Alternative Research-Related Spaces in Postgraduate Research Training

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E. S. Grossman

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Abstract

Tertiary education transformation and associated neoliberalism and new public management policies have created a cascade of events which has impacted upon the supervisor-postgraduate student dyad. Within the health sciences, this cascade contains issues of supervisor workload, student massification, clinical research, academic staff reduction, financial strategies, and the push for mode 2 knowledge production among others which has had negative effects on the quality and quantity of supervisor-postgraduate interaction time. Formal university training initiatives to supply research skills previously acquired from supervisors are deemed insufficient to meet all current postgraduate needs. Informal alternative research-related spaces, especially those with academic staff involvement, have the potential to serve as learning spaces to supply disappearing supervisor skills and experience. Such spaces are deserving of greater scrutiny and future research,

E. S. Grossman (✉)
East London and Port Elizabeth Health Resource Centres, Walter Sisulu University and Cannon Rocks, Eastern Cape, South Africa
e-mail: grossmane@gmail.com

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as they could provide a workable solution to the intractable tensions between the numbers of values and goals arising in postgraduate learning within South African and other higher education environments.

Keywords
Supervisor · Postgraduate · Research · Training · Alternative spaces · Peer group · Workload

Introduction

Yet another wind of change is floating through the passages of academe – an institution shaken to its foundations by knowledge society transformations, massification of the student cohort, neoliberal ideals, and new public management (NPM) policies. This wind is still a waft, drifting through corridors and swirling around laboratories, propelled by the passing of a postgraduate research student (PRS), notebook in hand, anxiously hurrying to seek advice and guidance. Who is she going to? In all likelihood, it is not her supervisor.

Shifting allegiances within the supervisor-PRS dyad has been ongoing for well over two decades. Cullen et al. (1994) reported that 25% of PhD students received "unofficial supervision" from others with a staggering 50.8% of Australian supervisors/advisers providing additional supervision to students for whom they are neither an appointed supervisor nor adviser. A more recent study of PhD thesis acknowledgements is further revealing: over half of academic and conceptual advice is given by academics and professional colleagues other than supervisors (Mantai and Dowling 2015). Finally Kemp et al. (2014) noted that biomedical PhD students, at two elite universities in the UK and USA, perceived that nonsupervisory peers were as important as supervisors in learning relationships. The question that begs answering is, how has it come about that the very core of PRS learning, the supervisor-student dyad, is drifting apart? What are the consequences of this separation, and how does it affect our PRS hurrying through gloomy concrete corridors, notebook in hand, seeking answers?

Overview

The end of the twentieth century experienced major shifts within higher education as a result of universities situationally repositioning themselves to optimally serve as a resource for the knowledge economy. Together with massification of the student body, academic consumerism needs and demands for relevance in curricular development, detailed bureaucratic requirements and guidelines have been introduced to more efficiently meet utilitarian day-to-day academic activities. Consequently tertiary education institutions worldwide have been on a trajectory to maximally achieve their goals in the increasingly competitive global

environment, while adhering to ever-greater regulation of university activities via new public management (NPM) systems and neoliberal translations of higher education. Bleiklie and Henkel (2005) observe that, although the trajectory follows a common direction, tertiary institutions around the world have taken multiple pathways to meet their transformation challenges. They point out that at different levels, individual trajectories are affected by any number of issues which can be economic, national policy, institutional factors, academic disciplines, the individual academic, resources, and the level of skills available at any point in the pathway. To complicate matters, profound change may take place at one level, for example, in declared policy goals and the ideology underpinning them, without being balanced by corresponding changes at an institutional level or at the level of individual academic practice.

Much which has been written about continuity and change in higher education has concentrated on research, patents, technology transfer, and output-oriented functions of entrepreneurial universities with abundant resources (Rhoades 2005). Far less has attended to the rate limiting step of academic departmental realities, at the level of the basic production unit or PRS, probing research and the teaching thereof, within the managerial push to ramp up PRS graduation and publishing revenues. Furthermore, research on postgraduate learning has disproportionately focused on the social sciences and in particular education, with an acknowledged gap in the literature in the health sciences (Kemp et al. 2014). Strong evidence exists to suggest that cultures of academic practice (and thus learning) differ greatly across disciplines (Kemp et al. 2014). Accordingly, the extrapolation of findings from one sphere of academia to another is often difficult. For these reasons, I explore what Rhoades (2005) refers to as the "academic heartland" of a discipline-based academic faculty where internally staff are dealing with concrete realities of "doing more with less" (Rhoades 2005; van der Walt et al. 2002) with a diverse postgraduate population and degree offerings, both clinical and biomedical, at master's and doctoral level.

