

Challenges Faced by Higher Education Institutions in Research Skills Development: A South African Open and Distance Learning Case Study

Patrick Nkhangweleni Mafenya

*Institute for Open and Distance Learning,
University of South Africa, Pretoria, South Africa
Email address: mafennp@unisa.ac.za*

Doi:10.5901/mjss.2014.v5n4p436

Abstract

While there is a huge literature on research in higher education on various topics of interest, there is scant literature on the challenges facing research skills development for our students in South Africa. This study used Nonaka's (1994) organizational knowledge creation theoretical framework. This theoretical framework was regarded as the most suitable for this study because of its ability to respond to the research question and the objectives. Data for this study were collected from (1) a dual mode conventional face-to-face institution and (2) a single mode distance education university during the 2012-2013 academic years. This study was conducted from a phenomenological research perspective because the intention was to search for variation in ways of understanding a phenomenon amongst a sample group that was selected for maximum variation. The primary research question that underpinned this study was: What challenges are faced by the South African higher education institutions in research skills development? Provided the focus for the study. The study revealed that financial resources, lack of institutional collaboration, low postgraduate enrolments and disconnection between teaching and research were some of the challenges faced by higher education institutions in research skills development in South Africa. This study therefore, wants to investigate the reasons behind South African higher education institutions' failure to have enough researchers to train students to become researchers.

Keywords: *Open and distance education learning, research skills development, collaboration, higher education.*

1. Introduction

To date, the literature on academic development has been strongly focused on the teaching aspect of academic, with research skills development being a relatively neglected area of study. In many universities discussion and investigation on research skills development is sometimes limited to literature on training during doctoral and postdoctoral research. Issues of ongoing development as a researcher once full academic status has been achieved are rarely addressed. The building of research capacity and infrastructure is cumulative and occurs in a long timeframe. To date, there has been very little collated data on the extent, nature and outcomes of government expenditure on research skills development in education. In the South African context, it is not easy to describe whether there are more research training opportunities for the youth and women to address past inequalities. It is therefore the objectives of this study to look at the challenges that are impacting on the skills development of our people on research activities. Research skills development is dependent not only on the availability of resources, but also, and more critically, on the development of an academic environment and culture that is conducive to, and actively promotes, research. The factors impacting on the development of the research enterprise in South African universities are many.

There are valid reasons why research is very important in higher education and other fields of study. Some of the reasons are: to enhance the image and reputation of the institution, to contribute to knowledge base, to develop new ways of doing things, to solve problems faced in practice, only to mention a few are. Higher education has a critical role to play in contributing to the development of an information society both in terms of skills development and research. The quality of research output defines the credibility of any research institution or university. For universities, research is a core function that distinguishes them from other tertiary teaching institution and the quality of research output impacts on a university's ability to deliver quality teaching. High quality research programs in a university create a learning environment that attracts high caliber students and faculty. The shortage of senior faculty at doctoral level can be attributed to several factors, among which include inadequate academic facilities, poor working conditions and low remuneration, as well as low turn-in post-graduate training.

Under such circumstances, it becomes highly impossible to attract and retain highly qualified young faculty leading to a low rate of injection of new ideas, weak capacity for research, creativity and innovation. Research facilities and equipment as well as technical support staff are also woefully inadequate in most South African universities. Universities are compelled to operate with totally inadequate and deteriorating infrastructure, obsolete laboratory equipment, inadequate library resources, lack of computers, poor access to internet and therefore limited ability to benefit from the global information technology. The poor state of teaching and learning facilities will affect the quality of research and hence, the university's ability to contribute to national development.

The inadequate financial resource for the university education is a major challenge facing all South African universities. The lack of adequate funding impacts on the ability to offer adequate remuneration, and also limits universities' ability to invest in infrastructure, facilities and equipment, thereby limiting research capabilities. According to the South African government's Department of Education White Paper (1997, 1(27): p. 7) it is the responsibility of the state, Department of Higher Education and Training (DHET) in particular to secure and advance high-level research capacity which can ensure both the continuation of self-initiated, open-ended intellectual inquiry, and the sustained application of research activities to technological improvement and social development.

