

# Growing researchers from the historically disadvantaged groups through internships

THOBEKA MDA

Cape Peninsula University of Technology

*This article provides an overview of the nature and quality of research supervision and mentorship practices employed by supervisors and mentors of interns in a South African research council in an attempt to increase the pool and change the face of researchers in the country. Through a series of studies conducted by the research council, the success of this intervention is investigated. The article provides insight into the difficulties of attaining the goal of increasing researchers from this group through internships. The practices viewed as being generally successful in supervision and mentorship of master's and doctoral research interns inside and outside SA, are highlighted. From this analysis, models of effective supervision and mentorship of research interns are identified.*

**Keywords:** internship; mentorship; supervision; research councils; research capacity building

## Introduction

Recent studies and evidence-based reports in South Africa (SA) reveal that the country's universities produce very low numbers (and quality) of research-degree graduates (ASSAf, 2010; Cloete & Galant, 2005; Moodie, 2010). The need to increase throughput rates in research degrees has been identified as a national imperative, as this is expected to boost research quality and output, and help meet the high-level skill demands of the SA emerging economy (ASSAf, 2010; Moodie, 2010). The development of a "knowledge-based economy in which the production and dissemination of knowledge leads to economic benefits and enriches all fields of human endeavour" (DST, 2007:iv) is the goal of the attempts to increase the number of research graduates.

Institutions of higher learning as well as funding agencies, including the National Research Foundation (NRF), have developed and implemented a variety of interventions to help improve throughput and the graduation rates in research degrees. This is intended to increase the number of researchers, to change the profile of researchers and to improve the quality of knowledge production in the country. Interventions to address the crisis of the poor graduation rates and low participation in higher degrees of the previously disadvantaged include aggressively recruiting students to postgraduate degree programmes, rewarding supervisors for their supervisees who complete master's and doctoral research degrees, and creating and funding internship programmes in research councils/organisations such as the South African Medical Research Council (MRC) and the Human Sciences Research Council (HSRC), whereby the master's and doctoral students, especially from the above-mentioned groups, are mentored by senior staff at the research councils.

Despite the various interventions, graduation rates in these programmes indicate that many of the students who are admitted either spend many years in the programmes or drop out before graduation – average completion for doctoral students being 4.8 years in 2007; 1 274 doctoral graduates in 2007; out of 22 000 SA honours students, 10 000 pursued master's and doctoral studies, and out of those 1 182 graduated with a PhD in 2008 (ASSAf, 2010; Dell, 2010). Another concern is the negligible number of students from the historically disadvantaged groups who are admitted to the senior degree programmes, particularly at PhD level, and from those, an even smaller number, actually graduate with a research degree (ASSAf, 2010; Buhlungu & Metcalfe, 2001).

This article provides an overview of the nature and quality of research supervision and mentorship practices employed by supervisors and mentors of interns in SA research councils, using the HSRC, the author's organisation, as a case study. This includes an insight into the difficulties of attaining the

goal of increasing researchers from this group, through internships. The practices/strategies viewed as being generally successful in supervision of research students (master's and doctoral), in higher education institutions inside and outside SA, are highlighted. From this analysis, models of effective supervision and mentorship of research interns are identified.

## Conceptualising internships

The term “intern” is a generic term for all advanced students or recent graduates undergoing supervised practical training at the research council, as researchers, or as professionals in areas such as editing, cataloguing and data capturing. At the HSRC there are sometimes two categories of student interns: those who are registered postgraduate students and are attached to research programmes, and those who may not be registered as students but who are receiving practical training in other professional services of the research council, such as the press division, or corporate communication. The first group of interns is also referred to as “researcher trainees.”

Researcher trainees are employed by the research council to contribute towards research activities undertaken at the council as well as research outputs, gaining experience on various aspects of conducting research projects, and being provided with relevant academic assistance, knowledge and experience under partial supervision and mentoring by a senior researcher to pursue and complete a postgraduate degree. It is specifically this last category of interns that is of concern to this article, and the generic term “intern” will be used throughout the article for those students undergoing research learning or training in research.

The description by Jansen, Herman and Pillay (2004:90) below of research learning in the university context contains the same elements as are found in research learning at a research council and, therefore, it is argued that research learning in the two contexts can be regarded as the same thing.

