Analysis of the Ontological, Epistemological and Methodological Assumptions in Two Leadership Development Articles

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Abstract: Leadership development is a multifaceted and complex subject of research and demands a sound ontological, epistemological and methodological stance that guides studies for the development of more integrative leadership theories to support the development of school leaders. The review to follow is a comparative analysis of two studies conducted in the field of education leadership development published in Education Management and Administration and the other from a UK perspective in Educational Review. The aspects to be compared will be as follow. First, brief description of each study will be presented. Second, the ontological, epistemological and methodological assumptions underlying each study will be compared. Third, the article by Bush and Jackson: A Preparation for School Leadership. The Qualitative Paradigm offers a comparative overview from an international perspective. Fourthly, Rhodes, Brundrett, Nevill study is a mixed-method Approach Just the ticket? The National Professional Qualification and Transition to Headship reviewed and analysed. Finally, a critique of each study will be presented.

Keywords: Analysis of the Ontological, Epistemological, Methodological, Educational Leadership, Leadership Development

I. INTRODUCTION AND BACKGROUND

This paper will discuss the ontological, epistemological and methodological assumptions made by the authors of two key works that were particularly influential in relation to my own published doctoral thesis topic of" Effectiveness of School Leadership and Management Development in Cameroon: An Evaluative Case Study", in which the researcher explored leadership development strategies for aspiring school leaders such as primary head teachers and secondary principals (Ebot Ashu, 2014).

The two articles which I selected to analyse here each discuss approaches to the development of school leadership skills, one from a comparative international perspective, and the other from a UK perspective. They each, therefore, offer insights that, whilst they may or may not turn out to be valid for my own topic, with its focus on Cameroon, are certainly potentially relevant and therefore worthy of detailed consideration, both in this paper and in the full exposition of my research topic.

The articles are:

- 1) Bush, T. and Jackson, D. (2002) A Preparation for School Leadership: International Perspectives. *Education Management and Administration*, 30 (4), 417-429.
- 2) Rhodes, C., Brundrett, M., Nevill, A. (2009) Just the Ticket? The National Professional Qualification and the Transition to Headship in the East Midlands of England. Educational Review, 61 (4), 449-468.

This paper will commence with a discussion of the underlying philosophical preconceptions in the field of educational research before, from this basis of understanding, moving on to analyse in detail the assumptions in each of the above articles, in turn.

II. ONTOLOGY, EPISTEMOLOGY AND METHODOLOGY IN EDUCATIONAL RESEARCH

The purposes of education research might be defined as to investigate knowledge, establish the principles and solve the problems in educational phenomena. Research itself, however, is not something that stands alone, inviolate, without philosophical and thereafter methodological principles behind it. To be able to understand the nature of research, it is important to understand the underlying philosophical assumptions that are attached to it.

It is for this reason that I think it is important, before analyzing the philosophical assumptions made by the authors of the two selected articles, firstly to establish my position in relation to providing an interpretation of educational research. It is also, vital, to my opinion, that I explain briefly what I understand by the philosophical terms used in this discussion.

Ribbins and Gunter (2002, 2003) have conceptualised what they call the 'five knowledge domains' of education related research. Their work provides a useful starting point for researchers in the field of educational studies to focus and position their research within a wider philosophical framework.

The Five Knowledge Domains

Table 1: The Five Knowledge Domains (Adapted from Ribbins and Gunter, 2002, p. 378)

Knowledge domain	Meaning
Conceptual	Concerned with issues of ontology and epistemology and with conceptual clarification.
Humanistic	Seeks to gather and theorise from experiences and biographies.
Critical	Concerned to reveal and emancipate practitioners from the various forms of social injustice.
Evaluative	Seeks to abstract and measure impact at micro, macro and meso levels of social interaction.
Instrumental	Provides effective strategies and tactics to deliver organisational goals.

This paper, for example, might be described as sitting wholly within the "conceptual" knowledge domain, whereas my main thesis is situated largely in the "humanistic" and "evaluative" domains.

If Ribbins and Gunter 'domains seek to delineate the higher level "aims" of a piece of research, Cohen *et al.* (2003) and Nwokah *et al.* (2009) discuss how research traditions tell us about the philosophical assumptions researchers have about the world and the nature of knowledge. Table 2 provides a brief overview of the subjective and objective approaches to knowledge that will be discussed below. It highlights the different views of reality that might, at a fundamental level, inform the researcher's approach (Cohen *et al.* 2003).