2. Theoretical Framework

According to Moore (1991, pp.1-6), "Research that is not grounded in theory is wasteful." Against this backdrop this study was grounded on Nonaka's (1994) organizational knowledge creation theoretical framework. This theoretical framework was regarded as the most suitable one for this study because of its ability to respond to the research question and the research objectives. According to Nonaka's knowledge creation theory, individual's knowledge is secured through networking mechanisms like strategic training and job rotation. The theory suggests that innovation outcome increases when an institution, company or industry supports students' personal growth through the courses given at the universities. A student accumulates direct experience by working with different company issues.

3. Literature Review

Higher education has the potential to deliver skills and research for productivity and innovation. There are several arguments that research facilitates teaching, with benefits to both students and professors. Students who are actively engaged in research acquire knowledge and experience in their fields. They gain exposure to research methodology, data analysis, critical analyses, and presentation of the findings. Institutions that provide teaching and research gain several benefits. Currently a significant amount of research goes on within individual faculties in most of our higher education institutions, but there are no dedicated central units that provide the leadership, facilitation and effective coordination necessary to train our people to become good and efficient researchers. On the other hand, because there is no central coordination unit to prompt, mentor and encourage faculty, many faculty members are either not engaged in any research at all, or engaged in poor quality research that have little or no value (Easton, McComish & Greenberg, 2000, pp. 703-708).

One other issue that should be of concern to us is the value that individual faculty places on research, it would appear that for most of us, the primary motivation for carrying out research is promotion. The biggest question therefore is: How do we motivate each other to move from beyond the 'publish or perish' syndrome, and undertake research out of hunger for new knowledge? The challenge that faces the higher education system is to ensure that the national research system generates benefits of the kind identified above. However, despite the strong emphasis placed on the need to develop research capacity and output, the current capacity, distribution and outcomes of the higher education research system remain a cause for concern (Moore, 2003). With regard to research output, the available data suggest a decline in published outputs in recent years.

Whatever the reason, it is clear that the decline in research output calls into question the ability of the higher education system to meet the research and development agenda of the country. The decline in traditional or basic research, including research in humanities, is worrying. Research increases an institution's image and reputation, and thus attracts high-quality students and faculty (Lincoln & Guba, 2000). While it is important to note that higher education provides several non-economic benefits such as nation building and socialization, this article focuses on the challenges that the country experiences as far as skills development in research is concerned.

By far, the major challenge for research in the higher education institutions in South Africa, seen from within the current framework of measurable, is the low participation rate, especially across racial and gender groups (Of course one

has to bear in mind that higher participation does not imply nor implied by higher outputs). The government White Paper recognizes that research plays a key role in the production, advancement and dissemination of knowledge and the development of high-level human resources. It argues that "research is the principal tool for creating new knowledge" and that the "the dissemination of knowledge through teaching and collaboration in research tasks are the principal tools for developing academic and research staff through postgraduate study and training" (Department of Education, 1997, p. 82). The emphasis on research in the White Paper is based on the recognition that national growth and competitiveness in the context of the emergence of a knowledge society is dependent on continuous technological improvement and innovation, driven by a well-organized, vibrant research and development system which integrates the research and training capacity of higher education with the needs of industry and of social reconstruction.

Within the realm of educational planning, many things are always changing: the structure of the education system, curriculum and textbooks, modes of teaching, methods of teacher training, etc. These changes may lead to an improvement, or a worsening, in the quality of an education system. It is therefore important for an educationalist to have knowledge on research, because it is involved in the process of policy making. The various policies that we use cannot be meaningful unless they are based on factually correct data collected through research.

