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'Teaching and Learning Research Methods – towards developing a deeper appreciation of their assumptions'

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Abstract

Quite often the approach adopted by tutors to the teaching and learning of research methodology at undergraduate and, sometimes even at postgraduate level, is to teach students to be able to set a question and to go about trying to answer it in the way of research. This is a pragmatic approach to an important area of scholarship which deserves something more special than what is being provided in frequently used books on research methods (see Easterby-Smith et al 2002; Saunders et al 2012). Given the simplistic nature of this approach teaching and learning how to become competent researchers has been reduced to teaching students to know basic methods about setting and refining research questions, negotiating access to data collection, ways of presenting and analysing data and arriving at conclusions that answer one's research question or validates a hypothesis. The literature (Lakatos 1999; Popper 1972) shows that there is more to becoming a successful researcher other than teaching novices some simple research techniques and some limitations to those techniques.

If novice researchers are to become more sophisticated in research methodology, those who are responsible for this developmental activity ought to embrace deeper learning of some of the beliefs, values and assumptions that provide the bedrock of academic research education. This paper problematizes some of the approaches currently used by colleagues to develop the teaching and learning of research methodology within university education. The paper posits that for researchers to become more sophisticated in their trade, a deeper appreciation of the assumptions that underpin research methodology needs to be fostered in what novice researchers think about and how they practice research methodology.

Keywords: academic research, methodology, assumptions, techniques, research education

1.0 Introduction

As it is now customary for many students to complete a research dissertation even at undergraduate level the teaching of research methodology has become increasingly important. In order to complete dissertations students have to be acquiring a level of skill with regards to research method and this has become a significant challenge especially for novice academics. A similar challenge, although with different implications for teaching, learning and scholarship, is also faced by tutors responsible for this crucial competency developmental activity. Increasingly novice researchers make assumptions, largely attributable to what they are taught, about academic research that needs further clarification. The skills required in research method are not trivial. They cover a wide range of issues from those related to the formulation of a research question or hypothesis, to identifying appropriate data collection methods, to understanding data analysis techniques, to establishing findings, testing the hypothesis and producing some credible conclusions.

However technique and an awareness of the various methods alone are not sufficient to produce competent academic research. A deeper understanding of the assumptions behind these techniques and methods leads to a better understanding and more satisfactory research results. Furthermore to really understand research processes it is necessary to have an appreciation of the assumptions revolving around the ontological and epistemological issues of research methods. These assumptions are not often understood by more grounded academics themselves, including some doctoral students, and this makes the job of teaching them to newcomers even more problematic and relevant.

This paper looks behind these techniques and takes a broader approach to understanding the research process. The paper challenges the simple and straightforward assumptions which are often made about issues such as objectivity, validity and justification and encourages beginner-students and indeed established researchers to become much more sophisticated in their practice.

1.1 The challenge

Newcomers to academic research are informed that it is important to have a clear understanding of and to be able to implement a set of research methods techniques. Quite often this takes place at the outset of any research, the aim of which is to equip novice researchers with the tools and the techniques necessary to conduct research successfully. Amongst some of the techniques propounded in research textbooks (Gill and Johnson, 1997; Easterby-Smith et al, 2002), amongst other dissemination outlets, they are taught or perhaps even told that there are certain rules of the trade which need to be followed rigorously. As a result of this postulation and in an effort to produce research that is seen to be 'scientific', a material amount of academic research is conducted quantitatively mainly through a positivistic research design that depersonalises their research material (Miller 2007) and subjects.

Novice researchers are taught how to set simple research questions, which data collection methods will fall within the quantitative research paradigm, which hypothesis they could test, how they could avoid bias and ways of drawing logical and valid conclusions. It is not difficult to reason why this may be the case. In essence, quantitative research is easier to teach and therefore to understand, given its elements and rule-like procedure. Positivistic research in Business, Management and Psychology has been adopted by a large number of adherents as their rules address mainly technical issues (see section 1.2 for details). Assumptions are also made about the nature of knowledge and the nature of reality and of their principles (Raimond 1993; Medawar 1991). They are also encouraged to stick to specific rules related to the type of analysis and the expected results.