Table 2: Approaches to Knowledge (Adapted from Cohen et al. 2003)

Subjective Approach		Objective Approach
Reality and truth are the product of individual perception. There are multiple realties shared by groups of people.	Ontology	Reality and truth are a "given" and are external to the individual. There is a shared reality that most people would subscribe to.
Knowledge is subjective and is based on experience and insight. Normally researched using qualitative methods.	Epistemology	Knowledge is hard, real and capable of being transmitted in a tangible form. Normally researched using quantitative methods.
Human beings are creative and exercise agency. "Agency" is about your ability to be in control of your life and work, to take responsibility, and to make decisions.	Human Nature	Human beings are determined by their environments. "Structure" is about how external power and control structures (both organizational and cultural) determine your life and work.

While Cohen *et al.* (2003) outlines three "dimensions" of philosophical assumption, which underwrite the basic approaches towards research in the social sciences, Nwokah *et al.* (2009) derive from Burrel and Morgan (1979) a fourth

"dimension", namely methodology (Nwokah et al. 2009, p.432).

From the model above, ontological assumptions in research have to do with the understanding of the fundamental nature of reality. Whether, in short, the reality to be investigated is external to the individual - imposing itself immutably on individual consciousness from without - or whether it is in some sense the product of individual consciousness. The two opposing positions are the realist position which holds that reality is external to the individual and the nominalist position that asserts that reality is the individual's own making (Cohen et al. 2007). Clearly there is a continuum of perspectives here and whilst few researchers are resolutely at either extreme of that continuum all are, consciously or otherwise, positioned somewhere on the continuum.

From an ontological foundation, epistemology, in its turn, is concerned with the study of the nature of knowledge and what we accept as being valid knowledge, or how scholars come to know the world, both through prior means and through posterior means of observation, sense, impression and experience (Cohen *et al.* 2003). To be able to study the nature of this ontological 'reality' the researcher will have to ask an epistemological question as to what might represent knowledge or the evidence of this 'reality'.

The two epistemological positions equating to the realist and nominalist ontological paradigms are the positivist and the interpretativist. The positivist approach to epistemology is to seek to test hypotheses by empirical means. The methodology and results are thought to be objective through the application of scientific method (Crotty, 1998; Pring, 2000; Kincheloe & Berry, 2004).

In contrast, the interpretative approach to epistemology investigates phenomena in a variety of ways. It tends to base outcomes within a social context informed by the experience and insight of the respondents and accepts that, in investigating social phenomena, there may be many valid interpretations (Denscombe, 2003).

In the Social Sciences Nwokah *et al.* (2009), drawing on Burrel and Morgan (1979), suggest that positivism is used to characterize epistemologies which seek to explain and predict what happens by searching for regularities and causal relationships between the constituent elements of the research. Positivists are objective in nature and believe that the researcher can be independent from that being researched. The positivist believes that only phenomena which are observable and measurable can be validly regarded as knowledge (Nwokah *et al.* 2009).

The interpretive view, on the other hand, contends that the observer inevitably makes a difference to the observed and that reality is a human construct. With the belief that knowledge is subjective, this viewpoint will tend to give meaning and value to the observations and perceptions of participants in the research process (Schwandt, 1993, Nwokah *et al.* 2009). The data gathered will be the perceptions and

views of the sample of different sub groups which constitute a form of reality, in turn interpreted by the researcher.

Finally in this section let us turn to methodology. Nwokah *et al.* (2009), drawing on Cooper and Schindler (2002), define methodology as the overall approach to the research process. In contrast to ontology and epistemology, methodology concerns the way in which knowledge of the phenomenon is acquired.

The basic distinctions, paralleling the ontological and epistemological dichotomies we have observed above, are between quantitative and qualitative methodologies. A quantitative approach is naturally affiliated with a positivist epistemological outlook, whereby the researcher acquires a fixed knowledge of reality through the analysis of data that is perceived as objective and verifiable, crucially, through being repeatable. In contrast a qualitative approach follows a broadly interpretative epistemological outlook where information is collated through the filter of experience, outlook and scholarly debate in a way which emphasises its cultural and contextual nature and which sees its conclusions as being qualified by or subject to its context, and as being continually negotiated and varied.

Singh (2009), drawing on Johnson *et al.* (2007) points out that in practice, and especially in educational research, quantitative and qualitative approaches are often combined in mixed methodological approaches to research questions. He also postulates definable sub-types based on the relative proportions of quantitative and qualitative methods in the research, as illustrated in figure 1.