South Africa has embraced the ideals of neoliberalism and introduced a wide range of institutional interventions to position itself firmly in the new higher educational landscape. These interventions appear to have paid off as South Africa consistently has four out of the five African universities that appear in the Shanghai Jiao Tong Academic Ranking of World Universities (Cloete 2016). This comes at a price. Changes to the government subsidy model, aimed to bring efficiency and equity into the educational system, reward research and PRS completion with little attention paid to teaching. Thus our hurrying PRS will experience an increased pressure on speedy degree completion and an expectation that her thesis results will be published in peer-reviewed, high-impact international journals. Academics are expected to raise funds externally to support their research (Wright 2016). The success of the fundraising will dictate the scope of resources and facilities obtainable and affect the range of research our anxious PRS can engage with. University fixed costs are reduced through such means as outsourcing, privatizing, increasing the proportion of part-time and temporary personnel at the expense of permanent posts, and divestment of "noncore" activities, all of which bring with them negative

consequences (van der Walt et al. 2002; CHE 2015). Significant in terms of doctoral studies in South Africa is the annual increase of academic staff at 2.9% per year (between 1996 and 2012) with PhD enrollments at 6.4% per year. This has changed doctoral enrollment-staff ratios from 1:1 to 2:1 (Cloete et al. 2015), doubling the supervisory load, and our anxious PRS must now vie with twice as many others for the attention of her supervisor.

What is often overlooked in published higher-degree throughput studies, with its emphasis on PhDs, is the additional burden of master's students who also require supervision, often at an intense level, to provide the best foundation for future doctoral study or specialist practice. To keep the South African PhD pipeline flowing, the conversion rate of one doctoral student arising from every seven master's candidates must be maintained or better still improved (ASSAf 2010). In addition and unique to the health sciences is the recent (2011) qualification requirement whereby registrars (trainee clinical specialists) must submit and pass a research project as part of their MMed/MDent degree. In this, South Africa is following a worldwide trend (Patel et al. 2016), but for the South African Faculties of Health Science, this means that additional research and supervisory resources need to be found for the influx of MMed/MDent research projects. This clinical cohort has swelled the existing registered PRS cohort by over a third in the past few years. From a supervisory perspective, the additional supervisory workload is daunting, but from the NPM side, the potential of published MMed/MDent research gives universities opportunities to increase their research output and receive state subsidy, since all trainees are formally registered postgraduate students. Thus the increased postgraduate load at master's level is offset by the ability to productively process the student as client. A further complication is the large numbers of clinical specialist academic staff, who, for historical reasons, lack a formal research qualification and hence cannot supervise the MMed/MDent or any other research degree. This is a situation experienced widely in the health care sector (Grossman and Crowther 2015) and at our "academic heartland" spreads research and supervisory resources very thinly, forcing existing supervisors to often act outside their area of expertise.

In addition to neoliberal shifts, South Africa has had to adapt its tertiary education goals to accommodate national policy, consequent to the political handover in 1994. This has brought about a wide array of transformation-oriented initiatives, to affect issues of democracy, equity, and redress as embodied by the South African *Constitution* of 1996. In doing so, a number of difficult, competing goals have arisen, especially in the context of inadequate public finances and academic development initiatives to support underprepared, largely poor, culturally diverse, black, or working class students seeking a university degree. With enabling legislation, past discrimination is redressed and issues of representivity and equal access for all tiers of staff and students ensured. In consequence, boundaries between neoliberal tertiary education transformation and those due to political and ideological transformation are blurred, and academic staff sometimes find it difficult to distinguish which change is due to what transformation initiative.