In reality, the enterprise of academic research is nowhere near as rule-bound or rule-governed, as it is explained and taught to newcomers and the literature. The examples drawn upon and the analysis adopted in this paper illustrate that. In essence, successful research can still be conducted and achieved by other means than the technicalities prescribed. The real issue here is that techniques are relatively easy to teach while assumptions and the thinking required for the attainment of the underpinning knowledge are often much more difficult to articulate. The paper contributes in this area. The thinking which is fundamental to the philosophical position that research should endeavour to espouse is far more crucial to conducting successful research than the rules. In essence, research assumptions do matter and their teaching and learning should be accorded due diligence. The focus in this paper is to try to help researchers to better understand the underlying philosophical assumptions behind a number of the rules as this is crucial in making a contribution in the area. It is anticipated that the approach will allow researchers to explore alternative approaches and philosophies to solve the issue of having to entrap novice researchers into the teaching of a rule-based form of doing research. This will allow newcomers as well as veterans in research design and methodology to be able to explore the variety and richness in research approaches. Doing so will help clarify the perennial issue of researchers not considering their philosophical positions and the implications on outcomes and subjects if these are not considered.

In order to support novice academics to better understand the philosophical assumptions about research the paper discusses a number of the rules on which these assumptions are based. The list in section 1.2 is not exhaustive.

1.2 Research Assumptions
It is worth articulating a number of these assumptions premised on beliefs that researchers are:
Assumption 1: capable of being objective
Assumption 2: capable of achieving validity
Assumption 3: in search of a truth out there and they can justify it
Assumption 4: capable of clarifying concepts
Assumption 5: capable of conducting value-free studies
However, the above beliefs are not necessarily applicable in all cases, in all research situations or to all research questions, research hypotheses and research objectives (see section 1.3 for details).

1.3 Research issues
There are issues that need to be taken into account in the discussions and debates on the teaching of research philosophy (see Johnson and Clark, 2006) and in the research methods academics are taught. In situations whereby the (newcomer) researcher is studying the behaviour of people (and complex social phenomena) that cannot be represented or captured in some quantifiable form by simply following a rather idealistic rule and formulaic-like procedure, the rule-method will not suffice. Likewise the rule-based procedure stands to scrutiny when the novice researcher who has been taught along such lines subsequently adopts an insider's approach (i.e. a non-depersonalised approach) in their academic research. It is fundamental for the social science researcher to understand the philosophical positions available so as to deal with the myriad of research challenges and issues they face. Academic research therefore cannot be narrowed to the predominantly rule-based positivistic research. When one adopts the insider-perspective, rules and techniques give way to discourse.

Academic research methods teaching at doctoral level would require students to develop a more profound understanding of the assumptions on which academic research is premised upon. Some of the latter group of students may wish to go beyond the use of techniques and rules when they seek to understand the social complexity and the linkages between the various elements. Part of the process identified in the paper includes relevant theories, examples and a process. It is proposed such a process

will help resolve the rule-bound, positivistic proposition novice researchers are entrapped in and aid towards a deeper understanding of the philosophies.

1.4 Structure
The next five sections (2, 3, 4, 5 & 6) centre on the philosophical assumptions that are vital to be taught to novices to enable a deeper understanding of research issues and to heighten the possibilities of research success. Section 2 looks at the assumption or belief that researchers are capable of being objective, 3 examines the assumption that researchers are capable of achieving validity, 4 investigates researchers in search of a truth out there and its justification, 5 clarifies the assumption that researchers are capable of clarifying concepts while 6 explores the extent to which researchers are assumed to be able to conduct studies that are value-free. Section 7 concludes the research paper and identifies potential future research.

