

Leading from the front: Exploring the professional and personal nature of research leadership

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Abstract

Research is a key indicator of university performance and research leadership is a critical variable in achieving research excellence. This qualitative research study examined the 'research stories' of ten research performing academics and the reported research and mentoring experiences of a sample of 30 of their postgraduate mentees to gain a more nuanced understanding of the nature of research leadership, with special attention to how this influences research performance. The unit of analysis was leadership at the disciplinary level within South African higher education. This article discusses one of the salient features common to the research trajectories in this study, namely, leadership by example of personal scholarship. Academic role models, who are themselves performing scientists and scholars, are essential in influencing the intellectual development of the next generation of researchers.

INTRODUCTION

Research performance is one of the defining characteristics of academic excellence, and strong universities are characterised by strong research cultures. Research performance refers not only to the presence of material resources, but also to individuals and research teams with the necessary knowledge, research skills and talent. In all instances, academic leadership and productivity are regarded as critical indices by which to measure research success (Hazelkorn 2005).

There have been a number of achievements in South African higher education over the past 17 years and these include things such as the extensive policy drive for research development, increasing research and development investments, increased student enrolments with 56.3 per cent women students in 2008, and growing pockets of scientific excellence in some disciplines. However, as re-iterated by many within higher education (Potgieter 2011; Jansen 2011; Badat 2009), despite the many changes, the research system continues to struggle to create a truly diverse, supportive and productive research culture that is driven by the principles of research excellence.

Limited supervisory capacity is one of the main barriers to increasing the number of doctoral graduates in the system. This article suggests that attempts to address the national challenges must place emphasis on issues of research leadership, since there is increasing evidence to suggest that the absence of strong leadership is one of the key barriers to research success (Hansson and Monstead 2007; Goodall 2007; Bland et al. 2005). In a country context where fewer than half of the full-time academic staff in the higher education institutions have doctoral qualifications, and the national research output is generally lower than required for global competitiveness, there is a danger that the image and experience of the research-performing scholar may remain remote and easily idealised as unattainable by the majority of developing researchers.

LITERATURE REVIEW

The leadership field is expansive and leadership research itself seems to be plagued by confusion, criticisms of multiple definitions or lack of definition (Smith and Hughey 2006; Middlehurst 2008) and is at times dominated by conceptual incoherence and a disturbing lack of shared understanding of what leadership is or might be. The literature review on leadership makes it evident that leadership is essentially still a contested concept. Over time the field has seen moves away from the more traditional, individualistic models of leadership, towards more collective, flexible approaches that are seen to be more inclusive of the diversity of societies (Bryman 2007; Jansen 2007; Harris, Moos, Moller, Robertson and Spillane 2006). There is a stronger focus in the research literature on the value base of leadership practice and the processes that create and sustain social justice, empowerment and community (Phendla 2004; Jansen 2007). According to researchers, the value placed on academic leadership has changed as more emphasis is placed on the increasingly corporate nature of higher education. It is felt that this new management style has had significant influence, amongst others, on professional academic cultures and identities (Deem, Hillyard and Reed 2007, 26). Increasingly entrepreneurial models of research leadership have emerged as universities have expanded their research links with industry, commerce and government (Kearney 2009; Hanson and Monstead 2007). The role of networks and the brokerage of innovative opportunities to generate new resources both externally and internally are key markers of this type of research leadership. Both research production and academic leadership are best thought of as contextual, with interaction between multiple complex phenomena, so that simple cause and effect analyses are inappropriate.

THE NOTION OF RESEARCH LEADERSHIP

In this study research leadership is viewed as a specific category of academic leadership. University academics have always worked in the dual roles of educator and researcher, with the academic's role as a researcher becoming increasingly important over the past two decades. According to Ball (2007) the existence of self-

leadership and the duality of leadership between the subject and the people are key elements that distinguish research leadership from leadership in general. Research leadership in this study is identified by the hallmarks of excellence in scholarly publication at the cutting edge of the discipline, extensive quality national and international research networks, personal scholarly recognition and prestige among peers, leadership of quality Masters and doctoral programmes, early researcher mentorship and the ability to garner research funding. The focus is on excellence in scholarly production as a major criterion. However, in thinking about leadership and performance, one remains cognisant of the fact that the ‘range of mechanisms linked to successful outcomes tends to be diffuse, spread over time and more difficult to associate solely with the work of top leaders’ (Bryman 2007, 333).

