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Towards New Visions of Doctoral Research: Experiences from an Innovative

Research Training Programme

Abstract

Doctoral research in applied disciplines such as management can be examined from a variety of standpoints. This paper looks at doctoral research in the context of restrictive and liberating forces that act on it. The implications of these forces are discussed from the perspectives of the doctoral scholars and designers of doctoral programmes. The usefulness of forming new visions of doctoral research to meet these challenges is examined. It is argued that innovative and flexible designs of research education can aid doctoral scholars in making their work more effective.

Keywords: Doctoral Research, PhD Experience, Graduate Training, Innovative Research

In this paper, I will examine some issues concerning doctoral level research by analysing them in the light of what I call the 'twin challenges' of research. I will elaborate these challenges, by drawing from discussions that were part of an unconventional programme of research training. In doing so, I want to illustrate how appropriately structured programmes can aid doctoral scholars in forming meaningful visions of research.

1. The twin challenges

I would like to view doctoral research as an attempt to respond to two opposing forces that tug at the researcher. The first of these is restrictive and finds much attention in doctoral programmes; the second is liberating and is rarely addressed in doctoral research in fields such as management. These are:

1. Ensuring that what one is doing is indeed research (and good research at that)
2. Ensuring that one can exercise adequate choice in research (or that one is not overly restricted by the first consideration)

Outcomes of research are easily understood as liberating (at least in the sense that knowledge liberates us from a state of ignorance). However, in this paper, I hope to illustrate that when both the above challenges are met effectively, the very process of research becomes truly liberating for the researcher.

2. The Research training programme

I had the opportunity to examine these two challenges, situating myself in an innovative programme of research education. This consisted of a yearlong series of Research Training Seminars (RTS) at a post-graduate institute of management in India. These seminars were led by individuals with varied backgrounds and levels of experience in research. There were presentations of doctoral work as well as sharing of research insights by seasoned doctoral advisers and research-oriented professionals. According to the coordinator of the programme, a prominent objective of this was supporting high-quality research conversations.

> The basic principle was to create a suitable environment for what may be called *border-crossing interactions* among research students and more experienced researchers, pursuing different forms of inquiry in their respective fields. This has paid off handsomely, in terms of the rich conversations we have had, significant learning acquired, and the network of research-inclined persons, which has grown around this activity. (Dash, 2005, 3)

Though the discussions covered a wide range of topics, disciplines and research methods, some central themes persistently recurred. These provided inputs to the following

analysis. In this paper, references to discussions in these seminars are indicated in parentheses within the text and the referred seminars are listed in the appendix.

3. The first challenge

The first challenge is to demarcate research from other research-like activities so that the doctoral scholar can be sure that his/her activities meet the criteria for being research. But what exactly are the criteria for some activity to be considered research? This has been a central question that many thinkers have tried to address. Various criteria have been identified to demarcate science from non-science. For example, some scholars point out that objectivity is the foremost hallmark of science.

> In what way, then, can science be demarcated from other knowledge producing systems, such as religion, fashion or tradition? The difference is that science *explicitly* promotes the objective criteria. … The objective criteria have been built into the scientific method. They have become part of knowledge itself, rather than an outside force to which knowledge is subjected. (Heylighen, 1997, section 6)

However, 'objectivity' could be interpreted varyingly and finding a universally acceptable definition is a challenging proposition, especially in the case of social sciences. For example, according to Russell Ackoff, objectivity should be the result of free interaction among many 'subjectivities'.