Figure 1: Sub-types based on the relative proportions of quantitative and qualitative methods in the research

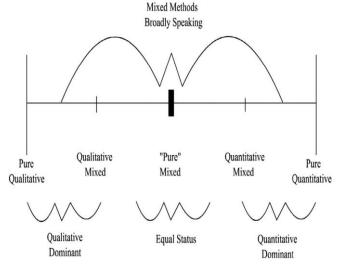


Figure 1: Graphic of the Three Major Research Paradigms, Including Subtypes of Mixed Methods Research (Adapted from Singh, 2009, p. 99).

Similarly, Cohen *et al.* (2003) and Nwokah *et al.* (2009) argue that the most adept researchers have a working knowledge of multiple research traditions and methodological approaches and are not limited by their original preference for one

particular tradition. They are, therefore, able to select an approach, or a combination of approaches, that best fits the nature of the problem or situation that they encounter, and the goal of the study or inquiry.

It is from this background understanding of how the ontological, epistemological and methodological traditions in research interrelate that we will now move on to consider their practical application in the two sample articles.

III. BUSH AND JACKSON: THE QUALITATIVE PARADIGM

The article by Bush and Jackson offers a comparative overview from an international perspective of the type, content and scope of programmes designed to develop skills in school leadership (principally for aspirant leaders but also for new and experienced head teachers).

The article commences with a literature review which identifies firstly a wide-spread acceptance of the value of strong leadership in educational settings and, secondly, the central role of the head teacher in providing this leadership, even in models where school leadership is relatively dispersed (Mortimore et al. 1993; Stoll and Fink, 1996). Bush and Jackson also identify early in their article that there is a patchy picture internationally in respect to the level of training provided for school leaders. They suggest that the most developed leadership training is provided in the United States but also that this model is not replicated elsewhere (p.418). For Bush and Jackson, however, the combination of the National Professional Qualification for Headship (NPOH) and National College for School Leadership (NCSL) demonstrates a significant and unique commitment to research led development of school leadership skills in the UK.

From this basis Bush and Jackson offer an analysis of an international programme of visits by the NCSL. They state that the NCSL had been committed from its foundation to learning from international experience and that the programme of visits which they analyse in this paper constituted a core element of the College's attempt to meet that commitment. They indicate that the aim of the programme was to gather 'intelligence' about how school leadership training was delivered with the view then to informing policies and decision making within the College and, ultimately, policy and practice nationally. Visits were undertaken across fifteen centres in seven countries with each visit involving teams of two or three people, including school principals, NCSL senior staff and other professionals and academics directly connected with the College. The visits were intended to be exploratory and lasted only three or four days, during which time they scrutinized centre materials, spoke to providers and participants, visited schools and, in some cases, witnessed training activities. Each team then prepared their reports which were discussed over a two-day seminar in Nottingham with subsequent agreed conclusions assessing the implications for college policy, research and

programmes (p.419). The distribution of the visits is summarised in table 3 below:

Table 3:	Provision	for	aspiring	leaders

International	Mandatory	Optional	No
Centre	programme	programme	Programme
Australia:		√	
Victoria		•	
Australia: NSW		✓ ?	
Canada: Ontario	Principals' Qualification programme (PQP)		
Hong Kong	30 hours course ✓	✓ Master's courses	
New Zealand		✓	
Singapore	Diploma in education Administration (DEA) 1984 – 2000 Leaders in Education Programme (LIE) 2001		
Sweden			✓
USA: Chicago	✓	✓ Lunch	
USA: North Carolina	✓ Masters in School Administration (MSA)	✓ LPAP	
USA: Ohio	✓	✓	
USA: Pittsburgh	√	√	

Table 3: The provision of leadership training for school leaders as summarised by Bush and Jackson (2002) in A Preparation for School Leadership: International Perspectives.

Bush and Jackson's article then seeks to provide an analysis (in overview rather than in detail) of conclusions from this programme of visits. They discuss, in turn, provision for aspiring, new and experienced head teachers; how leadership development programmes were funded; how the relationship between theory, research and practice was handled in the programmes surveyed; the use of coaching, mentoring and internship techniques and the use of ICT.

What becomes clear very quickly on reading Bush and Jackson's article is that both the article and the programme of visits upon which it was based are highly subjective and qualitative in nature. Thinking back to the continuum of research paradigms discussed earlier in this paper, Bush and Jackson would be placed firmly at the qualitative end of that continuum.

The underlying assumption of the study is that an understanding of the reality of leadership training programmes (and valid conclusions about that reality) can be derived from the perception and the practices of the researched and researchers directly involved. From an ontological, epistemological and methodological perspective, Bush and

Jackson essentially follow Burrel and Morgan (1979) in taking the implicit position that one can only understand the leadership development of school leaders by obtaining first hand knowledge from survey respondents.