CONCEPTUAL FRAMEWORK

The question of how to raise the research performance and productivity of individual scientists and groups has persisted for several decades. This exploratory study used the Bland et al. (2005) model shown below as a useful starting point for understanding the link between leadership and research performance. The model proposes that specific individual, institutional and leadership characteristics are necessary for high levels of research productivity. Taken together, the separate analyses of the Bland study reinforce the perception that a highly research productive organisation is indeed a function of the integration and interplay of the individual and institutional features. The successful synthesis of these features is highly dependent on effective leaders (Bland, Center, Finstad, Risbey, and Staples 2005, 237).

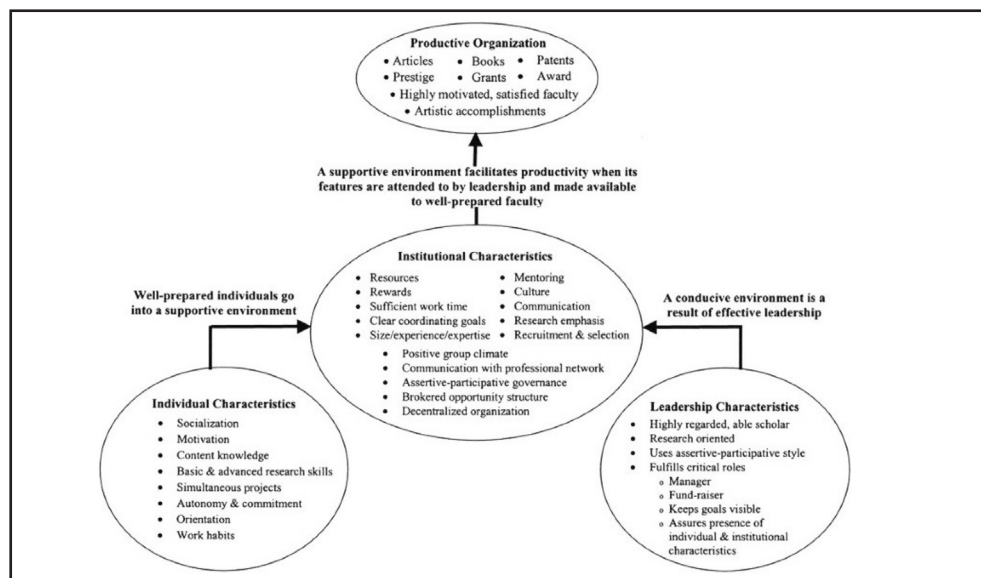


Figure 1: Components of a productive research environment: the individual, environmental and leadership characteristics. Source: Bland et al. 2005, 227.

The model highlights that the core features never function in isolation, so a study of leadership will indirectly bring to the fore features that are both institutional and individual in nature. The leadership characteristics of the Bland et al. model are detailed as follows:

1. *Scholar*: Highly regarded as a scholar; serves as a sponsor, mentor and peer model for other group members.
2. *Research-oriented*: Possesses a ‘research orientation’ – has internalised the group’s research centred missions.
3. *Capably fulfils all critical leadership roles – Participative leader*.

This article focuses discussion on the first two leadership characteristics as key characteristics for building conducive research environments that can stimulate research.

METHOD

This research employed a qualitative research design using multiple case studies of ten research leaders from three higher education institutions in Gauteng, South Africa, and a sample of their mentees or postgraduate students. Face-to-face, semi-structured interviews were conducted with each of the research leaders, in their institutions, in efforts to compile their ‘research stories’. Mentees of these research leaders who were willing to share their research experiences (30 in total) completed an electronic questionnaire. In addition research records were obtained from the National Research Foundation (NRF) (with permission) and further information was sourced through personal web pages, institutional websites, annual research reports, special research or institutional commendations or awards as well as any reports in the print media. Atlas.ti was used for the analysis of both the interviews and the mentee questionnaires.