*[Research learning] encompasses but extends beyond the knowledge of how to complete the specific research project (usually the dissertation). It is the totality of learning events that includes the technical competence to deliver a research report (such as a dissertation) as well as the emotional, social, political and cognitive experiences that together constitute such learning.*

## The aims and objectives of the research internship programmes

Research internships in SA address two national imperatives, namely the skills shortage in general, and the scarcity and dwindling pool of researchers and scholars in the social, human, and natural sciences in particular.

At the MRC, the main purpose of the Research Training Internship Programme is:

*... to train and mentor young black researchers and to prepare them up to a level of suitability to be appointed as researchers and, to increase the human resource base of health researchers in the country ... (SAMRC, 2010:1)*

The Researcher Training Policy of HSRC includes the following purposes and goals for the internship programme:

- to renew and increase the pool of researchers and scholars in the social and human sciences capable of taking up positions at the HSRC and other institutions nationally;
- to identify areas of scarce skills and develop researchers in such disciplines or areas of need;
- specifically to provide research training and mentoring opportunities for postgraduates from designated groups through participation in HSRC research activities (HSRC, 2010:2).

While the aims and objectives of the MRC's and HSRC's research internship programmes are general in scope, they have a specific target group, the historically disadvantaged. The research capacity building programme for SA universities of the South Africa-Netherlands Research Programme on Alternatives in Development (SANPAD) Education and Research Trust (SANTRUST) is different in that it does not seem to be as limited as to its target group. It aims, among others, are to:

- increase the critical mass of PhD graduates at the respective university and retaining them within the institutions;
- train supervisors to ensure a higher and quicker success rate of PhD graduates;
- increase the number of PhD graduates and supervisors with lower internal investment of institution (SANTRUST, n.d.:3)

## The practice of internship

The practice of internship is accompanied and supported by mentoring and supervision. Mentoring is defined as a teaching and learning process in a one-to-one career development relationship between two individuals where one serves as the teacher and counsellor, on the basis of his or her experience, professional status and credentials, and having gone through a similar experience (in this case, as a young or junior academic and researcher) (Roberts, 1999; Stewart & Krueger in Mills, Francis & Bonner, 2005; Wade, Keane, Dietz & Hay, 2010).

The difference between workplace supervision and mentoring is that supervision is usually performed by someone with authority in the programme, who oversees the performance of a number of people, not in a one-to-one relationship as with the mentor, and who may also not be tasked with coaching the junior to improve performance, as in the case with the mentor. *This supervision is different from that of a thesis or postgraduate supervisor where the supervisor oversees the student's master's or doctoral research project until completion. Clinical and educational supervision are more relevant for the purpose of the discussion in this article.*

“Clinical supervision”, which is applicable to the context of interns in research councils, is used *... in the sense of the everyday supervision of a trainee's performance ... [and] involves being available, looking over the shoulder of the trainee, teaching on the job with developmental conversations, regular feedback and the provision of a rapid response to issues as they arise (Roberts, 1999:313-329).*

“Educational supervision”, which is a related term,

*... involves the teaching of specific skills and competencies, helping the learner to develop self-sufficiency in the on-going acquirement of skills and knowledge ... [and] sometimes includes an element of assessment and may require the provision of pastoral care for some students or trainees (London Deanery, 2011:2).*

In summary, supervision means the act of watching over the work or tasks of another who may lack full knowledge of the concept at hand. It does not mean control of another, but guidance in a work, professional or personal context. The purpose is to assist the junior or new practitioner to improve expertise to meet organisational objectives.

The programme of internships at the HSRC is classified as a (research) capacity enhancement programme. This term is preferred over the terms “capacity development” and “capacity building.” Enhancement implies improvement and enrichment of what already exists, whereas the term “development” tends to be associated with deficiencies or deficit (Delgado, 2001). The classification of the internship programme as a capacity enhancement initiative takes into consideration that the interns are already graduates, with academic background in a specific discipline, and with some experience, however limited, in conducting research. The research council, therefore, makes available its resources (human, financial and infrastructural) to the interns to augment what research competence they already possess.

While capacity enhancement and the related concepts, such as capacity building and capacity development, are viewed as positive and moral obligations, there is no agreement on how to measure the success of enhancement. Ogiogio (2004:1) explains this difficulty thus: “... the benefits often associated with capacity building are not conveniently quantifiable and consequently the rate of return to investment in capacity building cannot be defined for a number of interventions without a significant margin of error.”