Time to Completion

Despite an academic environment fettered by an economic downswing, underprovided supervisory capacity (ASSAf 2010), a steady reduction in permanent academic staff numbers (CHE 2015), and regional influences where there are already 50% more students per lecturer in Sub-Saharan Africa than the global average (British Council 2014), South Africa has experienced a pleasing and consistent growth in doctoral enrollments over the past decade (CHE 2015). Furthermore, there remains an ongoing and increased pressure on academic staff to ramp up doctoral enrollments, regardless of low postgraduate completion rates and prolonged registration times (Louw and Godsell 2015).

Dropout and graduation delays have profound consequences for the economy, the university, and the postgraduate alike. As elsewhere, the South African government expects prompt, efficient, and cost-effective research graduate returns on its university subsidy investments to meet the developmental needs of the country (Habib and Morrow 2007; ASSAf 2010; Gardner 2010). The bulk of the subsidy monies is released on successful graduation, making timeous completion imperative for the university to achieve economies of scale. Not only are South African universities financially disadvantaged by slow completion rates, clogging of administrative and supervisory resources occur when postgraduates remain in the system for longer than expected. Finally the postgraduates themselves don't want to prolong their registration time: one laments "We are at a stage in our lives when many of our peers who chose to work are buying houses and cars, while those of us … [studying] are constantly anxious about our funding and that we continue to be a financial burden on our parents … aside from the difficulties of raising a family and saving for retirement" (ASSAf 2010).

Despite the many changes occurring in the postgraduate research landscape, the rate of completion of master's and doctoral candidates remains a global problem (Ehrenberg et al. 2010; Cloete et al. 2015). Desired South African completion rates for a full-time PhD is 2 years (part time 4 years) and 1 year for a full-time master's (2 years part time). However actual completion rates are far from ideal: the average PhD completion rate after 7 years is 48% (Cloete et al. 2015), and 50% of full-time master's students take just over 2 years to complete. While completion rates and attrition of postgraduate students are a universal challenge, direct comparisons with South Africa are restricted due to influences such as discipline of study, part or full time, gender, race, or age variables and national program structure and study time intervals.

Traditionally the relationship between students and supervisors has been regarded as the most important element to ensuring a successful, speedy, and efficient master's or doctoral candidacy (Grant 2003; Brill et al. 2014; Kemp et al. 2014). Thus in the global move to shorten completion rate, supervisors are pressurized and incentivized to meet this goal. South Africa has not escaped such coercion, and a light will be cast in this corner of supervisory practice in the following section.

Supervision

In South Africa, four supervisory models occur, with an overriding assumption that supervisors are best placed to offer guidance (van der Meer et al. 2013). In all cases, it is the formally appointed supervisors who are responsible for the educational and administrative path of the student. (1) The traditional model where the PRS works individually and intensely with a supervisor who guides them in their research. (2) The committee or panel approach with between three and five qualified academics, all formally appointed, supervise the PRS. The committee members are selected on the basis of the research field being investigated and expertise required. (3) Physical sciences favor the "laboratory model" where groups of research students, under one supervisor, work together on a common project. The supervisor leads the group, which could include any number of academics, researchers, postdoctoral students, technicians, and laboratory assistants (Kemp et al. 2014; Cotterall 2011). In this setting, the PRSs tend to turn to more senior students or others in the group for assistance rather than look primarily to the supervisor for advice, thereby supporting each other in the process. In recent years, the "laboratory model" has been adapted for the "soft" disciplines, such as the humanities, into the cohort model of supervision to gainfully benefit from that community of practice. (4) The cohort model is described as consisting of a number of "purposefully grouped students entering and pursuing a programme of study together, characterised by social and cultural processes, shared experiences and interactions, collective efforts, and mutual commitment to an educational goal" (Govender and Dhunpath 2013). Contrary to the other supervisory models, cohorts vary widely in formality, number of supervisors, lifespan, disciplinarity, and curriculum style (Lai 2011; van Biljon and de Villiers 2013; Kemp et al. 2014). Added to the above four models is a co-supervisory option which can be used in many configurations to supply any number of supervisory and student needs (Grossman and Crowther 2015).