CASE SELECTION

Research leaders

The definition of research leadership used in this study consists of a number of variables all associated with successful researchers. The main criterion was scholarly research performance. Thus in the first instance, the sample had to be based on research leaders with demonstrable research performance as a major criterion. An initial method proposed was that of reputation sampling, that is, which individuals in the national research community had the reputation of being research leaders? Reputation in that case cannot be presumed to be based strongly or solely on research performance, but may be influenced by public visibility through the media, institutional alliances, or heroic trait leadership characteristics of some individuals.

In addition, in a small research community dispersed throughout competitive higher education institutions, this method of sampling was not considered rigorous enough for determining the sample for this study. The NRF-rating system, a rather unique, voluntary, researcher and evaluation system, was considered to provide a more objective benchmark of research performance through an international peer review process. Hence, the choice was to use only NRF-rated researchers since their ratings provided a standardised, transparent assessment of their research output, independent of our assessment or left exclusively to their institutional communities. From that initial criterion for selection set by the researcher, the participating higher education institutions (through the office of the Deputy Vice Chancellors: Research) were then asked to suggest rated researchers whom they considered as research leaders in their institutions. They were supplied with the definition of research leadership on which to base their selection, and were not restricted, in their choice, to certain rating categories. The lists of recommended research leaders from each institution were used to finalise a sample that included considerations of institution, discipline, as well as race and gender. This sampling strategy does not in any way imply that unrated researchers are not research leaders who are able to influence research performance in their research contexts. We acknowledge that the decision to use only rated researchers to identify the first phase sample of researcher leaders can be viewed as a limitation since this criterion then excludes the majority of researchers in South African higher education institutions. Amongst the subset of unrated researchers across the higher education system are research leaders who could also have met the criteria of research leadership used for this study, particularly since participation in the NRF rating system has largely been voluntary. However, in the interests of a rigorous sample selection in a qualitative exploratory study of this nature, the independent assessment of research output by peer review as provided through the rating system was used as a first criterion for sample selection. For reasons of confidentiality, only a general outline of the leadership sample is supplied below for contextualisation.

General biographical information of research leaders

The selection process outlined ensured that they were all full time, established researchers employed within three South African universities. They are black and white South African citizens, with three of the research leaders being permanent residents from other countries. The sample comprised five male and five female researchers from the following disciplines; Biological Sciences, Education, Law, Engineering, Health, Economics and Business Administration and Management. The youngest researcher to have assumed a research leadership position in this sample was 39 years old and the oldest 63 years old. The average age of the participants in the sample was 52.4 years. In terms of both age and gender of the sample, the age group (51+) includes 50 per cent females and 50 per cent males, as well as 50 per cent black researchers and 50 per cent white researchers. Four researchers obtained their Ph.D.s from South African research institutions and all four of these researchers

are still employed within their Ph.D. awarding institutions. The majority of this sample (60%) obtained their doctoral qualification at overseas universities. Two of the research leaders were in their late 20s when they were awarded their doctoral degrees. Seven of the researchers obtained their Ph.D.s in their 30s (at average age of 33 years) and this is in line with the findings of the Ph.D. study that stated that the vast majority of doctoral graduates within the South African system are 30 years of age or older (ASSAF 2010). One leader from the social sciences and humanities was awarded a Ph.D. at age 45, something that is not uncommon in the field. More than 50 per cent of the sample is thinking of retirement strategies from current formal research posts in their institutions, possibly within the next five years.

