

DEVELOPING GLOBALLY COMPETENT RESEARCHERS: AN INTERNATIONAL PERSPECTIVE

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ABSTRACT

Research capacity development is increasingly important worldwide. The ever-changing research landscape driven by globalisation, technological advancements, and the use of new methodologies calls for globally competent researchers. Yet, little is known about research knowledge, skills and values that globally competent researchers need to engage ethically and competently in research projects and research communities across disciplines and across geographic borders. Informed by an international community of 38 scholars in Education from 17 countries of Global South and Global North, this forward-looking study provides a much-needed emerging definition for a *globally competent researcher* and competencies required by such a researcher. Furthermore, the preliminary findings showcase research learning opportunities and challenges associated with training globally competent researchers. As evident from the findings, more attention needs to be devoted to understanding the preparation of future researchers able to conduct quality research in the interconnected world. The article has potential to be informative to a wide audience from the research world, including professors, researchers, graduate students, research personnel and management.

Keywords: globally competent researchers (GCRs), research education, research competence, novice researchers, international qualitative study

CURRENT RESEARCH LANDSCAPE

Across the globe, governments increasingly affirm the importance of innovation and research capacity as vital components in achieving future prosperity within the global knowledge economy (e.g., Africa Institute of South Africa 2012; Economic and Social Research Council 2014). Chubb (2013) explains that the increasing global focus on research competence and research productivity comes from the intrinsic link between a strong culture of innovation and national prosperity. To that end, governments have progressively recognised universities as key instruments of national competitiveness in the global knowledge economy and increased financial investments in university research.

Governments, funding agencies and comprehensive universities committed to promoting strong research programmes (McGinn 2006; National Research Foundation (NRF) 2013) continue to introduce several actions and regulations to attract international talent in a globalised world (e.g., grants for international graduate students and postdoctoral fellows; attractive employment packages; and working conditions for accomplished scholars). Through grants and scholarships, government agencies commit to promoting research excellence and training the next generation of competent researchers and innovators (Social Sciences and Humanities Research Council (SSHRC) 2016; NRF 2016).

Higher education plays a key role in training future researchers able to meet globalised expectations for their future careers within and outside academia (L'Association Pour L'Emploi des Cadres Studies and Research Department & Deloitte Consulting Public Sector (APEC and Deloitte) 2010). However, not much is known about effective ways to foster the capacity for excellence in research and scholarship (Walker et al. 2008, 151). It is important to realise that the way research is being done and shared is continuously transformed by “the application of new methodologies, the use of powerful digital technologies, increasing international collaboration, the inclusion of multiple disciplinary perspectives and the engagement of non-academic sectors in creating and mobilizing knowledge” (SSHRC 2016). Research practices within a changing research environment encourage new ways of data collection and dissemination, communication within and between research communities, multidisciplinary and international collaborations, and dissemination of research findings to non-research communities. These ongoing advances result in a demand for new tools, new skills and new approaches to the training of globally competent researchers (GCRs) able to engage in research studies across disciplines and across geographic borders. Rae (2005) appropriately captured the idea of the evolving research landscape when he observed that every society transfers skills and abilities from generation to generation, and that the level and breadth of knowledge and skill required in the present society and the current research environment are considerably amplified. This decade-old statement was true then as it is true now.

Nowadays researchers function in different environments than that of the past; therefore, it is vital to effectively support excellent research and the development of competent researchers. Existing literature addresses some competencies beyond research skills and scientific expertise that 21st century researchers need in an interconnected world, including the ability to communicate effectively with researchers across disciplines (APEC and Deloitte 2010; Brogt 2007); potential to engage in dialogue with academic and business people across nations (APEC and Deloitte 2010); capacity to translate multilingual research (Weijters, Geuens and Baumgartner 2013); skill to secure international funding (APEC and Deloitte

2010); and context-specific ethical awareness (McGinn and Tilley 2012; Szostak 2013). Yet, limited evidence has been collected regarding which research education spaces and practices contribute to the acquisition of these competencies and no evidence was reported regarding the ways these competencies relate to the development of GCRs. These open questions also reflect a need for conceptual clarity in terms of what it means to be a GCR. To that end, this article is based upon qualitative analysis meant (a) to theorise what it means to be a GCR, and (b) to explore what research education spaces and practices contribute to the development of GCRs.