2.0 Researchers are capable of being objective
Researchers, especially those in the positivistic paradigm, are assumed to deal with objectivity. When they do, they are confronted with the additional issue of the object-subject dualism. This is based on the assumption that positivists can separate the knowing subject (i.e. the researcher/observer) from the thing being observed or researched on – that is the object. It is assumed that using the appropriate research methods will enable the researcher to develop knowledge that is seen by their peers as objective; that is knowledge free from any contamination by what the researcher believes in or does or from other sources. When researchers are taught and sometimes even told to nurture such an (a priori) assumption positivists believe that knowledge free from any observational contamination becomes possible in research. In essence, positivist researchers are taught to exclude subjective elements, the inclusion of which are feared may taint the outcomes from the research frame and thereby render their results subjective. However, it is this very desire of positivists to make their results appear objective that leads them to deal with an additional unintended issue - the objective/subjective or object/subject dualism. When novice researchers are caught up in this dilemma for which the 'law-like generalisations similar to those produced by the physical and natural scientists' (Remenyi et al 1998: 32) they have been taught are ill-prepared to deal with, they may become more perplexed and sometimes even entrapped at how to resolve the conundrum. Such an issue highlights the messiness of the fundamental research problem they are trying to deal with. Such messiness is part and parcel of research and this should be actively acknowledged and taught to novice academic researchers during research methods sessions. Hindess (1977) acknowledges such a contradiction which forms the crucial basis of the knowledge that positivists try to develop. Crotty (1998) further went on to assert the need for the researcher not to be influenced by their values but, by the same token, acknowledges 'absolutist claims that the outcome is totally objective and unquestionably certain are made rarely'. However Delbridge and Kirkpatrick (1994: 39) note that 'in the social sciences we cannot hope to adequately explain the behaviour of social actors unless we at least try to understand their meanings', which eventually gave rise to the notion of symbolic interactionism. Such an attempt in deepening researchers' understandings of what is actually going on might help to demystify and perhaps resolve the messiness of the objective/subjective dilemma faced in the teaching and learning of research methods and the assumptions. Doing so is expected will enable a deeper understanding of the researcher's subjects' world as well as of the philosophical beliefs and meaning sets of their participants. At present the teaching and learning of this important aspect is woefully superficial especially in the scientific approach. Through interacting with others the individual adapts their meaning and sense-making of data processing to those of other interacting and active research participants as a shared sense of identity and meaning making gradually becomes negotiated. Again this process of interaction is inadequately shared by researchers who cling to the quantitative paradigm and teach upcoming researchers to quest for objectivity.

3.0 Researchers are capable of achieving validity
Another major assumption novice researchers are generally impressed upon to adhere to when conducting research that accommodates the quantitative paradigm is validity. Again the emphasis on what they are taught is on techniques and procedures that are geared to produce consistency if the research procedure were to be repeated in a totally different environment. In essence, the findings should mirror what has been researched and analysed. Again this is not a mean feat especially for beginners in research methods as many threats abound including for example the fact that participants may withdraw their consent from providing the much needed data, participants may provide misleading data and information and the researcher's observations may change over the course of the research period. Even the requirement to report one's research findings as transparently as possible to allow

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others who may wish to repeat the studies' findings could, by its very nature, pose challenges to the novice researcher's espoused quest for validity. In essence, the extent to which the novice researcher is taught to be transparent could be threatened by other variables including whether participants have given their consent for all the data and information they have provided to be reported transparently and openly. Among other things, the need for the researcher to strive to achieve internal and external validity could also be problematic. For example, novice researchers are taught that the causal relationships between the research variables could lead to internal validity. Such an assumption is premised on the belief that all the variables could be measured and tested according to the research tools and methods being used and that their measurement will be accurate. Within the implementation stage(s) such a yearning may not necessarily come to fruition as the novice researcher comes to realise that some variables may not be measurable at all or that the measurements might not be as accurate as envisaged. In addition, novice researchers are taught to strive to achieve external validity which centres on the extent to which the findings of a specific study can be replicated and generalised elsewhere. Again, when it comes to implementing such an assumption, the novice researcher may be hit with the crude reality that not all organisations or phenomena project a consistency in their characteristics. Similarly an organisation's functions and its characteristics could change over time thus causing further threats to the novice researcher's imbued quest to achieve findings that are externally reliable and valid. Robson (2002) reminds us of additional threats to validity and the importance of noting these in our teaching and learning of research philosophies.