> Objectivity is not the absence of value judgments in purposeful behaviour. It is the social product of an open interaction of a wide variety of subjective value judgments. *Objectivity is the systemic property of science taken as a whole not a property of individual researchers or research*. It is obtained only when all possible values have been taken into account; hence, like certainty, it is an ideal that science can continually approach but never attain. That which is true works, and it works whatever the values of those who put it to work. It is *value-full,* not value free. (Ackoff, 1979, 103)

Karl R. Popper's oft-cited criterion of falsifiability could be a useful way to demarcate research from non-research. Following this, doctoral scholars learn to put forth the results of their studies with much tentativeness, asserting with Popper that 'all theories are hypotheses; all may be overthrown' (Popper, 1972, 29). This is not easy. 'Popper's criterion ignores the remarkable tenacity of scientific theories. Scientitists have thick skin. They do not abandon a theory merely because facts contradict it', says Lakatos (1973, para. 14) The enthusiasm and passion for one's work do not always make it easy for researchers to specify conditions under which they would give up their theories. Jeffrey Pfeffer, an organizational theorist who propounded the 'resource dependence theory' observes:

> ...the philosophy of science not withstanding, theories are quite capable of surviving disconfirming evidence. Behavioural decision theory and numerous empirical tests have shown that many of the most fundamental axioms of choice and decision that underlie economics are demonstrably false. (eg. Bazerman, forthcoming), but economics is scarcely withering away. Nor are the specific portions of economic theory predicted on assumptions that have been shown to be false necessarily less believed or used. A similar situation is true in finance, where assumptions of capital market efficiency and the instantaneous diffusion of relevant information, so that a security's market price presumably incorporates all relevant information available at the time, have withstood numerous empirical and theoretical attacks. To take a case closer to organization studies, the reliance on belief in the efficacy of extrinsic incentives and monetary rewards persists not only in the lay community but in the scholarly literature as well. (Pfeffer, 2005, 453-454)

This explains why doctoral scholars constantly engage with their work even after the completion of the programme. Most often, doctoral research acts as the foundation for one's future academic and professional work. Thus it might help doctoral scholars to extend their horizons beyond mere 'hypothesis-testing' in their research. The requirements of a doctoral programme could probably be satisfied at this level. However,

subsequent anomalies offer the researcher with opportunities to improve the theory (Carlile and Christensen, 2005). In this sense, research is ever an 'unfinished story' (RTS 2.1). This sense of incompleteness is also evident in seasoned researchers such as Victor Vroom who put forth 'expectancy theory' in management.

> Theories seldom meet the test of time. At best, they are reasonably consistent with the existing body of evidence but invite and guide the collection of additional evidence necessary to refute or extend them. Expectancy theory was a useful first approximation to our effort to understand and explain behaviour in and around the workplace. But, there is much more to be done. (Vroom, 2005, 255)

Imre Lakatos (1973) recognizes this long-term perspective of research as he proposes that research programmes, rather than individual hypotheses qualify as the descriptive units of scientific progress. According to him, scientific progress happens not as a result of Kuhnian revolutions or Popperian falsifications, but as a result of the slow process of progress or degeneration of scientific programmes. Progressive programmes are able to predict unexpected novel facts where as degenerative programmes tend to be explanatory in nature and try to accommodate new facts in their theoretical frameworks. Doctoral scholars become parts of research programmes by virtue of the choices they make in the epistemological, methodological, and disciplinary realms. It is important that this allegiance is the result of deliberate reflection and choice. Karl E. Weick who advanced the idea of 'sense making' in organizational theory draws our attention to the advantage of viewing research as a joint effort of a community of researchers who work towards advancing research programs.

> … no one theorist can have it all, "all" being an explanation that is general, accurate and simple….what is impossible for one theorist is often possible for a collection of theorists. A set of people, each with a different pattern of tradeoffs can spread the weaknesses among them and collectively triangulate a set of ideas that survives as a robust, general, simple accurate account. (Weick, 2005, 399)

Anne S. Huff who has made substantial contributions to the area of 'managerial and organizational cognition' points out that theory building can also be dynamic and unpredictable. She sees only the possibility of 'islands of coherence' rather than grand research programmes.

> Theorizing that can quickly change focus and direction also fits a contemporary world that most perceive as requiring rapid change. More specifically, the innate capacity for shifting focus and changing direction is an important reason why we can only experience "islands of coherence" in strategic practice as well as strategic theory. (Huff, 2005, 346)

Scholars such as Feyerabend (1974) have resisted attempts to lay down specific rules for the scientific method. They assert that discussions on demarcation are futile and that it is impossible to differentiate research from what is not. Is this helpful? We have umpteen examples of researchers in the past, in fields such as alchemy, astrology, and quack medicine, who have not subjected their work to the appropriate demarcation criteria. How do we ensure that we are not 'fooling ourselves' (Dye, 2000), as they seem to have done?