The term *research education* refers to spaces, practices and policies designed to equip prospective researchers with the knowledge, skills, attitudes and behaviours they need to conduct quality ethical research and engage in scholarly communities locally and globally. The term *research education spaces* refers to research learning spaces and thus opportunities that allow doctoral students and postdoctoral fellows to increase their research knowledge and skills as well as discover responsibilities associated with being researchers. Depending on the context, research education spaces in doctoral programmes may include: qualitative and quantitative research methods courses; thesis research where a student undertakes an independent study under the supervision of a doctoral committee or a promoter; research assistantships where students assist research supervisors with their research projects; and research workshops.

It is important to note that quality training of GCRs does not occur in a vacuum; therefore, this article is devoted to understanding the development of GCRs and enabling environments in different contexts. The existing literature on the development of researchers comes mainly from Northern hemisphere contexts and is rarely inclusive of perspectives from the underdeveloped world, which may (a) challenge assumptions about the universality of findings and perspectives for the Southern hemisphere, and (b) limit the contribution of Southern perspectives for Northern researchers working across nations. Best practices for training researchers cannot be limited to so-called Eurocentric models associated with the Global North. Therefore, it is fair to claim that an understanding of how to prepare GCRs needs to come from the international community and be representative of the Global South and the Global North.

RESEARCH APPROACH

This article is based on a qualitative study with an interpretive research approach. As Given (2008, 465) explains, “In interpretive research, meaning is disclosed, discovered, and experienced. The emphasis is on sense making, description, and detail. ... Therefore, meaning-making is underscored as the primary goal of interpretive research in the understanding of social phenomena.” As little is known about the development of GCRs to secure broad-based knowledge, the evidence is drawn from an open-ended questionnaire completed by 38

international novice and expert scholars in Education – all members of a Comparative Education Society in Europe. The members represent 17 countries (see Table 1) and display equal representation of both genders (25 females, 20 males, 3 unidentified). Twenty-three of the participants are professors, 9 postdoctoral fellows, and 6 doctoral students. The participants were from a broad range of educational disciplines and research interests. For the purpose of this article, particular attention is devoted to participants' views on the following questions:

1. What does it mean to be a globally competent researcher?
2. What knowledge, skills and values do globally competent researchers need to engage in multinational, multidisciplinary and multisectoral projects?
3. How do research education spaces and practices contribute to the development of globally competent researchers at your institution?
4. What challenges are associated with preparing the next generation of globally competent researchers?

Data analysis involved reading across open-ended questionnaires and identifying key themes. Collective and unique perceptions of the participants are reported in this article. The descriptors, characteristics or activities reported for each question (in Tables 1–4) are listed according to the frequency each point was mentioned by the participants. Therefore, the top entries reflect more common responses, and bottom entries unique ones, thus less frequent.

The findings from the open-ended questionnaire are meant to serve as a starting point to further develop informed questions for the continuation of the study (i.e. personal interviews) to delve deeper into this phenomenon within specific sites.

The investigation of the development of GCRs centres mainly on doctoral programmes in Education. The focus of this work was narrowed to one specific discipline with the intention to acquire a thorough understanding of the phenomenon under investigation. Although understanding possible disciplinary differences in the development of GCRs across fields is important, including multiple fields of study at this stage could potentially add a level of complexity that would detract from the objectives of this article. The actual preparation of researchers can vary across different disciplines.

The attention to the development of doctoral students as GCRs was driven by the fact that they are often categorised as novice researchers expected to transition from knowledge consumers to knowledge producers (Lovitts 2005) and are recognised as vital to the 21st century global knowledge economy (Evans 2010). Doctoral students must demonstrate comprehensive understandings of the complexities of research and an ability to think as researchers. Nicolas

(2008, 10) described doctoral students as future creators of knowledge and stated, “Researchers-in-the-making are by far the most important ‘vehicles’ for the transfer of university research to society”. Although the focus in this article is on novice researchers, the author recognises that research education is an ongoing process that starts with initial research learning in higher education and continues throughout researchers’ professional lives.