4.0 Researchers are in search of a truth out there and can justify it
It is also argued that novice researchers need to be taught about research processes that lead to or might enhance the acquisition of knowledge. It is assumed that such knowledge is generally associated with truth (Nakkeeran 2010). However, not all forms of knowledge are testable or objectively measurable and therefore of the scientific/positivistic nature. Other forms of knowledge and understanding are based on morals, beliefs, values and preferences which, it could be argued, facilitate daily interactions. The latter are not as easy and straightforward to teach as the measurable knowledge elements within positivistic science. There is another assumption that both the social and natural sciences try to resolve; this is the need to justify (Cook et al 2008; Swinburne 2001) one's results or research outcomes. Researchers seem to be captivated with the hunch to address the problem or question of justification while simultaneously seeking to render their findings convincing or credible not only to their academic peers but also to their wider readership. In such a quest novice researchers take or try to propound some practical steps to demonstrate their attempts and willingness to justify their research outcomes and conclusions. However, in the process of seeking justification or finding a supposed truth out there these novice researchers tend to forget that their participants also have what Bryman (2012) referred to as socially active roles (that of contributing as researchers in their own right and in the process of so doing, may alter the supposed truth that the researcher might have originally set out to find and henceforth justify). What it is that active participants might contribute to the research findings and thereby assume the role of researchers within their own social settings is quite often overlooked in novice researchers' and even more established researchers' attempts to resolve the constant craving for truth and justification. As part of their research design to resolve these issues, researchers identify participants, their activities, the theories and research approaches that are to be compared with their data as well as what was done to collect these and what approach(es) may be developed as part of a process of finding the truth and arriving at some justifiable set of results. Gill and Johnson (2002: 174) claim that in their quest to establish the truth, positivists limit themselves to 'what is taken to be un-problematically observable 'sense data'. It is only when the observed facts correspond to the concepts being propounded that a researcher may claim to have established truth or what they refer to as 'truthfulness' of the knowledge sought. In cases where such a match is not established, then the researcher's results and the knowledge they try to share are considered non-credible.

As researchers ask interview questions or design questionnaires for potential respondents and set the constraints (see Simeon et al (2003); Sierra and Berrios (2000)), the actual goal of getting to the truth could still be elusive and challenging. One of the challenges is that participants will be in the process of changing or 'disintegrating' (Hunter et al (2003)) their 'old' discursive or belief frames and structures and the preferences they may have of an evolving world around them. The 'old' discourse, beliefs and sense of identity of the research participants may not have fully been discarded yet coupled with the fact that novice researchers are trying to grapple with the very assumptions that underpin the truth and knowledge they have been taught exist and can be found somewhere. There may be significant differences in the ways novice researchers who have been taught research methods in a rule-based and those who are being encouraged to adopt a wider approach in a non-rule-based approach proceed

with operationalising their research question, their research objectives and what research outcomes they could achieve. Such a scenario thereby increases the possibilities of multiple truths and opening the floodgates of types of knowledge and how these may be presented. For example, responses to a survey or questionnaire may emphasise misgivings about the current situation rather than reveal what the novice academic researcher is expecting to hear after having been taught the rules.