Some scholars prefer to talk of degrees of 'researchlikeness' of an activity rather than attempting to differentiate research and non-research.

> The difference between scientific and other knowledge is not an absolute one, between objective and subjective, or between justified and unjustified, but one of degree, between the products of a systematic process of improvement, and those of a slow, haphazard process of trial-and-error, where neither trial nor error are consciously controlled. (Heylighen, 1997, section 6)

This notion might help us to differentiate between good and bad research. Inductive logicians' theory of probabilism enables us to talk in terms if a continuous scale from poor theories with low probability to good theories with high probabilities. (Lakatos, 1973) Different disciplines have evolved different scales to assess the 'researchlikeness' of an activity. Since doctoral studies are most often designed within the confines of disciplinary or methodological borders, it is likely that the traditions of a doctoral

scholar's discipline would determine how this issue is addressed (RTS 2.5, 2.6). Research in professional, interdisciplinary fields can pose new challenges for the researcher. Fields such as management can be viewed as a creative forum that brings about productive engagement among various disciplines (RTS 2.9), and in such domains, the features of 'researchlikeness' are not easily defined in a universally acceptable manner. Armand Hatchuel observes:

> Management sciences are among the youngest of all human sciences. They still suffer from being *bogged down* in recurrent controversies on the effectiveness and meaning of management techniques or their borrowings from a number of other sciences. Too often, they are perceived as a 'crossroads' of other more fundamental disciplines. The management sciences are thus condemned to find a better definition of the true nature of their object and scientific identity. (Hatchuel, 2001, S34)

Under such conditions, meeting the first challenge effectively calls for innovative approaches through explorations of alternative images of research.

4. The second challenge

It is important that the conditions for 'researchlikeness' should not lead to severely restrictive situations for the researcher. Freedom is as important in research as it is in other fields of human action. The observations of Mokyr (2004) in this connection are interesting.

> It is frequently maintained, society needs a certain degree of individual freedom to achieve technological progress. Historically, this is less obvious than it might sound. Technological progress occurred in many places that do not seem free, at least by our standards. What may be more important than "freedom" is a certain tolerance for rebels and deviants, who are dissatisfied with current states of knowledge and think they can do better. It bears keeping in mind that most of such rebels never discover or invent anything

useful and become little more than a nuisance to others. It is a small proportion of them who become the Galileos, Lavoisiers, and Faradays. But *ex ante* it is impossible to know who among them will make important discoveries, so the unavoidable price society pays for technological progress is to put up with troublemakers and crackpots. (p. 11)

History suggests that, in some earlier periods this realization did not exist in some societies, leading to social sanction and punishments for 'troublemakers' such as Galileo. But according to Donald W. Braben (2004), even today, the tolerance for dissent is increasingly being threatened as the result of a system that utilizes consensus (as in the case of peer-review) for funding and recognition. He argues that such democracy is not a good device for science.

Until recently, there was just enough slack in the system to allow such pioneers to flourish. That is exactly how it should be. Nowadays, the bureaucrats have closed these loopholes on the spurious grounds of efficiency, and pioneering projects will probably be set aside as risk too far, especially when funds are short. (p. 11)

Emphasis on the freedom of the researcher calls for a certain level of tolerance for experimentation and even playful exploration in research. This would enable them to experience the joy of discovery and to face those inevitable uncertainties in the process of research effectively. Henry Mintzberg advises doctoral scholars to start with an interesting question and be open to the human elements of imagination, insight and discovery in research. He points out the unpredictability of such an effort albeit in a slightly lighter vein.

I get a kick out of the fact that many of my doctoral students defend their thesis proposals well into their empirical work. After all, how can they know what they will do until they do it? I'm waiting for someone to defend the proposal in the morning and the dissertation in the afternoon. (Mintzberg, 2005, 368)

Writing from Australia, Rolene Lamm (2004) observes how rigid views of doctoral work are giving way to more tolerant, flexible images of research.