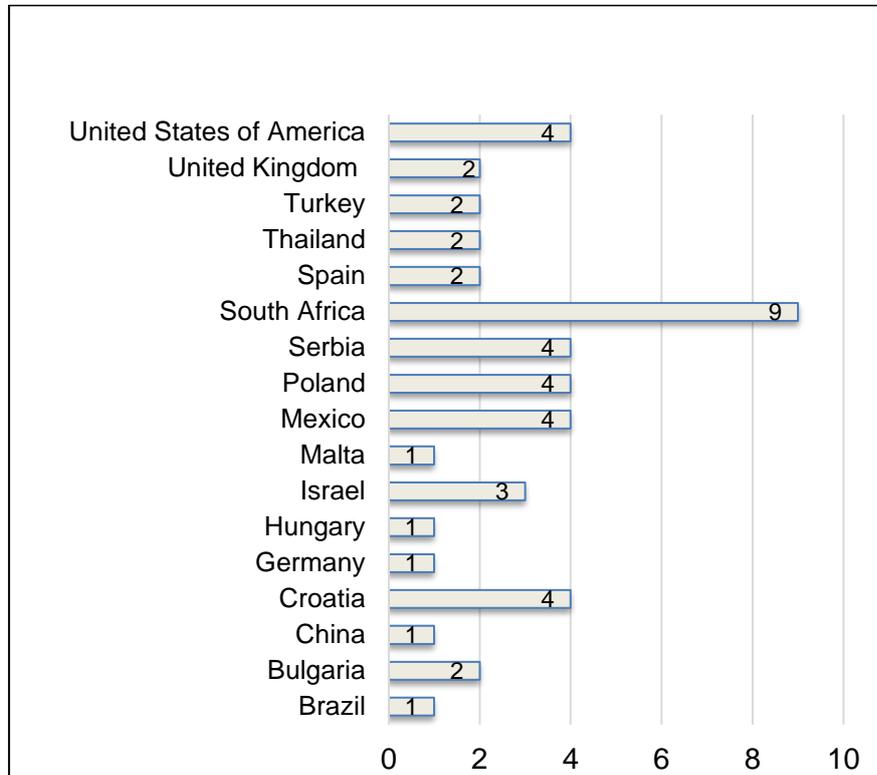


Figure 1: Respondents’ location

PRELIMINARY FINDINGS

This section is organised according to the four questions this article is meant to focus on in order to address the objectives stated earlier. Although the first and second question are closely related, it is useful to tackle the questions separately and thus allow space for clear distinction between participants’ understanding of knowledge, skills and values a GCR should possess. The reported findings are linked to current international studies to directly situate participants’ views with broader literature.

It is worth noting that there is a growing body of literature on preparing GCRs (O’Connor and Zeichner 2011; O’Sullivan and Niemczyk 2014; Zhao 2010) and educating globally competent citizens (Andreotti and De Souza 2011; Tarc 2013); however, this article provides the first empirical research findings specific to the development of GCRs.

Q1: What does it mean to be a globally competent researcher?

As stated earlier, the first objective of this work was to theorise what it means to be a GCR. The following descriptions reflect 38 participants' views, which are phrased closely to their authentic expressions. The majority specified not being familiar with or coming across this notion in the past, which further validates the need to define the term *GCR*.

Table 1: Attributes of GCRs

Aware of a wider world, diverse worldviews, cultures, social norms
Aware of global issues (in relation to own location/research interests)
Aware of complexities of different contexts and their impact on education
Interested in exchanging perspectives, practices, experiences
Interested in conducting research that is relevant globally
Able to establish and collaborate with multicultural and multidisciplinary networks
Able to conduct quality ethical research in different contexts
Able to share research results internationally
Able to critically read research reports from different contexts
Tolerant, valuing diversity, outraged by social injustice
Knowledgeable in different research methodologies (strong research knowledge and skills)

Based on the above-mentioned aspects, it is evident that participants envisioned a GCR as someone aware of the world outside of their own context – someone who is knowledgeable and skilled to engage respectfully with multicultural communities to address critical challenges of our times. Identification by several participants that GCRs need to be aware of diverse worldviews, cultures and social norms indicates that the global orientation of researchers needs to be intentional. In fact, it can be argued that “intentionality” is key, since researchers need to commit to staying well-informed in order to introduce global dimension into their research. In short, in order for GCRs to conduct quality research in diverse contexts of the changing world, they must understand it. The following emerging definition is presented as a living version that will be enhanced as more research is done and more perspectives are gathered on this topic.

“A globally competent researcher possesses knowledge, skills, values, and attitudes necessary to conduct respectful and rigorous research in diverse contexts. Globally competent researchers are aware of a wider world, critical global issues and their impact on education in different contexts. They are committed to collaborate within multicultural and multidisciplinary settings. Globally competent researchers value diversity, social justice, and manifest intercultural sensitivity conducting and reporting research.”