5.0 Researchers are capable of clarifying concepts

Another assumption underpinning academic research (as formulated in section 1), is that researchers are capable of clarifying concepts and making them more widely accessible. In the process of doing so, novice researchers are taught ways to define what seems to be the hunch of other authors as to what concepts are and what they may mean. For example, a key concept in academic research is 'depersonalisation'. As part of the tradition of defining a concept in order to make meaning of it, Simeon et al (2007) follow a similar rule-governed way of doing research by referring to it as 'feeling detached…as if one is an external observer' onto a world or a situation that may be yearning for meaning or further clarification. This method is expected will help novice researchers to be able to constrain the phenomenon or thing being research in a rule-based way while adhering to a paradigm (Kuhn, 1970). Sierra and Berrios (2000) provided examples of depersonalised and statistically tested experiences in their research. This is in line with the assumption famously made by Easterby-by Smith et al (2002: 28) that 'concepts need to be operationalised in a way which enables facts to be measured quantitatively'. The authors seem to allude that things, ideas or concepts that cannot be measured quantitatively may not be deemed to have been 'scientifically' tested and as such 'operationalised'. Novice researchers who are taught likewise are duly expected to carry out academic research adhering to the techniques and rules. This is common to a good few natural science researchers who went on to model these experiences on what they conceptualised as a Depersonalisation Scale. Other researchers (Baker et al 2003) prefer to construct/see 'disorder' (Hunter et al 2003) when social actors (Bryman 2012) disengage from the world around them. We know quite well that not all concepts or things can be operationally measured and tested as suggested by Easterby-Smith and his colleagues. How about measuring smell?

In the part of the literature where novice and more established researchers study the way people relate to and study 'wicked problems' (Rittel and Weber 1973; Hardin 1968), positivistic approaches that follow rules and techniques dominate. Examples of these can be found in the works of Sierra and Berrios (2000) and Hunter et al (2003), amongst others. To do so, they use models which include clearly defined parameters and variables. Novice researchers are taught applying the rules on the relations between the elements are intended for a defined, stable outcome even when 'disintegration' threatens (Hunter et al, 2003). Some measurement is also expected to be done as part of the rule procedure. The selected variables are intended to set out the frame as well as provide the mechanism which enables the novice researcher to define the parameters of the research topic area and what is being observed. In such instances, novice researchers and their established mentors assume that it is easier to predict individual experiences (see Simeon et al, 2003; Sierra and Berrios, 2000). In more fluid circumstances socially-active participants with strong views and perceptions may choose not to comply within the parameters of the models thereby allowing for 'overload' (de Zeeuw 1996: 19). When this happens, it throws the rule-based approach into disarray and further 'disintegration' (Hunter et al, 2003). The need to find alternatives outside of the positivistic philosophical assumptions becomes crucial.

6.0 Researchers are capable of conducting value-free studies

Elements that are linked to the notion and research practice of justification (e.g. how to conduct value-free research and reasoning that supports this) tend to focus on whether our beliefs and values (Höpfl 1992; Porter and Kramer 2006) mirror 'a' or 'the' 'real' world out there. When taught to students or novice researchers, such reality is presented as if it is devoid of any interference from the researcher such that it could be viewed as unblemished and, therefore credible. It is assumed that the values of the researcher should not form part of the new forms of knowledge and understanding of that 'reality' so as to render the knowledge believable. Easterby-Smith et al (2002: 28) even claim that 'the choice of what to study and how to study it, can be determined by objective criteria rather than by human beliefs and interests'. These eminent scholars seem to suggest that research is value-free and could be taught and conducted as such. They also seem to suggest that when researchers adopt a value-free position there is a possibility of uncovering 'the' reality. However, we know that researchers and institutions do have interests in their choices of topic areas (Thompson 1996) and choices of which participants to contact and these are coloured invariably by personal and organisational beliefs. We are also reminded by Remenyi et al (1998: 35) that there could potentially be 'a reality working behind' what

novices might have been taught as 'the reality' of a situation. The question that novice and even established researchers pose in their quest to be value-free (i.e. interviewer/researcher value-laden) is quite often as follows: 'how do we claim to know and understand what we know and understand about a situation or a phenomenon in a way that is value-free?' An earlier recognition of developments in such an area is Taylorism. However, such a position has invited a lot of opposition, not least from Bartley (in Bunge, 1964) and Popper (1934; 1959 trans.; 1980 ed.), who proposed "critical rationalism" as a way to alert academic researchers that there are other possibilities. Bhaskar (1989) and his followers explore in 'critical realism' how social actors are deceived in their sense-making of the world as Dobson (2002) asserts that knowledge can be derived independent of the actions and thinking of its social actors. Other proposals have included the need to recognise researchers' and, indeed participants' values in the shaping of new knowledge as well as context-dependency. Dyer (2003: 1005) strongly claims that 'our values can have an important impact on the research we decide to pursue and in the way in which we pursue it'. Some researchers could lay claims to discovery if it could be shown that something unique has been added onto the phenomenon or the situation being studied without much interference from the researcher's personal values, morals and viewpoints or sometimes with an acknowledgement of these.