What would be the workload attached to each model? Efficiencies of scale dominate the potential and effectiveness of laboratory, cohort, and panel/committee supervision and can be wasteful when roles within the team are not clarified (Grossman and Crowther 2015). Except for the "laboratory model," the other three systems appear rather demanding of labor and time. The panel model with three to five supervisors attending to one PRS seems as time-consuming as the one-on-one traditional model, while cohorts are hard to assess efficiency-wise, having varying staff-student ratios which can be a "one-to-many" or a "many- to-many" relationship (van Biljon and de Villiers 2013). As regards any difference between the models, Louw and Muller (2014) opine "We are ... nudged in the direction ... that there is no such thing as an alternative supervisory model. What is in place would better be described as a set of commonsense and rather ad hoc technical adjustments that more often than not undercut their own purposes. And insofar as [supervisory] models are constructed and compared, the models themselves show no appreciable differences at all." From Buttery et al. (2005) comes the exclamation "the efficacy of various models of supervision is not overwhelming despite the significance of the subject." Both these views highlight perturbing "academic heartland" realities in the current quest to improve PRS throughputs.

There are two reasons why the one-on-one traditional model of supervision dominates the tertiary postgraduate supervision scenario (Grant 2003; Stracke 2010; Cotterall 2011; Pyhältö et al. 2012).

The primary influence shaping a supervisor's style is their own supervision experience. Most current South African supervisors were supervised in the traditional way, thereby perpetuating that style, and once a style is set, supervisors rarely change their approach (Cotterall 2011; Louw and Godsell 2015). Secondly and importantly are the incentives linked to postgraduate supervision which favor single supervision. So no matter the radical shift in the tertiary research environment, with increasing numbers and increasingly diverse students, supervisors will pragmatically favor practices which "work for them" and/or bring in the most NPM incentive monies. This is despite the fact that "Demands for satisfactory performance coupled to increased productivity, as well as an effective reduction in staff numbers because of the economic downturn, have made the traditional model increasingly unsustainable" (Louw and Muller 2014) and "it is evident that the traditional apprenticeship model [of supervision] may not be an efficient approach for the purpose of rapidly increasing the production of doctoral graduates in South Africa" (ASSAf 2010). Pertinently, Govender and Dhunpath (2013) voice the danger of imposing team supervision on academics who are accustomed to supervising alone.

The failure of transformation policies to come up with any viable alternative to the traditional supervisor-student dyad seems to be a major shortfall in NPM thinking. This is in contrast to undergraduate study, where massification and diversity has been better dealt with. Neoliberal undergraduate students are more likely to study in any number of multiple settings such as large lecture theaters, in groups on collaborative exercises, with online tutorials and using a range of technologies and less likely to spend significant time in small group tutorials or have one-to-one consultation with their lecturers (McInnis 2005). It is not surprising therefore that a tension has arisen within the academic supervisory body, between a preference for traditional supervision and optimal incentivization on the one hand and the massified PRS throughputs demanded by university administrators on the other.

Even if the most dedicated and conscientious supervisor would like to give their PRSs the best research experience possible, workplace realities dictate otherwise. Heavy academic and clinical (in the health sciences) workloads, ever-increasing numbers of committee meetings, and unprecedented administrative duties (Habib and Morrow 2007; ASSAf 2010; Grossman and Crowther 2015; Wright 2016) hinder the sustained and productive face-to-face interaction required for PRS development. Indeed one third of South African supervisors feel they currently do not give sufficient time to their students (Cloete et al. 2015) with Australian doctoral students reporting less productive supervisory contact compared with their experience in honors and master's years (Neumann 2007). Reduced contact time greatly affects students' perceptions of their supervisory experience (Cotterall 2011) with direct research-related help the biggest perceived shortfall between students' expectations of supervision and their experiences. Unsurprisingly, Wingfield (2012) pleads for relief from administrative tasks to optimally dedicate time to the education of

postgraduate students, while workload demands increasingly narrow scope of practice, negatively impacting on the *supervisor's* own supervisory experience. Cohort supervision meetings often take place on weekends (Harrison 2009; Govender and Dhunpath 2013) to cater for part-time working students while "catch-up" work such as draft correction occurs in the small hours of the morning (Spear 2000) to meet the turnaround draft deadlines expected within the consumer-conscious, neoliberal, academics system. No wonder Wingfield (2012) felt pressed to record that successful academic work way more than the official 40-h week, the implication being that academic time now swallows up private and family time. Grant (2003) was prescient when observing "the complex and potentially fraught pedagogy of supervision may not be withstanding these pressures [student market, funding, diminishing government support] particularly well." Thus our PRS hurries across the quadrangle with the thought "I don't want to bother my supervisor, he's so busy."