> The classic structure of the thesis has given way to theory emerging from data, as well as countless structural possibilities. The elimination of hypothesis generating certainty, defined structure and pattern, and the loss of objectivity fundamental to the traditional dissertation, has left the student and supervisor with greater freedom of choice, and more open boundaries. (Lamm, 2004, 11)

Such optimism is not easily visible in countries such as India (where this author is located). Doctoral scholars in management in India are familiar with an image of research that proceeds predictably in linear, prescribed steps (e.g., Presentation of doctoral work at RTS 2.20). Efforts at research training often promote images of research that drive scholars to inappropriate attempts at quantification to obtain 'hard data'. This leads many scholars to reduce their work to a skilful application of set statistical techniques. This tendency to 'put the cart before the horse' has been deplored by many analysts.

> Reading a typical scholarly management journal today can be depressing – because the vast majority of published papers devote few of their column inches to categorization. When the existence of different categories is noted, often they are handled with dummy variables or by omitting the outliers – as if maximizing R^2, rather than getting the categories clearly characterized is the hallmark of a good theory. (Carlile and Christensen, 2005 p. 8)

On similar lines, Victor Vroom points out rampant attempts at theory testing using inappropriate measures.

> While I am proud of any positive impact that expectancy theory might have had, I would make changes if I were to revise to today. First and foremost, I would certainly eliminate the mathematization and formalization of the theory. I was probably unduly influenced by the mathematical zeitgeist at Penn at the time. Unfortunately, I believe that my

mathematical formulation contributed to many ill-advised attempts to test the theory using measures lacking the ratio/scale properties necessary. Eliminating the formalization might have helped to convey my belief that the theory should be used for its heuristic value in providing a language for formulating questions about the role of beliefs and motives in work and performance. (Vroom, 2005, 254)

Many doctoral dissertations in India can safely be described as a report of similar half hearted attempts at theory testing. The National Institute of Educational Planning and Administration's (2001) report on the state of doctoral programmes in Indian universities has highlighted a scenario that is much in need of improvement. More than ever before, those armed with good quality undergraduate degrees (e.g., from the now well known 'Indian Institutes of Technology') are looking elsewhere for graduate education and research opportunities.

Following the example of some countries in the west with a more conducive research climate, standardization in doctoral training practices is often recommended as a solution to such gloomy state of affairs. In this connection, calls for generic transferable skills training, such as the one by Economic and Social Research Council (ESRC) of UK, are often highlighted (RTS 2.19).

Whatever career paths research students may follow; there are clear advantages to students if they have acquired general research skills and transferable employment-related skills. Broadly-based training should enable students to think through how they can use their existing knowledge and skills in different contexts and apply them to a variety of problems; and, progressively, to identify their own needs for training. Outlets should provide training, which integrates these aspects coherently through, for example, specific coursework, supplementary provision such as seminars, and continuous and effective supervision of the student's research and writing. (Economic and Social Research Council, 2005, section: D1-2)

The importance of skills training in doctoral programmes is widely accepted. However, authors such as Collinson and Hockey (1997 cited in Newburry, 1999) advocate a more

flexible approach to skills training. They draw our attention to the prevailing 'pro research training climate' as a result of the efforts by ESRC and others, and observe that the emphasis on generic skills has led to a rigid model of coursework in the first year of many doctoral programmes. Considering the heterogeneity of students' backgrounds, and the diversity of motivations for doctoral study, they argue that the call to impart generic, transferable skills at the doctoral level is debatable. According to them, skill building could be viewed as a much more accommodating exercise. The focus needs to be on individualized and flexible components, rather than a pre-set training agenda. Following this perspective, research could be compared to a physical exercise programme, in the sense that, the pursuit of any form of exercise increases the general ability of the person to engage in other types of physical activities as well (RTS 2.1). Collinson and Hockey (1997, 377 as cited in Newburry, 1999, 2) recommend the '…develop[ment] of training programmes which have a high degree of flexibility and are thus able to meet the requirements of different groups of students. Research training, as a learning process, needs to be linked directly to the needs of these groups'.