The reason why people should be prepared to undergo research training is that it is important to be sure of one's facts before making suggestions for changes in educational policies and practices. The maxim always be, when in doubt, find-out. Previously research practitioners relied on traditional scientific disciplines which often struggle to understand the problem facing environmental managers (Marton & Booth, 1997). Currently there is a growing of interest within the scientific communities and funding bodies in developing ways of integrating the research outcomes from disciplinary research, thus breaking down the methodological, epistemological and ontological boundaries that prevent shared understanding of complex issues. It is very important to know how to conduct interdisciplinary research.

Researchers have suggested three fundamental reasons for the failure of integrated research projects, e.g. lack of interdisciplinary infrastructure such as lack of researchers trained in integrated research, lack of quality journals to publish in and the lack of a college of peers, to problems with research approach (Miles & Huberman, 1994). Lack of funding is always at the top of the list of the factors that prevent universities from being able to engage in serious research. It is often said, that where there are no technological facilities, people are forced to rely on their intellectual abilities to solve problems. There is definitely huge intellectual capital in the South African higher education that remains to be tapped, but there is a limit to how far one can go without access to a critical minimum funding.

Language barriers and communication can be a problem in conducting integrated research, e.g. it is rare for a scientist to go and read documents on philosophy just to add knowledge. This lack of intellectual curiosity hampers personal relationship in projects oriented across disciplines. Under the umbrella of integrated research there are a lot of terminologies used to define the concept, including, collaborative, holistic, integrated, comprehensive, complementary, integral, cross-boundary, cross-disciplinary, inter-disciplinary, multi-disciplinary, and trans-disciplinary. Multi-disciplinary researchers are ready to share information in that particular-field but they are not ready to cross- boundaries or generate new integrative knowledge (MacMillan & Schumacher, 2006).

In interdisciplinary research participants are forced to cross-boundaries to create new knowledge and it requires a much more collaborative approach to problem formulation and methodological development than multi-disciplinary research. Trans-disciplinary research is difficult to obtain. It is the highest form of integrated project, it involves everybody, academics and non-academics. It is characterized by collaboration process and there is participatory and consultation process. University research capacity is used to address community problems. The community is engaged as a partner. Engaged research must result in knowledge transfer and exchange, and / or improvement of communities. Through engaged research, important social and economic benefits could result (Cooper & Schindler, 2001). The development and sustainability of the national research system is also dependent on its ability to respond to the opportunities and challenges provided by the global transformation in knowledge production and dissemination.

In this context, the role of the national research system is not simply to respond to local imperatives, but also to develop the capacity to take advantage of the new opportunities that globalization engendered. The value and importance of research cannot be over-emphasized. Research, in all its forms and functions, is perhaps the most powerful vehicle that we have to deepen our democracy. Research engenders the values of inquiry, critical thinking, creativity and open-mindedness, which are fundamental to building a strong, democratic ethos in society. It creates communities of scholars, who build collegiality and networks across geographic and disciplinary boundaries. It makes possible the growth of an innovation culture in which new ideas, approaches and applications increase the adaptive and responsive capacity of our society, thereby enhancing our competitiveness and our ability to solve our most pressing social challenges.

4. Research Design and Methodology

This was a qualitative phenomenological study that explored, described and analysed the challenges facing higher education in the South African context with regard to research skills development in higher education. Data for the study were collected through the utilisation of unstructured- phenomenological interviews. Secondly, the data used came from two different institutions namely, (1) a conventional face-to-face institution and (2) a single mode distance education university. The data for this study were collected during the 2012-2013 academic years. This study was conducted from a phenomenological research perspective because the intention was to search for variation in ways of understanding a phenomenon amongst a sample group that was selected for maximum variation. The rationale for settling on phenomenology as research approach was based on the fact that it has many advantages, and secondly, it was also influenced by the research question and objectives. Before conducting this study, the researcher had to practice some bracketing where-in he started by suspending his own pre-conception or personal experiences that may unnecessarily influence what the participants were going to say. The primary research question: What challenges are faced by South African higher education institutions in research skills development? Provided the focus for this research study. For this study purposive sampling was utilized because the idea was to purposefully select participants who would best help to answer the research question and objectives.