Despite time factors reducing supervisor accessibility, previously PRSs could confidently turn to their supervisors for all aspects of their research. Now things are rather different. The supervision process, when supervising students in one's own area of expertise, is fairly straightforward. However, transformation-allied departmental restructuring has forced Australian supervisors to supervise outside their field due to vanished (retrenched) expertise (Neumann 2007). Mode 2 knowledge production has become so diverse that supervisors often cannot give assistance or don't know who to call upon if their networks do not stretch in that direction. Finally as mentioned before, many South African clinically oriented MMed/MDent PRSs are of necessity supervised by non-clinicians as a short-term measure until such time that clinically qualified supervisors come on stream. Thus, it is unsurprising that 45% of surveyed South African supervisors admit to supervising outside their area of expertise (Cloete et al. 2015).

Expertise is not limited to the field of study. Supervisors cannot be masters of all attributes required for postgraduate study: a case in point being academic writing which needs skill and focused attention during writing-up, a stage notorious for prolonging PRS registration (Grossman 2016). Academic writing is a challenging, complicated combination of tasks requiring a multiplicity of skills which must be utilized at various times and in different orientations throughout the process (Murray and Moore 2006). This is especially testing for supervisors who are nonnative English speakers which is increasingly the norm in South Africa. Undoubtedly many supervisors have writing skills but may be inarticulate in conveying writing concepts: Cotterall (2011) uses an example of a student advised to include "beautiful words" in a journal article. Inarticulation and poor conveyance of concepts are not limited to writing. In other areas of research procedures, the quality of the PRS apprenticeship is affected when supervisors lack skill in articulating their knowledge (Cotterall 2011; Carter and Kumar 2016) or actually lack required knowledge.

Universities are aware that supervisor barriers are a rate-limiting step to optimally achieve PRS-generated research subsidies. Therefore, they have cast around for alternatives to additionally support postgraduates and ensure quality graduates. One solution is official training courses as an adjunct to shrinking supervisory contact time.

Training

Universities have introduced formal initiatives to speed up graduation times by supplying courses and training workshops among others. In doing so, they simultaneously deal with NPM accountability requirements, PRS massification demands, language problems of a diverse PRS body and, in theory, relieve the time-consuming supervisor-PRS interaction required during candidacy. Typically such courses, if available, cover different research methodologies, statistics, how to compose a literature review, preparing a research proposal and thesis writing. Libraries might offer information searching skills, while writing is supported through a dedicated writing support facility, writing courses, and writing retreats. While these initiatives are suitable for some, they fall short for others. Centrally located university and faculty support facilities and courses are often deemed as too generic or too discipline based to meet the diverse and complex needs for all students and do not cover the full gamut of PRS research and writing problems (Rosales et al. 2012; van der Meer et al. 2013). Discontented rumblings are apparent from the student body about such routinization and commodification of teaching and learning, the introduction of which has ironically been set in place to accommodate their growing numbers. An engineering student sniffed ". . .there is only so much you can get from a class. You won't find a class to help you do research. It's very difficult, it's very specific . . ." (Gardner 2010). Ehrenburg et al. (2010) report that students in a large-scale PhD education study in the USA requested "informal" workshops to assist them progress toward their degree, rather than additional formal "mentoring" per se. Generation Y PhD students in the UK (Carpenter et al. 2012) considered generic training content ineffective if not tailored to their individual subject areas or needs. They preferred frequent, regular, face-to-face support and training via informal providers, specific to their field. Whether this groundswell toward informal, face-to-face, appropriate learning arrangements is a reaction against the increasing corporatization of higher education is not known, but the coincidence is there.

Thus the emergence of peer groups as a support network has been hailed as a remedy for research learning and speedy degree completion.