He further argues:

*... what should constitute generic measures [in the assessment of the performance of an intervention in capacity building] should be defined not simply on the basis of inputs, processes, outputs and impact, but on the need to establish a basis for assessing relevance, effectiveness, efficiency, ownership, impact, and sustainability of an intervention (Ogiogio, 2004:2).*

## Description of the study

The findings on which this article is based emerged from data from two internal studies<sup>1</sup> of the internship programme at the HSRC, the internship policy documents of the MRC and the HSRC, and the report on a two-day indaba (“congress”) in February 2009, “Growing Researchers,” hosted by the HSRC.

For the first study, interviews were conducted with 19 interns at the HSRC from September 2009 to April 2010. Some were leaving the council and others were still continuing as interns. In addition, five interns who had already left the research council were contacted by telephone to confirm their current employment status and job descriptions. Data from interviews with seven executive directors of the research programmes on their internship programmes were also included for consideration.

The second internal study was a mini study on PhD interns conducted in February 2011 at the request of the HSRC’s Board members. This study was limited to one research question, and had four doctoral interns as participants. In preparing a report on the mini study for the HSRC Board, the 2010 report, “The PhD study,” of the Academy of Science of South Africa (ASSAf) served as the backdrop to this study.

The indaba was intended as a gathering of members of the HSRC’s Capacity Development Unit (CDU), currently known as Capacity Enhancement, the internship coordinators representing the various research programmes, other internal stakeholders, and external stakeholders from other research councils or organisations, universities, the Department of Science and Technology (DST), civil society groups that do research capacity enhancement or development work, and donor groups. Thirty-four delegates participated in the two-day indaba.

Informed by an analysis of the above studies, this article addresses the following research questions:

- a) What purpose do the research internships actually serve and achieve?
- b) What are the challenges reportedly experienced by mentors and mentees?
- c) What lessons should we learn from these experiences to enhance research internships?

## Findings

The following findings, gleaned from the various studies already mentioned, answer the research questions listed in the previous section.

### Increasing the pool of trained researchers

With regard to the goal of increasing the pool of trained researchers and changing the profile of researchers in the country, the internship programme does seem to be making a difference, though both the increase and the change are not as much or as quick as desired. The interns who left the HSRC, especially those who left before their appointment contracts had expired, report that they were offered attractive positions: one as a lecturer at a nearby university, another as a researcher in Parliament, and another as a director in a government department in the Northern Cape.

Most interns at the HSRC are involved in big and significant national and international research projects. They receive exposure to conducting big surveys, drafting grant proposals and writing research reports. As a result, a number of them get to publish in peer-reviewed publications, often in teams with senior researchers, but also as sole authors. For example, in the HSRC’s 2009/10 research outputs, 46 interns contributed to 39 peer-reviewed articles, and in 2010/11, 70 interns contributed to 51 peer-reviewed

articles (HSRC Annual Reports). It is this experience and demonstration of competences which make them marketable as research practitioners.

The reported growth by the interns themselves is qualitative, and with regard to skills transfer they gain experience in working in projects; being “part of a project team that won a tender;” working with data, especially large data sets; learning from training workshops organised by CDU; “working in a multi-disciplinary academic environment;” and learning by “observing people work, their passion and patience;” and working under pressure. All interns reported growing as researchers and as academics, from mentors, senior researchers, and project teams. The environment was also credited for growth of interns. It is important to note that this growth is not easy to measure.

### A “win-win” situation

Through the internship programmes, the research councils win by meeting the intern targets which form part of the strategic objectives agreed upon with the Minister of Science and Technology, as part of addressing the national priorities outlined in the Medium-Term Strategic Framework, and the funds provided through the Medium-Term Expenditure Framework. Through the 2008 Act (replacing the 1968 Act), the HSRC is mandated to help build research capacity and infrastructure in SA and in the wider continent in its mandated sciences. To carry out the mandated work, including building research capacity, the HSRC is provided with funds through the parliamentary grant every year.

Students benefit in that they undergo training or academic development while receiving salaries. In response to the question of the benefits of doing a PhD part-time (HSRC, February 2011), these were some answers from the students, “It is killing two birds with one stone, as while doing studies one is also keeping in touch with the working environment;” “Resources: access to the use of computers, internet, photocopying and financial support;” and the “benefits of doing a PhD part-time include the fact that I am also employed, earning a salary and therefore my other aspects of life are not suffering.”