According to Silverman (2001), in purposive sampling people or other units are chosen, as the name implies, for a particular purpose that is of interest for a particular study-though this does not simply imply any case we may happen to choose. Most of the participants who took part in this research study were university officials, academics, postgraduate students who have been involved in research activities, administrators and government officials from the Ministry of Higher Education. In order to trace other possible participants, snowballing was employed because it was anticipated that participants could also help to identify relevant data sources. Given the time consuming nature of phenomenology, it is common to aim for the minimum sample that can be contacted to represent the population as a whole. Based on empirical experience, Dahlgren (1995) suggests that adequate sample could normally be captured through the use of about 10 interviews, while Trigwell (2000) suggests 15. However, for this study, 10 masters and doctoral students from various colleges volunteered to participate in the study. To conduct the study according to the phenomenological rule of thumb the researcher asked only one question namely: What challenges are faced by South African higher education institutions in research skills development?

Unstructured follow-up questions were used to encourage further elaboration of the topic or to check the meaning that participants associated with key words that they used. These questions took commonly the form of, "Could you tell me a bit more about that?", "Could you explain that further?", "What do you mean by that?" The researcher's main aim was to provide opportunities for the participants to reveal their experiences of the challenges that they are facing as students. Data were collected until saturation was reached. This was shown by the participants' failure to bring more new information. All the interviews were digitally recorded, transcribed verbatim and then analysed in an iterative manner. The researcher read the transcriptions repeatedly searching for the underlying foci and intentions expressed in them, comparing and contrasting them for similarities and differences, and looking for key structural relationship. As key themes and dimensions started to emerge, the analysis shifted to an iterative process of alternating between the emerging analytical outcomes and the original transcript data, looking to confirm, contradict or refine emerging hypotheses about meanings and relationships with respect to the data. This process continued until consistent set of categories eventuated, with repeated iterations leading to no further refinements.

5. Discussion of the Findings

The study discovered that factors impacting on the development of the research enterprise in the South African higher education systems are many and include among others, lack of adequate financial resources, shortage of senior researchers and inadequate research facilities. Considerable amounts of public funding are invested in upgrading research skills, however, a major gap is evident-the absence of reliable and comprehensive data and management information systems that will allow us to determine the outcomes and impact of these investments in terms of research output. Without highly qualified and motivated senior researchers, who are engaged in relevant and innovative research, a university cannot respond to its obligations towards society and national development. With respect to impact assessment, the study findings in general indicate that very little work has been done to develop the necessary mechanisms for skilling and re-skilling our people with research skills. During the interviews four important qualitative themes emerged from the analysis conducted: (1) Need for institutional collaboration, (2) Low postgraduate enrolments

(3) Lack of financial resources and (4) Disconnection between teaching and research. Each of the above mentioned categories is described in more detail below, with a brief illustration of key aspects of the categories through verbatim quotes from relevant interview transcripts.

5.1 Need for collaboration with other institutions

The study discovered that one important thing that the students value most was research collaboration. The study revealed that it is important to collaborate with other institutions with the aim of improving or getting the know-how on how do they manage to have high research output. According to Mafenya (2013) success of collaboration depends on individual institution's ability to team up with other institutions. Collaboration is meant to achieve excellent performance and establish good levels of mutual trust between the stakeholders. In many institutions, developed researchers appear to be working in separate silos that are full of experiences but unable to share with those who are still developing. Ideally, developed and world known researchers should team up with novice researchers and share their expertise and knowledge across the board. If developed and novice researchers work collegially, research outputs within the higher education fraternity could be improved.

Furthermore, the study found that at the University of South Africa (Unisa) they have what is called 'grow your own timber', which is a strategy that they are using to train young academics to become seasoned researchers. To achieve this objective the university invites experts and gurus from different universities around the world to come and present lectures, seminars, and train their academics on various research foci that they do not have expertise. The study found out that it is also important to collaborate with international organizations such as research and development institutes, universities, non-governmental organizations, etc. This is corroborated by what one of the participants interviewed said:

'Through collaboration we can have the opportunity to do joint investigations, student exchange programmes, can share administrative experience on research and access for funds from international organizations, e.g. Common Wealth of Learning (COL), United Nations Education and Scientific Council (UNESCO).'

