary* mode, rather than upon the integration of both methods. Triangulation is often called upon to explain the integration of quantitative and qualitative methods, but as Bryman (1992) points out, in spite of its intuitive appeal, triangulation is by no means unproblematic. Quantative and Qualitative do have contrasting strengths and weaknesses. The very fact that the quantitative approach emphasises causality, variables and a heavily pre-structured approach, whilst qualitative research is concerned more with elucidation of subjects' perspectives, process and contextual detail (see Bryman, 1992) means that the resulting data may not be as comparable as advocates of triangulation sometimes argue. Further, of course, if the qualitative data disagrees with the quantitative, which is to be believed? Combining methods carefully and purposely may add breadth and depth to analysis, but I argue, only if methods are combined within a research design in a *complementary* fashion. That is, if the design aims to address several questions, each of these questions may be best suited to one or other of the quantitative or qualitative methods, and the results may usefully add depth and breadth to the overall research aim.

The use of both quantitative and qualitative data collection and analyses techniques may not always be justified by recourse to the claim of 'triangulation'. The methods in a research design may be *complementary*, but not always *integrated*, as it is recognised that the two methods generate different types of data, and cannot be expected to achieve a 'rounded unity'. However, the relative merits of the two approaches may be expected to assist in both the clarification of and explanation of social action and meaning.

Closing Down or Redirecting the Debate?

What should happen now? Howe, nearly 10 years ago (1992), focused upon this point. He refers to Dewey (1981, p. 41) who observes, "Intellectual progress usually occurs through sheer abandonment of questions together with both alternatives they assume…we do not solve them: we get over them."

Smith and Heshius (1986) wanted to shut down the QQD. This has obviously not happened; but retaining the QQD may be both fortuitous and problematic. I argue it is fortuitous for the following reason.

Students in a range of disciplines need to become familiar and cognisant with research methodology in all its forms. How the QQD came about, what basis the discussions took, what philosophical - ontological, epistemological - sociological and historical arguments were evoked, and how the debates proceeded, are excellent ways to experience and learn about research and research processes. The QQD has much value in allowing trainee researchers to explore and

examine commitments to paradigm, and therefore to 'truth', 'reality' 'procedure' and 'evidence'. Research cannot be separated from these concepts. Howe (1992, p. 254) intimates that the quantitative-qualitative 'split' is an invention and that researchers 'can go about their business unconcerned with the putative epistemological paradigm split'. Nevertheless, this should only be the case after the QQD has been studied. Essentially, I claim that we should get over it but leave it as a teaching/learning tool and not a concern that hinders progress. Bavelas (1995, p. 49) claims that false dichotomies are 'best handled by ignoring them and going in a direction completely independent of both sides'. She is right to assert that we should reject polarisation and seek combination, as only by doing so may researchers progress. I contend we should not be ignorant of and ignore the situation; we should note our stance and, where necessary, defend for a complementarity of method.

Howe (1992, p. 255) eloquently ends his piece thus:

If there is anything inspired by the quantitative-qualitative debate that we cannot - or should not - get over, the problem of resistance has to be it. In one sense this is a welcome problem, for grappling with it helps to focus attention on a fundamental question: how to make research serve a democratic society.

The deconstruction of the QQD has been approached many times before, showing how both methods may be used in the same research design. However, far less attention has been directed towards a complementary approach rather than a 'mixed' approach, and even less attention has been given to 'getting over the debate' and retaining it as a learning function.

However, retaining the QQD may be problematic for the following reasons. Rabinowitz and Weseen (1997) have produced probably the best and most practical study into the QQD debate. They are alone in a considerable amount of literature in focusing upon how the QQD has affected trainee researchers. Their findings highlighted that the negative affects created by power dynamics within the profession and the varied political allegiances all affected how the QQD was approached. More importantly, Rabinowitz and Weseen's study showed that the many research 'allegiances' are the result of politics, peer group influence and personal preference rather than being based upon rational argument. When highlighting such aspects, they say (p. 9),

Along the low road of the debate, however, long-standing prejudices and animosities pervade the scene but go largely unmentioned in public forums…these 'dirty secrets' so often are glossed over or denied in the debates about methodology.

Nonetheless, although of obvious concern, the above issues, it is felt, should not close down the debate and should not be allowed to hinder constructive dialectic.

Maintaining Quality with a Complementary Approach

Firstly, there is objectivity as 'freedom from bias' referring to dependable knowledge, checked, controlled and undistorted by personal bias and prejudice (Kvale, 1996). This conception of objectivity implies a 'craftsmanship' in the research process; quite simply, following good research practice. Any research should aim to present all considerations in its design to this end.

A second conception is the more positivistic version whereby the researcher is value-free and removed from affecting the research in any way; that the researcher may 'stand back' from the object under investigation thus enabling impartial and unaffected results. I cannot accept the validity of such a conception. It may appear easier to critique the objectivity of a sampling technique, a statistical method chosen and the degree of confidence accepted. By definition, the qualitative inquirer cannot claim to be 'detached' from the research in the same way that the quantitative inquirer *may* claim to be. But Scriven (1972) has argued that quantitative approaches can be *equally* susceptible to subjectivity. The ways in which questionnaires are worded are clearly open to subjectivity; all statistical data are based upon someone's definition of what to measure and how to measure it (Patton, 1987). The degree of subjectivity and bias lies in the researcher and the approach taken. To paraphrase Guba (1978), research should be reliable, factual and confirmable. He notes that 'neutrality' is important; the researcher should strive to be as impartial as is possible and not be predisposed to a certain outcome.