Other assumptions have underpinned the way novice researchers have been taught to conduct research. These are categorised as follows. The first one is that researchers consider the extent to which their personal values and biases may impact on the internal coherence of their study. If, for example, a next step only makes use of a previous step and no additional biases are introduced onto the phenomenon from outside, the novice researcher would have achieved results or outcomes considered value-free and therefore credible. This often is called the (a posteriori) utility approach as propounded by Brody (1984) and Finlay, (2008). The second is to consider whether the novice researcher has exercised sufficient control over their values such that what is reported in the study mirrors an external world being studied. When this is achieved, the novice or established researcher is taken to add something 'wider' to an initial phenomenon, situation or issue. Gill and Johnson (2002: 162) refer to this as 'the extent to which any research findings can be extrapolated beyond the immediate research sample or setting in which the research took place'. This could be a frame via which the researcher determines what data are needed, which participants would be suitable, how to identify them and the related data, a pattern to predict or anticipate new phenomena, all in the hope that one's personal values do not cloud the judgements being made. This is what Heron (1996) sees as the philosophical basis for making the types of judgements on research design and implementation. The assumptions made on conducting value-free research also include discussions whether the research results are due to the use of quantitative or qualitative methods (Denzin and Lincoln 2006; Lincoln and Guba 1986). Novice researchers are led to believe by their more established mentors that the use of quantitative methods limits possibilities of value-laden research whereas using qualitative methods is believed (rightly or wrongly) to increase such a possibility (i.e. researcher-value-centric and respondent-value-centric). Whether these methods can be used with some confidence in the minimisation of contamination from one's values, morals and personal viewpoints even if the design is executed with limited resources is yet to be studied and taught to upcoming researchers. Whether what is added represents 'a' 'reality' as claimed by Remenyi et al (1998) or 'the' 'reality' as propounded by Hunter et al (2003) that is additionally value-free or alternatively value-dependent is dependent on the researcher's choice of research question, what research objective they wish to achieve and the methods and philosophical assumptions they make about the nature of knowledge and the nature of some reality.

7.0 Conclusion
To meet the paper's objective, the author sought to deepen the audience's understanding of six fundamental assumptions about research methodology and research design. These include the exploration and clarification of our beliefs and values on objectivity, the validity of research findings, the nature of what accounts for knowledge or truth, the clarification of essential research concepts and the extent to which researchers are capable of conducting value-free studies. The paper posits that despite its importance, both novice and more established researchers seem to be struggling initially to comprehend what these assumptions are and subsequently how to teach their basics to those who wish to have a career in academic research or related scholarly activity.

Doing so means that researchers need to familiarise themselves with the core assumptions underpinning academic research and to then seek not to be bounded completely by the rule or formulaic-bound technicalities involved especially in positivistic, scientific research. In essence, novice researchers and their veteran counterparts should endeavour to become more sophisticated in their

perception and implementation of research methods if they wish to have more successful outcomes in their academic research. Therefore, the teaching and learning of research methods in academic institutions should become much broader than what is at present being restricted to mainly the teaching and learning of techniques and rules of how to conduct academic research. More successful researchers embrace the variety of research methods there are and learn to be more sophisticated in their acknowledgement of their values, beliefs and preferences and the ways they go about managing these as they strive to harness the benefits of productive research outputs and outcomes. Further work is required to explore the extent to which developing researchers, having learnt to become more sophisticated in research methodology, proceed to implement their new-found expertise. The work continues…

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