In respect to this study it is worth noting that qualitative studies tend to use small samples, possibly over a period of time. Because of their subjective nature, qualitative studies will use observations as a method to obtain different perceptions of the phenomena and in their analysis will be seeking to understand what is happening in a situation and look for patterns which may be repeated in other similar situations. This is an important distinction compared to the quantitative approaches to social science which lay emphasis on the importance of basing research upon systematic protocol and technique. Researchers who believe in a quantitative approach will probably use large samples and reduce the phenomena examined into their simplest parts.

Bush and Jackson by contrast seek to make broad subjective conclusions from a consciously small self-selected sample survey group. Indeed, they are quite open (p.419) that there was no real method to the selection of the international centres to be surveyed except through the experience and knowledge of the NCSL participants. Likewise, there was no aim to be either comprehensive in coverage or consistent in approach with the reports provided by participants varying considerably in scope and style.

This methodological approach is consistent with the qualitative and subjective epistemological and ontological assumptions that underpin the research. For Bush and Jackson their methods concord with the ethos of the NCSL which they summarise as follows (p.426):

The college is believed to be the first leadership centre in the world operating on a national scale and its programme of international visits, and its wider international aspirations, demonstrate a commitment to learning from good practice wherever it occurs (NCSL, 2007). Concepts such as "Learning from good practice", "learning and disseminating lessons from national and international practice" and being "an international hub" whereby ideas are shared, transferred and cross-fed – implicitly independent of any quantitatively based analysis of their value or efficacy – all point to a fundamental ontological perspective that the reality of school leadership development is not an absolute but rather a product of individual perception, for which reason there may be multiple valid ways of doing things. Similarly they indicate an epistemological perspective that knowledge about this reality can be arrived out through the unique experience, insight and interaction of the researchers.

A further feature of this approach is the acceptance of cultural and contextual difference. The authors refer to the rich diversity of provision internationally; they see these varied forms of provision as potentially equally valid in their own contexts. It is not clear, however, by what means culturally or contextually informed methods in one country might be

transferred successfully to a different cultural context. The authors (and the NCSL) seem to assume that it can but this is not explored in any depth.

To offer some conclusions, therefore, the reader here is placed very much in the hands of Bush and Jackson. One has to accept their selection and ordering of material; their judgement as to what is or is not valid and as to what conclusions might be drawn.

Although, clearly, the article is not attempting to provide a thorough and data heavy analysis, the authors are prepared to make some seemingly quite wide ranging conclusions. They state, for example, that "The content of educational leadership programmes has considerable similarities in different countries, leading to a hypothesis that there is an international curriculum for school leadership preparation" (p.420 – 421). This is despite their prior assertions (p.418) that most countries have no formal training expectation and that only the US has a fully developed and established programme (and even there provision varies between States). Whilst one could argue that they are simply stating that where there is a programme the content of those programmes is similar, it is also clear that their conclusions risk being over-ambitious based on the evidence that they have actually presented.

This is a consistent risk with research which is as qualitatively focused as this. The dividing lines between valid conclusions based on a range of subjective opinions and experiences and invalid speculation that goes beyond anything that could reasonably be sustained from the evidence are not clear. In addition, one might question whether the ontological "reality" that is being presented is so self-constructed that is value in other contexts is reduced. We are left wondering whether the similarity in training programmes, especially given the relatively rarity of such programmes internationally, really tells us very much that is of use at all.

IV. RHODES, BRUNDRETT, NEVILL- A MIXED-METHOD APPROACH

Rhodes et al. (2009) Just the ticket? The National Professional Qualification and Transition to Headship reviewed and analysed, firstly, the influence of twenty facets drawn from the National Standards for Head Teachers, published by the Department for Education and Skills, secondly, the benefits and shortcomings of the NPQH taught element, and thirdly the NPQH related experiences in schools, outside schools and in non-professional life which support aspirant heads to make the transition to headship.

Their study comprised a survey of 156 NPQH graduates, followed up by in depth interviews with 15 of these respondents. The article seeks to explore the evidence for the preparedness of NPQH graduates for transition to headship through assessing role conceptualisation, initial socialisation, role-identity transformation and purposeful engagement (p.449). Rhodes *et al.* argue that the NPQH has weaknesses, especially in relation to providing a framework within which aspirants heads are enabled to overcome personal and

professional difficulties in relation to the transition to headship. They suggest that some aspirant heads are overwhelmed by "deeply rooted perceptions of the difficulties associated with headship" (p.449) and that the NPQH does not provide sufficient confidence building, networking and contact with incumbent heads to address these perceptual concerns.