5.2 Low postgraduate enrolments

In this theme the study found that the issue of low enrolments in masters and doctoral programs was a major hindering factor for research development. It was discovered by this research study that there are two reasons for low overall enrolments in postgraduate programs; first the lack of postgraduate student scholarships and the declining financial support from other sources; second, the lack of incentives for postgraduate study, given labour market competition from both public and private sectors. Furthermore, the study found that one important way of training these academics is by identifying research gaps, for instance, what knowledge do they need to do their work, what training is needed? Another possible solution to the problem was to hold research workshops, seminars and conferences where research issues are discussed. The decline in research outputs and capacity and the low postgraduate enrolments are a system of a broader problem that plagues the national research system, that is, its continued fragmentation and lack of coordination. This is evident, for example, in the fact that there is no nationally integrated information database for research. One of the participants said: "Many postgraduate students cannot register here because it takes a lot of time for you as an incumbent to know whether you have been accepted or not."

5.3 Lack of financial resources

The study discovered that in order to increase research output as universities we need to put funds aside to attract people to come and get involved in research activities. Furthermore, research funding is fragmented with little or no attempt to co-ordinate funding to ensure that it adds value to research priorities. This clearly suggests that there is an urgent need to develop appropriate co-ordination mechanisms involving the different stakeholders in the research system, including the relevant government departments and the science councils, in particular, the National Research Fund (Human Science Research Council (HSRC), 1999). This study discovered that it is the responsibility of all higher education institutions to place a range of support systems for staff seeking external research funding. It is therefore, necessary that these institutions provide relevant staff development programs like mentoring and assistance within the various faculties. The study also found out that senior academic staff members are victims of extreme pressure as indicated in the following statement by one of the interviewees,

'The management expects us to teach, mark and publish at the same time, this is simply too much for one person.'

Funding for new researchers to attend conferences depends on the acceptance of a paper, and this in some cases denies the upcoming researcher access to the research community as they contribute to both the cultural capital and the emotional energy of the researcher. External recognition in the field is commonly associated with the accumulation of experience, or time, as a researcher in the field. For example:

'So, therefore I need to get to know people, and do enough research to be able to send myself to international conferences where people see my face again and again.'

5.4 Disconnection between teaching and research

The study discovered that there is disconnection between teaching and research with the result that the situation is not conducive to enhancing research in universities. This approach has further debilitated the already weak capacity of universities to undertake research, while there are a few incentives for universities and research institutions to collaborate. Age cohort analysis of higher education academic staff shows the impending departure of significant numbers of White male senior academics who make a significant contribution especially to research outputs. The replacement of this group is an important challenge. On the positive side this presents opportunities to renew the core staffing of the institution. Retirements are also opportunities to reallocate scarce faculty salary resources to areas where the student demand is greatest. Reproduction of the academic and lecturer labour force is a long-term project. Attracting and training young academics while retaining academics in the system are priorities. There is a demographic challenge of relatively low numbers of Black South African graduate.

6. Implications of the Study

This study highlighted blockages and challenges in the system that need to be addressed. Even though a lot has been done to address the issue of skills shortage in research development, the question still remains: What can be done to remedy the challenges? Without adequate research infrastructure and equipment, researchers are left with an impossible task of producing outputs and undertaking innovative projects without support. Most universities in South Africa have limited internal funding resources for the support of research so that maintaining a high level of research activity requires that the majority of research funding be sourced externally. It is important that if we are serious about re-skilling our people with research skills we must embark on a massive program where in we do self-reflection. It is obvious that participating in a postgraduate program will contribute the student's identity as a researcher, membership of research communities, experience with research and all its components, and lead to some research outputs (Deci., Knoester., & Ryan, 1999). Reflection takes place when we try out, assess, and talk about new ways of teaching and conducting research. The purpose of doing reflexive research is not to be constrained by existing discourse in teaching and research but to construct our ways of knowing and new theories to help us solve existing problems. According to Cresswell (2009) reflexive research means looking at one's own perspectives from other perspectives, and turning a self-critical eye. It is important that through this study higher education institutions introduce a suite of research development programs designed to support new researchers and researchers from designated groups, in developing research projects and establishing research track records, and to support more established staff to enhance competitiveness in seeking research funding from external sources. Offering of incentives for individual to engage in research will probably contribute to the emotional energy of the researcher. Financial incentives, changes in workload, and benefits are mainly incentives for the individual or smaller groups of researchers. The possibility of attending conferences or buying new materials, among others, for research productivity, is a strong incentive for many researchers.