Research mentees

This group of participants was selected as the study progressed. A snowball selection process was used to select participants who had been led by the research leaders but who occupied their own 'positions of influence' in the sector. After each interview the research leader was requested to provide a list of their post-graduate students who could be contacted for inclusion in the research study. Thirty (out of 47) mentee questionnaires were completed and analysed. This mentee group comprised 14 male and 16 female respondents, 20 of whom were South African and ten were foreign students from Africa, the USA and Germany. All the postgraduate degrees had been supervised by the leaders and their degrees completed during the period 2000–2009, with at least four mentees involved in ongoing doctoral studies in 2010.

DISCUSSION

The aim of the research is to build a rich, thick description of research leadership in South Africa. This deeper understanding of research leadership is important in a national context where constraints on research capacity in certain disciplinary fields and in senior leadership positions exist. According to the research definition used in this study, the experience of research leadership must include both the credibility of personal scholarship (leadership in the subject matter) and the capacity for people management (leadership of the people). In attempting to build a more nuanced understanding of intellectual leadership and influence on mentee development and performance, three main themes emerged and are discussed below.

Establishing the field – moving boundaries

A deeper interrogation of the interview data reveals that many of the research leaders had been instrumental in leading field developments in their disciplinary domains. As mentioned above, all the participants were rated researchers at the time of this research study, yet their early pioneering paths through varying disciplinary contexts illustrate different research leadership roles that had contributed to broader field developments. The condensed portrait below illuminates aspects of the research trajectory of a professor in the Biological Sciences

Professor Bloom, a South African by birth, did all his undergraduate studies at South African universities and then completed his PhD in the '80s at a North American university. He then returned to a South African research institute and worked as a researcher and then as an assistant specialist scientist in a dedicated research post where, in his words "he was producing a lot of stuff". Five years after completing his PhD, Professor Bloom was approached to join another South African university that wanted to increase its research output. This move to a new university included increased access to significant equipment for the study of molecular genetics. This leading technology (at the time) allowed his newly-formed research group to increase the quality of the research work to a point where they had produced more DNA sequence data than any other group in the world. The specific expertise available in the group was able to further push the boundaries by bringing molecular genetics and molecular phylogenetics into the field of microbiology. This type of innovation (technological and cross-disciplinary) gave the group led by Professor Bloom an edge that was able to influence the discipline-specific research community quite strongly. He had obtained an NRF-P rating by that time. That ground breaking work was highly significant and the initial team (55 members) moved to a new university to form the basis of what is now South Africa's biggest single university research institute working in this specific field. Today the research institute is significantly recognised globally in the relevant domains.

Hence in the arena of modern biotechnological research, it can be seen that Professor Bloom was instrumental in early developments in the field and the combination of academic ability, international research experience at PhD level, local research experience at research-intensive institutions in South Africa and substantial access (at the time) to funding through the resource-rich university(ies) of employ, the P-rating grant mechanisms and industrial partners supported the rapid advancement of a research career. Given the higher education context in South Africa during the '80s and early '90s, it was also politically advantageous to his early research career that he was a bright, young, white male (English-speaking) who was taken up into research posts at the major resource-intensive Afrikaner universities in the country. This early career immersion in supportive research environments is considered one of the primary motivators of research development towards excellence. The introduction of and access to highly specialised laboratory equipment was also an enabler that added to the possibility of pushing the boundaries and making new discoveries. Early discoveries and productivity were achieved within the company and influence of a growing research team of post-graduate students and fellow expert scientists over an initial period of only ten years.

A different, although equally 'research pioneering' role was assumed by Professor Frankie who had spent ten years prior to entering higher education teaching in a non-governmental organisation that focussed on adults and out-of-school youth. Her entry into university teaching opened up the research question about language and learning and provided the impetus for her doctoral studies. She found herself teaching in a liberal English-medium South African research university where

limited internationally competitive research in her field was taking place at the time. Professor Frankie's portrait illustrates the different challenges that were faced by many early researchers in the social sciences and humanities while they tried to build research legitimacy in their disciplines.