To meet these demands, both doctoral scholars and designers of doctoral programmes need to be open to alternative modes of research.

5. Towards new visions of doctoral research

Researchers who are able to respond effectively to the twin challenges exercise their power to make choices that are crucial. They are aware that they work within 'the boundaries of science [that] are ambiguous, flexible, historically changing, contextually variable, internally inconsistent and sometimes disputed' (Gieryn, 1983, 792). Through reflexive exercise of choices, they are able to define their work within the ramparts of science, and yet, retain the freedom they desire in carrying it out.

They are conscious that such flexibility and ambiguity can be true of disciplinary boundaries too. In professional fields such as management, they embrace the

interdisciplinary/transdisciplinary nature of their work with enthusiasm. This however is not always easy in typical academic settings. Des Gasper observes:

> Universities are indeed cradles of disciplinarity, given their roles as machinery for validating suitability for entry to professional paths and in the socialization of the next generation of academic teachers; and the incentive structures for academics to play safe after and even during their PhD studies and publish prolifically by doing detail work (Earl, 1983). By basing the structures for research on the structure for training, most universities constrain that research. (Gasper, 2002, 9)

Many scholars, most notably Michael Gibbons (e.g. Gibbons et al, 1994) have argued that a new mode of doing research is emerging and that a resultant reorganization of the scientific enterprise is under way especially in industrialized nations. They point to the change to a transdisciplinary, relevancy oriented mode of research (Mode 2) than one that is driven by the logic of academic science (Mode 1). Bruun et al. (2005) argue that there are tradeoffs in adopting either Mode1 or Mode2. They further note that some of the observable tensions in academia are the result of the transition from a predominantly Mode1 forms of research to the Mode2 environment. In India-- which is rapidly industrializing and is at the forefront of recent advances in information technology-- the tremors of such transitions are increasingly being felt. Research training in such scenarios should be sturdy enough to meet these challenges.

> Successful departments strike an appropriate balance between explicit and tacit knowledge, the former being mediated in courses and seminars, and the latter in different kinds of practice (the use of an instrument, interviewing people, constructing a questionnaire and so on). In cases of transition from Mode 1 to Mode 2, departments need to re-evaluate that balance, thus increasing the role of tacit knowledge. … Only a more practice-orientated research education can give students experience in integrating knowledge and communicating to different audiences, whilst providing leadership, and opportunities for taking both personal initiative and shouldering responsibility. A common way that we have found to do this is to decrease the amount of obligatory

lectures and increase the share of team efforts, projects, interactive seminars, collaboration with external actors and other similar ways of learning. This transition is problematic from the Mode 1 perspective, because it seems to reduce departmental control over what students actually learn. (Bruun et. al., 2005, 57)

As in other professional fields, much management research is driven by practical problems from the field and researchers are familiar with the idea of a 'client'. Hatchuel (2001) exhorts us to go beyond the normal understanding of these client-oriented partnerships. He says: '…the cooperation with companies should not be perceived as a useful consequence of research but as a prerequisite for the production of actionable knowledge' (p. S39). He sees 'the necessity of a set of principles and rules (a collective chart?) for the design of research-oriented partnerships' (p. S34), and presents such cooperation as one of the 'pillars of new management research'.

Transferability of results has always been upheld as one of science's characteristic features. However, what these models of research propose is the idea of a particular 'pre-specified public' Dash (2002), rather than the unseen, general public. Universal transferability is still an enigma in many applied fields such as management and this is an attempt to propose a viable alternative. Involving the users and giving them voice within the process of research is increasingly being seen as a key element of many images of research. Werner Ulrich points out how such an image is especially applicable in certain domains.