Informal Learning Spaces

Postgraduates find it easier to seek advice from peers because they are supportive and non-judgmental. Peer support, as an informal support activity, has been well studied and shown to assist postgraduates counter feelings of isolation (Bell et al. 2013); encourage face-to-face contact (Steele et al. 2012); elevate writing and confidence boosting (Rosales et al. 2012), maintain momentum within a low-stakes forum to present their critical arguments and feedback strategies (Stracke and Kumar 2014), and so on. In addition, such informal gatherings provide opportunities for building networks and supplement competencies within the group (Pyhältö et al. 2012). Indeed Pyhältö urges students to form their own support groups and networks using "semi-planned events, such as social gatherings and professional development opportunities" for this purpose. Peer groups

have undoubtedly proved their role in PRS support but are not seen by all as a panacea to speedy PRSs graduation. Some supervisors regard any group which does not appear to be moving students directly toward the main game of thesis completion as a distraction or obstructionist (Devenish et al. 2009; van der Meer et al. 2013). Such attitudes illustrate the extent to which throughput mindsets have filtered down to the supervisor who perceives the student's timely completion of the project as the central priority, limiting exposure to disciplinary research culture (Cotterall 2011; van der Meer et al. 2013).

Whereas peer groups are traditionally regarded as a group of postgraduate students meeting under largely social circumstances with some academic inputs pertinent to their research degrees, researchers mainly from the antipodes have become increasingly aware that with greater academic staff involvement, peer groups can serve as alternative research-related spaces (ARRS) for learning and optimum degree completion. For example, Cotterall (2011) identified that while research learning opportunities in student-initiated writing and reading groups were created, they failed to offer critical feedback at a level which staff attendance could provide. Furthermore, within a research laboratory context "students experienced a lot of stress in trying to make things work since they were left on their own trying to teach each other . . . because the supervisors had become managers" (McAlpine and Amundsen 2015). While self-learning is to be encouraged, the timelines that such learning requires sit uneasily within desired NPM completion rates. This has led to yet a third development in informal learning where concerned academics provide direct research-related help and support as an alternative learning PRS space. The motivation behind providing such help is the perception that neoliberal university-allocated resources are inadequate to assist with PhD production and research, prompting individuals to initiate supportive pedagogic activities (Louw and Godsell 2015). As with peer groups, such support can disappear very quickly because it is not part of the university system. Thus a better understanding of ARRS academic participation is under investigation on a number of fronts and has only recently been afforded critical space in academic literature.

It is helpful at this point to visualize ARRS as informal learning spaces on a continuum with many permutations catering for all manner of PRS research and/or supervisory needs along its length. At the one end of the continuum lies the largely social peer group, made up of exclusively PRSs with no academic staff involvement. At the other end of the continuum is an intensively run, goal-directed alternative research learning space (DARLS) aimed at increasing postgraduate throughput, maintaining quality research and providing supervisory skills. In this latter case, there is strong academic staff involvement, supplying PRS support in the fashion they want: credible, informal, readily available, one on one or small groups, face to face, tailored, and specific to their field and need. In between, there could be any number of different staff-student arrangements catering for a variety of peer group and academic needs.

From the above, it can be seen that an array of settings, structures, and pursuits for informal learning spaces means an expansive range of names for this activity (Steele et al. 2012; Stracke and Kumar 2014; Batty 2016). ARRS can be interdisciplinary or discipline specific (Buissink-Smith et al. 2013). They are seen to complement the supervisor-student relationship, not to replace it (Steele et al. 2012; Stracke and

Kumar 2014) although Grossman (2016) suggests DARLS can serve to *supply* eroding supervisory skills. What such groups have in common is that they meet on a regular basis, function outside the formal degree components such as supervision and mandatory study units, and are not institutionally regulated. Being personality and leader driven, ARRS tend to collapse when the driver leaves, thereby mirroring the transience of the PRS/staff population and the informal nature of the activity (Bell et al. 2013; Louw and Godsell 2015; Grossman 2016). Transience does not imply a short lifespan. In Australia, Batty's (2016) HELP group for screen production research is still running 4 years on, and at the time of publication, Devenish et al.'s (2009) business administration group was 8 years in the making. The South African experience of PaperHeaDs was a 10-year support group of education-based, part-time PhD candidates (Harrison 2009).