Having access to resources, especially financial support in the form of salaries, is the benefit all interns mentioned. Interns also receive funding to attend local and international conferences, thereby getting exposure to the wider scientific community. Another benefit was described by one student as follows: “Being in an academic environment provides a marvellous space to interact with academics in different aspects and it gives [me] a place to grow.”

The “win-win” situation is, however, not agreed upon by all participants. Some students claim that research organisations get cheap labour through the internships, suggesting that the organisation benefits at their expense, and that they, the students, do not benefit. There is also the perception that the organisations succeed in meeting targets only with regard to numbers of interns rather than making a meaningful contribution to the goal of increasing researchers. One PhD reported:

*The workload in our specific research unit is overwhelming and the fact that not one PhD intern has graduated whilst working in our unit for the duration of my PhD is testament to that fact.*

While not all research units have such a poor record of graduation among interns, the situation described by this intern is cause for concern, considering the objective of increasing PhD graduates in the country.

### Challenges

Considering the negligible number of graduating interns (eight out of 38 master’s interns) and two PhDs (out of 35 doctoral interns) during 2009/10 year, and two with master’s degrees (out of 37 master’s interns) and no doctoral graduate (out of 25) during 2010/11 year), an important finding is that the number of researchers increases as a result of these programmes, but not the number of people who graduate with master’s and doctoral degrees.

The challenges experienced by research councils, the mentors, and the interns in meeting this objective are varied. For example, national priorities regarding scarce skills have a significant influence on the type of training which is prioritised by government and funders. The need for people trained in the specific area may be short-term or long-term. In some fields, such as Epidemiology and Statistics, there

is such scarcity that the potential employers cannot wait for two to three years for trainees to complete formal and practical training, and the interns cannot commit to long-term internships as there may be a plentiful supply of jobs, even for people with limited training in the specific area. Organisations have to find a balance between training interns according to national priorities and scarce skills, and offering basic and general training on an on-going basis, with no guaranteed jobs for interns at the end of training, but for the sole purpose of increasing the pool of qualified people with practical experience.

In a social sciences research council, with broad areas of research, interns apply for positions and are placed in units that may be far removed from their areas of specialisation. For instance, a research student in Early Childhood Development may not have any contact with young children, crèche or nursery school, and is thus getting very limited practical experience in his or her area of study. Some students cannot find any research project in their areas of specialisation in the organisation. This is especially the case in the research organisation where units are theme-based (poverty alleviation, service delivery, HIV/AIDS) as opposed to being based on disciplines such as Economics, Sociology or Education. Buhlungu and Metcalfe (2001:75) report the same “lack of specialisation” from their study of a local university internship programme, where “interns are moved from project to project depending on where the need for data collection is.”

The internship policies of organisations reviewed for this article state that the organisation is not obliged to employ the interns. Consequently, interns continue looking for permanent employment even as they start their internships, and as soon as they secure permanent employment, not necessarily in research or academia, leave the research council without completing the internship programme. For those interns who take up employment not in research environments, the research training they received may be wasted. This is especially true of the targeted groups such as the historically disadvantaged groups, who may also come from poor backgrounds, where the need to earn a decent living may be urgent and investing in long-term internship viewed as a luxury (Indaba Report, 2009). Buhlungu and Metcalfe (2001:74) also found from their study that many students from the historically disadvantaged backgrounds, “[facing] a wide range of social hurdles, take a vocational and instrumental approach to learning which makes the field of intellectual production a luxury only the well-off and highly talented can afford.”

Personally, I suspect that, after interns have been exposed to the work of a research organisation where there are set targets for raising project funds and publishing, a predominantly donor-driven research agenda, long work hours, and generally, researchers’ performance appraisal tied to these targets, a career in research may not be that attractive, especially to those who are still trying to find a career. Brian O’Connell, cited by MacGregor (2008:1), also found that attracting good graduate students to academia in Africa, and “to excite students, draw them into the academic world and get them committed to an academic career” is a big challenge. If this is a problem in most African countries, then the difficulty in retaining young academics and researchers is commonly experienced by research organisations and universities.