Secondly, Eisner (1993) discussed the feasibility of *ontological objectivity*, or seeing things as they really are. But Kant held that we may only know the *phenomena* - or things as they appear. Eisner (1993) and Phillips (1993) claim that we may never achieve ontological objectivity, and we that should not strive to achieve such impossibility. However, *procedural objectivity* is a third type of objectivity. This is achieved by using a simple approach that aspires to eliminate, the scope for personal bias in research by making explicit the compilation of the research design and allowing full inspection of choice of method(s). It is this procedural objectivity that may help to increase a critical approach, and where such is discussed and given, confidence in claims made can be enhanced.

A further conception of objectivity to be offered here is subjectivity as *intersubjectivity*. Here, the interview may be seen as existing in an interpersonally negotiated social world: the interview is sensitive to and reflects the nature of the object investigated, as in the interview situation, the 'objects speak'. Kvale (1996, p. 65) explains, "...with a conception of intersubjectivity, the interview attains a privileged position - it involves a conversation and negotiation of meaning between the interviewer and his or her subjects."

The essence of the interview method is this intersubjectivity - intersubjective interaction. The realist version - that an objective reality exists independently of the observer and that only one correct view of it can be taken - is rejected here, in line with the interpretive paradigm. From such a standpoint, 'subjective' is synonymous with the respondent's perspective; to be subjective, therefore, is to 'tend' to this viewpoint - something Maykut and Morehouse (1994, p. 14) refer to as 'perspectival'. Kvale (1996, p. 66) outlines a 'dialogical conception of truth', where knowledge is sought through rational discourse by participants: "As the medium of discourse is language, which is neither objective or universal, nor subjective or individual, but *intersubjective*" [italics added].

I welcome the *intersubjectivity* offered by the interview situation - and indeed the questionnaire approach, as this method too contains a researchers 'perspective'. Objectivity should be offered in its *procedural* form, where a researcher present their methods, rationale and approach for inspection, for the purpose of others to determine any level of bias and the acceptability of the procedures. Consider Phillips (1993, p. 71) on objectivity:

It turns out, then, that what is crucial for the objectivity of any inquiry - whether it be qualitative or quantitative - is the critical spirit in which it is carried out. And, of course, this suggests that there can be degrees... 'objectivity' is the label - the stamp of approval - that is used for inquiries that are at one end of the continuum; they are inquiries that are prized because of the great care and responsiveness to criticism with which they have been carried out. Inquiries at the other end if the continuum are stamped as 'subjective' in that they have not been sufficiently opened to the light of reason and criticism. Most human inquiries are probably located somewhere in the middle, but the aim should be to move in the direction that will earn a full stamp of approval.

Summary and Conclusions

Using both methods would appear to raise epistemological questions regarding the fluctuation between the interpretivist and normative paradigms. However, the argument has been offered that the social survey - of which the inventory is seemingly a feature - is not necessarily of a positivistic nature. It is a 'pragmatically developed device that has no necessary identification with the ideals, aspirations or requirements of positivism' (Hughes & Sharrock, 1990, p. 15). Further, an argument has been forwarded that method is not necessarily informed by an epistemological stance in any more than a rhetorical fashion. Thus, the charge of a fluctuation between paradigms that may result from the use of a quantitative inventory and a qualitative interview can be countered. Further still, it has been argued that quantitative method of data collection and analyses may be employed within an interpretivist paradigm.

For any research design, a methodologically aware eclecticism may result in a principled deployment of both quantitative and qualitative methods in a complementary fashion based on the following principles:

- No more than a rhetorical link exists between method and epistemology.
- The 'distinctions' between quantitative and qualitative methods are often erroneous and do not always reflect differing paradigmatic assumptions. More often, they reflect the personal choice of the researcher.
- Both methods may be employed within the same paradigm.
- Both quantitative and qualitative method may be used within a single research design.
- The quantitative-qualitative debate should be kept and open and unfettered discussion encouraged.

I claim that adherence to the interpretative paradigm may not preclude the use of eclecticism of method. For as long as experienced and 'noted' researchers insist on personal preferences as having a basis in epistemology - but without offering sound rationale - the design of research studies will always be the weaker. I claim that a congruent approach to research philosophy supports this assertion.

Thus, the use of data, and the nature of the source of that data, does not create a distinction as strong as is sometimes thought. There is a range of methods used by researchers; these cannot be reduced to simple dichotomies without considerable distortion. Furthermore, selection among these methods requires judgement according to situation and purpose, rather than judgement based on a commitment to one or other competing views of the world and the nature of inquiry.

In order for the QQD to aid trainee researchers, power, personal preferences and politics should be minimised wherever feasible.

King, Keohane, and Verba (1994, p. 37), writing on the design of social enquiry, say that: 'we seek not dogma, but disciplined thought'. If this can be achieved then Sieber's 1973 observation that in the interest of improving our strategies in social research, the boundaries between the two traditions should be dissolved and attention turned to their intellectual integration, may be realised. This must surely be the way forward for any research design - PhD or otherwise.

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Author Note

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