She explained that: 'There was no research legitimacy. Serious research is disciplinary research and educational research was not seen as serious research.' Previously good work in the area had been done at the university, but no publications of significance had emanated from it. At the time there were not local researchers in the specific field who could stand up and say 'I'm a recognised researcher and I have all these publications, international reputation etc.' She embarked upon a Ph.D. and struggled to identify local discipline specific experts who could supervise doctoral studies in her field. 'But I think I found my intellectual home in the international community.' Professor Frankie, in efforts to develop both herself and the national research in her field, established international relationships, engaged with others at international conferences and generally became more involved in the international community. Her Ph.D. was well-received with two to three scholarly publications immediately after graduating. In the late 90s she was the most experienced South African researcher in the specific area at the time, even though she had just completed her Ph.D. Nobody could argue with her research output or its quality or the position that she had earned both in the field and internationally. In this context she applied for and was appointed to the position of Research Chair.

That was a massive turning point for me. It was quite clear to me that what the Research Chair had to do was to establish the field, rejuvenate it. You cannot do that with one person. There has to be a community. You have to build the next generation. The first step was that there had to be people with PhDs. We had to get research going.

She started new doctoral programmes and collaborations with corporate partners to fund a new research centre for the field. In 2010 Prof Frankie, the only NRF A-rated researcher in her discipline, was awarded a new chair in her discipline.

The two different pioneering portraits presented above are about as far apart as the historic separation of the natural sciences and the humanities in this country's knowledge system. Prof Frankie's research trajectory marks a different stage in the higher education system in South Africa, with the first South African doctoral degree and significant publications in her specific field of specialisation obtained only in the late 90s. Professor Frankie had also entered her research career (doctoral studies) at an advanced age compared with the early Ph.D. in the natural sciences and engineering groups of this sample. These factors are indicative of the lagging development of South African research in some fields in the domain of the humanities. The initial intellectual developmental support was mostly external, with expertise for research development coming from international (mostly European) contexts. The allocation of a research chair made an important difference by providing research prestige to a fledgling discipline, much-needed access to funding and increased opportunities for

supporting doctoral students and building a new community of credible researchers in that discipline.

DRIVING EXCELLENCE THROUGH INNOVATIVE RESEARCH

Many of the research groups led by the research leaders in this study are working at the cutting edge of their disciplines and usually form a core of expertise in and across various research focussed institutions. Professor Liu, working in an engineering discipline, explained the kind of research pathway that earned her an A-rating and numerous local and international awards in recognition of outstanding work in her field.

It took little steps, of doing things I consider important in pushing research ahead. The questions we were asking were unique and we had been working at it for a long time. Eventually we found a solution to the question that nobody had been able to answer. We also continued to ask questions that we thought were the right questions. In this space you are not limited by what other people think, not influenced by that type of framework. Kind of like mmmmmmm ... this is an interesting question and I think I am going there. Eventually you become a world leader, doing very novel, very different research.

The same uncompromising commitment to excellence is expected of students working as part of the research team where the young people are expected to do their best. Prof Liu speaks about the privilege of working with the ‘best of the best’ in the research area and shares this message with students. She explains:

You are in an area where you have the best in the world working with you and you will learn from them and you will get there. We choose our topics, so we are working in an area where we know what leading edge is. So if somebody comes into the team they are very quickly brought up to speed as to what is leading edge. The work that is done here is leading edge and the students love it. They actually see the vibe and feel it and it is good for them and us. Here you are not going to be allowed to be your average engineer.

Student views and experiences of the leadership provided by research leaders (as reflected in the questionnaire) seem to emphasise and reinforce this message of striving for excellence:

Prof places a very strong emphasis on publications and continually stresses how important that is. He implemented a “1x1000” reward system for publications. The aim was twofold; firstly to encourage students to publish their work and secondly to get students to publish in good international journals. This has been an excellent incentive and has made students criticise their work and think beforehand about where they would like to publish.