Since the internship programme is a redress measure, these research councils are not at liberty to select only the best candidates for the internship programme. Often the best applicants for the programme are not South Africans, but young Africans from other Southern African Development Countries, but then South Africans have to be prioritised, as a redress measure, and to meet the objective of increasing the pool of researchers in the country.

Another challenge reported by both mentors and interns is the limited time most mentors have to provide meaningful mentorship to the interns. The demands on the senior researchers’ time (the urgent need to obtain donor funds and report to donors, project managing, networking and publishing attached to researchers’ performance appraisal) make the senior researchers’ work stressful and allow them little time to focus on interns who need significant guidance and advice (Indaba Report, 2009; Wadee *et al.*, 2010).

*There is limited scope to discuss all the findings in this article, but other noteworthy challenges are: the lack of role models and mentors among the target groups; mismatch of expectations between the organisation and the students; non-immediate rewards or recognition for research; systemic structural impediments to hosting interns in historically disadvantaged institutions; and the inadequate academic literacy in English, and limited research training of many interns.*

## Enhancing the practice of research internships

A study of the findings from this investigation of the internship programme (especially from interviews), the reports from related studies, and internships of other higher education institutions and research organisations suggests a number of practices for successful internship programmes. For example, to ensure effective transfer of research skills, knowledge and attitudes, interns could be appointed on the bases of skills needed by the unit, and the work of the intern in the unit aligned with their studies. Once appointed, the intern should be allocated a mentor before or on arrival at the organisation, and both should sign a mentorship agreement outlining planned activities, competencies to be developed and expected outputs, including a plan for monitoring and evaluation of the intern's progress, per month and per quarter.

Second, interns grow as researchers when their set assignments at the research councils are meaningful, academic and professional. Interns must not be assigned menial tasks such as doing photocopying, making tea, or being sent to buy food and other such items from the shops for the assigned mentors or other senior staff members in their units (as reported by one intern). An internship programme to be emulated is the "Carter Center Mentorship Program" (The Carter Center, 2011:1) where programme documents state upfront that less than 30 per cent of an intern's responsibilities include administrative duties, and that interns are provided with substantive work experience directly in their field of study, so that they gain valuable knowledge which can enhance their professional development.

Third, the role of the mentor is crucial in the intern's growth professionally. All the interns spoken to acknowledged the important role the mentor had played in their growth in the organisation. Three interns who had some negative experiences in the research council, had had negative relationships with the mentors assigned to them, and it was after they had asked for different mentors that their experiences of internship turned to positive ones. An intern also has a great chance of success when the research council mentor works closely with the university supervisor, and when the work at the research council is aligned with the studies of the intern. SANPAD, for instance, which has run an internship programme in partnership with local universities since 1997, working with students and their university supervisors, in 2010 reported a 93% graduation rate in three to four years from their local PhD students, and 0% drop-out rate from the programme. One HSRC Board member sharing his insights from having worked with PhD students in university programmes inside and outside SA, also stressed the important role the university supervisor plays in the internship programme.

There needs to be a formal and clearly outlined internship learning programme or course, as established at the indaba. The ideal is to have a proper in-house course that is followed by every intern, even though interns join at different levels of development. The major themes or areas of study are identified and covered. The programme could be divided into terms or semesters. For research interns, for example, the major topics are: information search, research methodologies, data management, writing (academically and for publication), and oral presentations (of data or research results) in the context of research work conducted by the council, and research as business.

Practical and applied training should supplement university preparation. The idea is to provide interns with practical and professional experience, and not to duplicate what universities teach. The internship programme should focus on assisting the interns with applying the scientific work (the postgraduate subject content) to the realities of the particular context.

The internship programme must also incorporate preparation for the post-internship phase. The preparation may include professional skills and preparation for entrance into the work world, for example, by incorporating training in compiling a résumé.

The organisation needs to develop indicators to determine the success of the programme and of interns. Some universities whose internship programmes were studied, have developed success indices with variables which they measure. For example, the Department of Economics at San Diego State University (SDSU), has identified 17 variables under the following categories: application of academic major (domain knowledge), cognitive skills, social skills, personal traits, on-the-job training, cross-cultural experience (also using a second language), computer skills and job offer (offered full-time employment at the internship site or through a networking opportunity) (Adler, Bansak & Wolf, 2004:9-10).