Typical examples are research efforts in the domain of therapy (e.g., psychiatry), social intervention (e.g., care for the elderly or fighting poverty), and organizational design (e.g., management consultancy). 'Patients', 'clients' and 'decision-makers' increasingly claim a voice in the making of the observations of concern to them; they do not want 'diagnoses', 'help' or 'solutions' to be simply imposed upon them without their views being considered. (Ulrich, 2000, 19)

Gerard De Zeeuw's (2001) proposition of a 'third phase science' is based on similar concerns. It calls for lending legitimacy to all stakeholders within research. This stands in contrast to first and second order science where primacy is given to authorities or experts.

> In 'third phase' science the observer must be fully 'attached' as an actor. He or she has to contribute actively: by stimulating observations X, and making sure that the observations lead to objects that help to construct high quality observations. The observer can be seen as a participant, therefore, with the special task of introducing new forms of transfer—while participants become observers with similar tasks. In this way new activities (innovations) can be developed and tested. (De Zeeuw, 2001, 21)

Universities in many countries have responded to the demands for alternative modes of doctoral research by promoting professional doctorates. These typically follow a Mode 2, transdisciplinary approach. The debates concerning the effectiveness of these programmes however, have not reached countries such as India where such initiatives are almost non-existent. Institutions typically shy away from experimentation associated with the design of innovative doctoral programmes. In such environments it is not easy for researchers to break new ground and choose a mode of research that works best for them.

Choosing 'what works for the researcher' might sound heretical to those who view research as a 'detached' activity. They do not view researchers as central entities in their studies. However, there have been difficulties with this perspective. For example, many scholars point out that total detachment is probably impossible. (The difficulty to obtain observations independent of the observing process has been formulated as a 'problem' in the physical sciences long ago.) Most often, at each step of the process of research, researchers' personalities, past experiences and not rarely, biases influence the way they carry out their studies (RTS 2.19). Some research traditions recognize this, and researchers acknowledge how they themselves are important elements of their research. More recently, management researchers have also begun to articulate this (e.g., Johnson and Duberly, 2003; Harley, Hardy and Alvesson, 2004).

Karl Weick adds a note of caution for organizational theorists and puts forth an argument for 'disciplined reflexivity'.

> While it is hard to fault a plea for deeper awareness, it is easy to fault the consequences that can follow if people are unable or unwilling to bound or voluntarily terminate their reflecting. Those darker consequences include things like narcissism, self-indulgence, an inability to stop the regress of doubting the doubting and the doubts (Gergen, 1991: 134-135), an inability to act because self-consciousness is paralyzing, and heightened concern about making mistakes (Schaller & Crandall, 1998: 210). (Weick, 1999, 802)

Disciplined reflexivity and the conscious involvement of 'the whole self' in the research process (RTS 2.19) can bring a sense of transformation for the researcher. Personal meaningfulness of research is increasingly being acknowledged in contrast to the detached mode of inquiry that has been highlighted in the past.

> Like many researchers, I originally described my research project as a journey. However, as my sociological practice developed, I broadened the metaphor to encompass not one but two constructed journeys. While my research interests clearly focused on the outcome of finding out more about peoples' use of technology as an element of organisational communication, I also wanted to critically explore the research process itself as a complementary journey of discovery. In charting this second journey, I have documented significant moments of the transformation process as I progressed beyond being a novice researcher.(Day, 2002, section 1.2)

Another doctoral scholar observes how researchers often need to deviate from standard, prescribed paths, and how such experiences are liberatory.

> When my research ambitions failed to fit with the purity of methodological options, I found myself searching for alternatives. It made me apprehensive. It required that I progress beyond my comfort zone to consider more creative alternatives. It necessitated a more critical analysis of readings and the consideration of a possible reformulation of my

research purpose. I had to confront myself as both researcher and human, in terms of my values, fears, insecurities, and passions. Thus what essentially began as a simple read of Creswell's book as a pragmatic means to resolve the issue of approach, it evolved into a journey in which I realised that the process of pursing research is inextricably linked to the process of discovering oneself. (Probert, 2006, section 8)

The doctoral journey's potential for such tranformative experiences need to be acknowledged. Doctoral programmes that place the researcher at the centre can aid such personal growth and development. A liberatory vision of research that responds effectively to the twin challenges works along these lines.

Acknowledgement

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