This continued stress on expertise and excellence is evident in some of the professional profiles of students once they have gone on to fill niche areas of their own. 83 per cent of the mentee sample that had completed doctoral degrees with the research leaders progressed to employment positions in the research sector (mostly universities). Five of the mentees supervised by the research leaders who participated in this study have obtained NRF-Ratings themselves. These include one Y-rating (promising young researcher), one P-rating (young researcher demonstrating exceptional potential) and three C-ratings (established researchers with sustained recent records of research productivity) which means that they are all considered to have established themselves as independent researchers in their fields and can access competitive research funds. We are reminded of the findings of Babu and Singh (1998, 323) with regard to leadership and followership, where they found that those who had prestigious superiors were indeed more likely to be productive.

Forging an international footprint

In this study a quality global research footprint is seen as one of the hallmarks of research leadership, where research leaders lead and/or respond to changing global pressures, influences and trends. A review of the curriculum vitae of the participants in this study reveals that they have served as visiting fellows at universities across the globe, have served and still serve on international bodies, have been invited speakers to prestigious conferences or have organised some of these prestigious events themselves and have undertaken collaborative research with a diverse range of global partners.

Professor Frankie, who was instrumental in driving local research in her field as outlined earlier, found that this role extended internationally as well through the appointment to leadership positions and hence positions of genuine influence in international bodies.

I was on the Executive of a scientific organization that draws its over 500 members from more than 40 countries around the world. I was then appointed vice president of the International Congress of our research field. From that leadership position there was a clear goal and that was to get the international community to understand what working with the developing countries meant. It didn't mean paying for one or two people to come to a conference. If you want to understand what is going on there (developing world), then you must go there. So we set up an Africa Regional Congress. So at that level of global leadership I was able to do that stuff and it all accumulated towards our research being more visible, more central to the research community.

The international recognition that results from these international roles is most influential in the local research environment. She explained it as follows:

I work hard but I enjoy it. I establish the connections so I have very strong relationships with leading researchers elsewhere. I am recognised for who I bring in here at my

institution. They come here because it is good for them to work with me here in South Africa and they are not doing us any favours. Repeat visits and contributions to funding show that they want to come and work with me and my students and that is because it helps their work as well as mine. So international recognition is also built through research partnerships and co-authored publications as well.

Professor Agri describes the development of these quality networks as a ‘two-edged sword’, especially for African research leaders who establish quality research institutes that then develop increasing international reputations.

International and regional initiatives are always looking for representatives from developing countries and especially from Africa. However capacity in this field is still very slim (very few trained yet) and so there is a great demand on my time. You find that you are asked to sit on advisory boards and international steering committees and editorial boards of journals. There are lots of things that come your way. These are very important global involvements for Africa with real professional significance, and it is important that we, as Africans and South Africans, participate, but it is sometimes too much. We are trying to develop more senior expertise in our field so that others can participate in international and scientific events.

IMAGE OF A SCHOLAR – MENTEE REFLECTIONS

Students thus seem to be drawn to these research leaders and their teams, usually as a result of professional recognition and/or personal exposure. In turn, the success of past students has a huge impact on the international footprint of successful research institutes or centres. A large number of the mentees indicated their choice of supervisor had been based on the research reputation and track record of the professor. The students recognise the expert nature of the supervisor/mentor through research records and are aware of the NRF ratings of the researchers. There is recognition that the beginning of the mentee-mentor relationship is often one of ‘awe in the presence of greatness’ (researchers own italics) and students often express feelings of honour to be selected or invited to these prestigious programmes. Over time, when successful, this awe-inspired relationship seems to mature into one of mutual respect between mentee and mentor.

Prof was a researcher with a demonstrated track record and what started as a very respectful and (to be honest) awe inspired interaction grew to be a friendship and trusting relationship that allowed us to explore radical research concepts knowing that no idea was ever scoffed at and that we genuinely respected each others occasionally very different approaches to solving research challenges. (Liu’s mentee).

I responded to an advert for a post-doctoral fellowship to work with her. I applied because she is well known and has a good reputation in her field and a chance to work with her is an honour. (Frankie’s mentee).

She is a multidisciplinary researcher who is able to introduce students to new theories and concepts in the field or to theory from other fields. She is an excellent networker who makes the most of every opportunity to network and interact with researchers in and out of her field. Ultimately, I think she is someone who believes in the power of research, is passionate about research and strives to conduct novel and excellent research. (Sandy's mentee).