7. Conclusion

In conclusion the study discovered that the low enrolments in postgraduate programs need to be addressed urgently. It is clear that unless strategies are developed at system-wide and institutional levels to make postgraduate study and academic careers more attractive options, the future sustainability of the national research system and other higher education system is under threat. Both are dependent on the production of postgraduates for the replenishment of academic ranks. We can increase research output by: Putting funds aside for research purposes. The study argued that adequate financing can thus improve higher education's capacity to conduct research, hire high-quality faculty, develop

technical and engineering courses, and install laboratories. Finally, funding for scholarship can help increase the pool of talented students getting access to university. We must have incentive to attract more researchers. It is important that we as researchers should collaborate with other institution, train academics and students to become research experts.

References

- Cresswell, J.W. (2009). *Research design: Qualitative Inquiry & Research Design*. Thousand Oaks: Sage
- Dahlgren, L. (1995). Lars Dahlgren on phenomenography. In R. Gerber, & C. Bruce (Eds.), *Phenomenography: Quantitative research: Theory and applications*. Video 2. Old Australia: Queensland University of Technology.
- Deci, E.L., Konoester, R., & Ryan, R.M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin* 125, 627-668,
- Department of Education. 1997. *Education White Paper 3: a Program for the Transformation of Higher education*. General Notice 1196 of 1997. Pretoria.
- Cooper, D.R. & Schindler, P.S. 2001. *Business research methods (7th Ed.)*. Boston: McGraw-Hill Irwin
- Easton, K.L.; McComish, J.F. & Greenberg, R. 2000. Avoid common pitfalls in qualitative data collection and transcription. *Qualitative Health Research* 10 (5): 703-708.
- Human Science research Council. 1999. *South African Graduate Statistics 1999: Profiles and Recent Trends*. Pretoria.
- Lincoln, Y.S. & Guba, E.G. 2000. *Naturalistic Inquiry*. London: Sage
- Mafenya, N.P. 2013. Investigation of the collaborative relationship between industry and academic education in open and distance learning: A South African context. *Mediterranean Journal of Social Sciences* 4 (13), November 2013
- Marton, F. & Booth, S. 1997. *Learning and awareness*. New Jersey: Lawrence Erlbaum Associates.
- McMillan, H.J. & Schumacher, S. 2006. *Research in Education. Evidence-based inquiry*. (6th Ed.) USA: Pearson Education Inc.
- Miles, M. B. & Huberman, A.M. 1994. *Qualitative data analysis: A source of new methods*. Thousand Oaks: Sage
- Moore, G.M. 2003. Handbook of Distance Education. *The American Journal of Distance Education* 17, 73-75.
- Moore, G.M. 1991. Distance Education Theory. *The American Journal of Distance Education* 5 (3), 1-6.
- Moustakas, C. 1994. *Phenomenological Research Methods*. London: Sage
- Nonaka, I. (1994). A Dynamic Theory of Organizational Knowledge Creation. *Organisational Science*, 5(1), 14-37.
- Silverman, D. 2001. *Interpreting qualitative data: Methods for analyzing talk, text and interaction*. London: Sage
- Trigwell, K. 2000. A phenomenographic interview on phenomenography. In J. Bowden, & E. Walsh (Eds.), *Phenomenography* (pp. 62-82). Melbourne: RMIT Press.