Of course, not all research or academic capacity development interventions may be measured as above, nor is it necessary to do so. Therefore, organisations and capacity development programme directors should develop own indicators, based on, among others, the main issues of interest to the organisation. A consideration in determining the success of interventions in research capacity building, especially if the latter is considered a skills shortage area, is articulated by Ogiogio (2004:5) thus: "...the real success of a capacity building intervention is its ability to develop local skills and institutions, which can effectively draw on global information and knowledge to address national development problems." It is thus important for the HSRC to have regular tracer studies on its interns.

From the study being reported here, there are strong indications that we need to profile and understand the target group for the relevant research internships. While the internship programmes in the research councils in this study target historically disadvantaged groups, there is no indication that the unique characteristics of this group have been studied. In North America, for instance, studies on first-generation graduates or college students have grown tremendously. A number of interns in the SA historically disadvantaged group also fall under the category of first-generation university students; hence the mismatch between the expectations of the research council and government on one side, and of interns and their families on the other.

To address the challenges mentioned earlier, it is recommended that research councils consider creating a few permanent positions to absorb their best interns. Research councils should also aggressively recruit the best students in the field to keep them in the chosen field.

Doctoral students' internship terms could be increased to five years, so as to match the period it takes for a part-time student to complete a doctoral degree. This would take the pressure off doctoral interns, who often feel the need to start looking for a job while the doctoral degree may be far from completion.

The challenges of retaining interns until they complete internship, the mismatch between the organisation and interns, the pursuit of internships for financial purposes rather than actual research, and the urgent need to get permanent jobs could be minimised if interns were employed in research, training and work within their areas of specialisation and interest. In fields where internships have been a feature for a long time, such as medicine and law, interns are placed in contexts where they would practise, for example, in hospitals for medical students, and in law practices for law students. It is also a requirement that they take up internship to get full qualification. The interns are therefore gaining practical experience through internships in fields where they already have the theoretical knowledge. For the research councils, partnerships may be arranged with relevant organisations or workplaces, so that the interns may spend some time at the workplaces where they are likely to work in future.

To match the interns with the research councils, the research councils should also consider making practitioners researchers, or creating and growing researchers from committed practitioners and workers at the organisation, that is, from people who are already doing (and enjoying) the work of the organisation. At the research councils these would be staff members whose jobs do not involve actually doing research, but providing professional services, for example, staff in the press section, Information Technology, and project administration. This is an example of "growing own timber" as well as of making practitioners researchers.

Senior researchers assigned the task of mentoring interns should be compensated for mentoring, not necessarily in monetary terms, but through allocation of hours for mentoring, and the actual mentoring linked to the progress of an intern may form part of a mentor's performance appraisal.

While it may be disappointing to note that the internships are not sufficiently or quickly helping to meet the objective of increasing researchers, it has to be understood that measures of redress are long term, and efforts have to be made to secure support for internship programmes from various quarters, for example, the private sector and donor organisations.

To ensure the experience of being a researcher seeps into the pores of interns, long-term internships should be considered, whereby an intern spends a specific period at the university and another set period at the research council, with, therefore, enough focused time on the dissertation and on practical knowledge. The two periods should complement each other for the intern's success in both. An alternative is to have

the interns employed by the universities, but formally assign to them time to spend at a research council. The DST could channel funds for this purpose directly to the universities.

## Conclusion

This paragraph presents a tentative conclusion about the findings of the study, but what is more important is that the study has implications for what can and will work to make research internships effective and successful. In consideration of the challenges above, some systemic and others local, it would be tempting to reach the conclusion that, increasing the pool of researchers through the current programme of internships in research councils, is not successful. Such a conclusion would, however, be too simplistic. For instance, to conclude that the non-completion of the two- or three-year internship programme means that the resources have been wasted, is to ignore or devalue the day-to-day practical involvement of the intern at the research council, and the total tuition role of the experience of apprenticeship. This would also be ignoring the intrinsic development and transformation of interns which may be taking place. It is also worth noting that all the interns describe the experience as a positive period of growth. The models for effective internships and mentoring at a research organisation identified in this article can only further enhance an experience regarded as already valuable by the beneficiaries of the practice.

## Endnotes

- 1 a) The impact of Research Trainee Programme (RT Programme) on career trajectories of master's and doctoral interns and post-doctoral fellows in the Human Sciences Research Council (HSRC): The 2007-2009 cohorts (2010)
- b) The challenges of doing a PhD part-time whilst working: A mini-study (2011)

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