The study reported in this article uses the mixed methods approach to research, which we have defined above as the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study (Johnson and Onwuegbuzie, 2004).

In contrast to the Bush and Jackson article, therefore, Rhodes *et al.* employ some quantitative elements to temper the qualitative nature of their research. They start from an empirically defined "issue" – namely that the NPQH qualification only provides a conversion rate to headship of 43% of its intake (p.452). They argue that in the context of diminished interest among teachers for becoming head teachers and increased demand for head teachers such a conversion rate is concerning. They seek to explore this issue through a comprehensive and consistent survey of NPQH graduates – making sure that they cover the full range of those graduates who have become head teachers, those who are still looking and those who have decided that they do not wish to become head teachers, having taken the NPQH programme.

Furthermore, although the survey of NPQH graduates reviews the subjective opinions of the graduates as to their preparedness for headship, Rhodes *et al.* seek to temper the subjectivity of their outcomes by using a 'Wilcoxon Signed Rank Test' to analyse perceptions of preparedness with respect to each facet of the NPQH taught elements. They then further analyse this data using a 'Kruskal-Wallis Test' to analyse any difference between the respondent sub groups in their perceptions of preparedness with respect to each of the facets (p. 453).

In other words, Rhodes et al. apply quantitative statistical analysis in order to seek to give validity to their survey conclusions. For these authors, methodologically and epistemologically, the knowledge they are seeking to acquire can be demonstrated more or less absolutely through the statistical analysis of data. Ontologically their position is more complex in that they are dealing at a fundamental level with "opinions" and perceptions. The graduates whom they survey each individually offer a personal perception on their situation, on the NPQH course and on their preparedness. Although, collectively, the significance of these perceptions are tempered by the quantitative analysis it could not be said, at least from this article, that Rhodes et al. subscribe to a wholly realist ontological point of view. Their conclusions, for example, demonstrate that they recognise that within their data there exist multiple points of view and that the best one can hope for by way of conclusion is an indication of a potentially productive way forward.

The search for reality or truth in this study, therefore, follows a mixed method approach. Fundamentally the research problem is one that can only be accessed qualitatively in that one is dealing with people's perceptions, with relatively small sample sizes and within a classically social science context. The authors, however, make a conscious choice to introduce into this interpretative epistemological framework a positivist element through a degree of quantitative methodology.

It is important to note that they could have adopted an approach similar to that of Bush and Jackson. They could simply have interviewed and discussed perceptions of the NPQH with their survey respondents. The decision to eschew this qualitative extreme in favour of a mixed qualitative / quantitative methodology is significant therefore, and by no means a given, and it is in this respect that the comparison between these two articles has been particularly revealing and instructive.

V. CONCLUSION

What we have seen in this paper, therefore, is that each of the two articles is fundamentally qualitative and subjective but to differing degrees. Bush and Jackson offer a wide ranging and seductive overview of approaches to leadership training that emphasises cultural differences of emphasis within a generally consistent (they argue) framework of leadership development training. Rhodes *et al.* offer an approach that whilst at first sight is more rigorous and quantitatively informed than Bush and Jackson's, is nonetheless ultimately dependent on the subjective impressions of survey subjects.

This is not a criticism, however. In the context of this particular research material in the educational social sciences – it might be suggested that the opinions of the subjects are in fact of crucial importance. Whether an individual feels prepared for their role or otherwise is critical to their ability to deliver, and that is really the issue at stake in both these articles (although especially in Rhodes *et al.*). Quantitative methods of measuring leadership have a role to play (and at the extreme end one might see league tables and exam results as examples of just such a quantitative measure of the effectiveness of a school's leadership) but, the qualitatively informed approach is an equally (or arguably, perhaps, more) valid avenue into this area of research.

What we have seen in comparing these articles, however, is that a pure qualitative methodology carries with it risks in respect to being able to identify a valid survey sample and subsequently to defend conclusions drawn from this sample. The dividing lines between what one can validly conclude and what ventures into the realms of speculation are somewhat blurred and perhaps particularly difficult for researchers themselves immersed in the research to identify. In this regard, the mixed method approach adopted by Rhodes *et al.* is attractive in offering some distance the between researcher and the researched.

For these reasons, and mindful in particular, of the crosscutural context of my own research and the need (a) to conceptualise and formulate hypotheses and (b) to understand the perceptions of aspirant and existing school leaders I consider the kind of mixed method methodology utilised by Rhodes *et al.* as the most appropriate approach to adopt when undertaking my own research.

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