Most such groups develop in a "bottom-up" manner from a relatively spontaneous grouping of peers within a particular program of study. In different contexts, Buissink-Smith et al. (2013), Batty (2016), and Grossman (2016) have demonstrated that such groupings can be successfully "manufactured" in a top-down manner by overtly providing institutional support to PRSs or being initiated by an academic. Given the multiplicity of functions, Buissink-Smith et al. (2013) have come to the conclusion that there is no one "right" formula to establishing an ARRS and that the only common denominator is their informality. Recent publications have highlighted the positive role which ARRS have on PRS support in distance learning (Lai 2011), applied linguistics (Stracke 2010), engineering (Rosales et al. 2012), criminal law (Steele et al. 2012), screen production (Batty 2016), health science (Kemp et al. 2014; Grossman 2016), and so on.

Without question, informal teaching occurs in every corner of academe, but because it takes place behind a veil of institutional strategic silence (Devenish 2009), the full potential has not been realized nor recognized. The very nature of an ARRS through its informality makes it difficult to estimate the precise contribution ARRS have on PRS throughput. ARRS have no regulatory course codes to measure teaching inputs; the activities are not included in FTEs (full-time teaching equivalents); the hours expended are not calculated in workload assessments, and contact time is neither assigned to nor factored against supervisor-postgraduate student ratios. Literature shows this activity has direct throughput benefits (Grossman 2016), but as yet the full effect of ARRS on PRS completion rates and quality graduates is unknown. Any form of ARRS could provide a workable solution to the intractable tensions between the numbers of values and goals arising in South African PRS education environments. Therefore, they are deserving of greater scrutiny and future research as a means of providing supportive postgraduate learning.

Formalizing ARRS?

Should universities formalize ARRS? Literature does not give a simple yea or nay on the matter with several opinions from a number of perspectives. Steele et al. (2012) place the success or otherwise of formal ARRS recognition firmly

within the institutional camp. Should institution vision be narrow, ARRS might never achieve their maximum potential. Should the vision be broad, ARRS could serve as a catalyst for rethinking postgraduate research education. Harrison (2009) feels that normative educational frames will govern what happens when an ARRS is set up within university structures, to the detriment of spontaneous learning. Bell et al. (2013) warn obliquely of the "muting effect" of supervisor involvement should they participate in ARRS structures. McInnis (2005) grumbles that academic decision-making is now the province of executives and managers, no longer professors and senior academics, thereby compromising long-held trusts in academic freedom, good teaching, and quality learning. In establishing ARRS, such a trust can be reclaimed. From the student's point of view, an officially supported and institutionally "open" ARRS confers stability preventing a helpful activity from floundering and premature collapse (Buissink-Smith et al. 2013). So the jury is out on the question of formalizing ARRS.

Taking Stock

Profound changes within tertiary education over the past few decades has exerted increasing pressures on the supervisor-student dyad and led to the establishment of ARRS to compensate for weakening supervisor inputs. Neumann (2007) has pointed to the swift and very powerful effect that government policy can have on core processes of academic work and the student research experience. With policy change comes numerous competing political and educational issues destabilizing national higher education transformation trajectories as described by Bleiklie and Henkel (2005). Finally, the extensive time lags between interventions and their effects, which in the case of doctoral education can run a decade or longer, have meant that it is only now possible to evaluate the outcomes of academic change and the tangible effects on postgraduate education (Ehrenberg et al. 2010). Indeed, the change has been so inexorable within the health sciences that it has left many such as Wright (2016) shouldering a "knapsack of challenges with which a mixed legacy of decision-making, good and bad, has landed [universities]." It is only now, some decades on, that a fuller understanding of the cascade of events affecting postgraduate research education can be fully understood. As we step back and watch our hurrying PRS, anxiously seeking answers, it is perhaps time to unpack Wright's knapsack and refocus on the decision-making which has affected *her* personal development to independent agency and *her* path to impending knowledge work and *her* contribution to future national economic supremacy. Up till now, other transformation stakeholders have been the focus of NPM concerns. It is exigent to explore, without delay, all viable alternatives to assist our PRS to obtain the best research experiences possible given the weakening supervisor bond. Alternative research-related spaces seem to fit the required bill.

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