Mentee responses also indicated that influence on performance is not only experienced through the professional achievements of the credible scholar, but also felt through the personal example. Here the mentoring is less overt and formal, but equally powerful in impact on future behaviour.

Prof's mentoring was not about helping me in the lab. This I was capable of doing myself and teaching myself. The mentoring came in the subtle ways of how he treated people, the way he communicated, what he communicated and the general way he managed the institute. In this regard I have thus learnt a lot about how to motivate people to help them achieve the best of their potential. I have also learnt how to conduct myself professionally and how important it is to make and maintain international collaborations. (Bloom's mentee).

In summary, those seeking to undertake doctoral degrees value a recognised expert as world leaders as their supervisor and mentor. These research leaders provide the cutting edge experience, but also act as positive research role models by providing the image of a research performing scholar. This experience of working with researchers at the top of their profession seems to stimulate a longer term impact on research development and productivity as seen from the emerging research trajectories of many of the mentees.

LINKS TO CONCEPTUAL FRAMEWORK

The Bland et al. model suggests that the leader should be highly regarded as a scholar. In this research study, this important criterion formed the basis for selection of the participants in the study. Firstly, the original selection was based on the assessment of their research performance records over the previous seven years (NRF-rating system). Their NRF-ratings gave assurance that they were all established, productive scientists, with at least 80 per cent of the sample having been identified as leading international scholars (A-rating) or international scholars of note in their field (B-rating). In addition to their NRF-ratings, each participant was recommended by their research institution as a person who was considered to be a research leader.

Secondly, this article illustrated how, because of their research work, their personal intellectual scholarship was, in many cases, moving boundaries in their discipline fields. Thirdly, their curriculums vitae indicated that their peers had recognised them as leaders through national and international awards, appointment to international committees, professional associations, academies and panels and invitations to world

congresses, joint collaborations or visiting fellowships. The internationalisation at this level has been significant since many of the roles have been able to influence how the international community views and collaborates with the developing world. All these areas ensured that the research leaders in the study are highly regarded scholars in their fields of specialisation.

Another important emphasis of the model is that the highly regarded scholar serves as a peer model and mentor for other group members. The qualitative data showed that a large portion of the mentees indicated that their choice of supervisor had been based on the research reputation and track record of the professor. It was also shown how having a highly regarded scholar as a supervisor provided the mentees with a close-up 'image of a productive scholar' that is so necessary to early socialisation into an academic research culture. Various mentee responses described how they valued this opportunity to work with good role models and mentors who lead by example. Hence, the findings of this research study support the Bland et al. emphasis on the need for the leader to be a highly regarded scholar who serves as a peer model and mentor.

CONCLUDING REMARKS

The outline of the personal scholarship trajectories of the research leaders in this study illustrates how this allows the research leaders to lead from the front. This 'role model' role is supported by previous research on the academic department chair where deans interviewed felt that if chairs expect their academic staff to excel as teachers and researchers, then they think that they should lead by example (Benoit and Graham 2005). Research leaders can then make research demands for improved performance, based on the fact that they themselves are performing at the cutting edge of the disciplinary field. Earlier findings illustrated that the mentees wanted to work in these high-performing teams and they appreciated the connections to these research leaders' networks. Hence, as illustrated by the various discussions, these research leaders are able to lead by the example of their own scholarship and prestige and drive research performance towards increasingly higher levels of achievement. Although not discussed in this article, the research study also looked at their leadership of people i.e. how they lead and their mentees reported experience of this mentoring role.

The appeal to increase the number and quality of doctoral graduates in South Africa implies that we need a cadre of highly regarded scholars to lead these programmes. This research study has argued that quality research leadership by highly regarded scholars is able to influence research performance positively by providing the image of the scholar and a research-centeredness that is essential to attract new junior researchers to the field and to their long-term research career development. The complex and comprehensive nature of building intellectual capacity means that this is a long-term and multi-faceted process to which institutions and individuals have to commit.

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