This definition supports new ways of thinking about competent researchers capable to conduct

quality research in various contexts who are dedicated to making a meaningful contribution to global society. It also provides a useful starting point to establish meaning for the term *GCR*. Considering the interconnectedness of our world and the ever-changing research landscape, it is crucial to articulate this term in order to (a) outline expectations of GCRs; (b) evaluate if researchers identify themselves as globally competent; (c) set guidelines for research programmes to prepare novices to conduct quality research in a globalised world; and (d) provide research and development spaces for practicing researchers, since GCRs can only be trained by experts who see themselves as globally competent.

Q2: What knowledge, skills and values do GCRs need to engage in multinational, multidisciplinary and multisectoral projects?

Table 2 illustrates knowledge, skills and values that, according to participants, spell out global competence in researchers. *Competency* refers to a constellation of abilities, commitments, understandings and skills that enable an individual to act effectively in a given work space or a situation. The outlined characteristics and descriptors add a level of complexity to the previously mentioned definition.

Table 2: Knowledge, skills and values of GCRs

Knowledge	Skills	Values
Expertise in own field	Critical thinking skills	Respectful towards diversity, other cultures and religions
Awareness of current international literature	Problem-solving skills	Open-minded
Knowledge of multiple research methodologies and methods	Intercultural skills related to human relations (negotiating, conflict resolution, cultural sensitivity)	Driven by passion to make a difference in the world
Culture-specific knowledge/contextual knowledge	Communication skills and teamwork skills (across disciplines)	Compassionate, empathetic, collegial
Historical understanding of a context under investigation	Ability to explain own worldviews and to recognise own biases	Ethical, honest, strong moral principles = integrity
Knowledge of human rights	Ability to speak and write in English	Objective
Knowledge of ethical regulations	Ability to cope with change and adapt	Transparent
Knowledge of foreign languages	Advanced technology skills	Social justice oriented

It is vital to focus on knowledge, skills and values that GCRs need to possess in order to explore and then assess how graduate programmes, senior researchers and research supervisors impart these skills on a new generation of researchers. It is also vital to explore how higher education institutions and specific faculties support expert researchers to enhance these skills. The following questions beg to be answered: Where do we place responsibility for the development of GCRs? Who is responsible for transferring research knowledge, skills and values to a new

generation of researchers? What are the expectations of novice researchers after they received their doctoral degree? Do these expectations align with what the programmes offer in terms of research knowledge, skills and values? And, how do we evaluate if the identified expectations were met? Undoubtedly, some sort of accountability and quality assurance process is needed. The idea that universities produce a high number of PhDs who are mediocre researchers, yet in a position to conduct research and influence public opinion is not acceptable (see Cyranoski et al. 2011). According to Leech (2012), a possible reason for the shortage of skilled and knowledgeable researchers is the lack of quality control based on clearly defined standards of what it means to be a good researcher or to conduct quality educational research.

Levine's (2007) research indicates that most programmes across the United States do not equip researchers with the necessary research skills and abilities. Based on Levine's findings, the shortcomings of educational programmes are due to inadequate resources to support full-time doctoral students, lack of quality faculty who are productive researchers and skilled mentors for doctoral students, lack of rigorous standards, and ambiguous expectations of doctoral degrees. Levine recommends to "establish effective means of quality control within the education research community ... and to investigate doctoral programs to the extent they employ rigorous and appropriate standards" (2007, 77).

Understanding the types of knowledge and skills GCRs require in the increasingly collaborative and complex nature of research is only a first step. The next step is to explore through what educational spaces and practices novice researchers acquire and enhance such research knowledge, skills and values. In that regard, the next question was meant to investigate the current situation at participants' respective institutions.

Q3: How do research education spaces and practices contribute to the development of globally competent researchers at your institution?

Table 3 reflects the collective responses organised in order according to the frequency each point was mentioned by the participants. The majority of the participants clarified that much improvement needs to be done at their institutions in terms of allocating limited internal funding and supporting researchers willing to engage their students in research communities. Comments regarding need for improvement and challenges are further reported in the responses to the fourth question.

Table 3: Effective research learning spaces and practices

Offering research workshops
Delivering qualitative and quantitative research methods courses
Doing thesis research
Providing supervision/mentorship
Providing infrastructures and research funds
Encouraging movement of researchers across institutions/nations
Promoting graduate students' mobility (conferences, student exchanges, workshops, joint and exchange programmes)
Encouraging networking, building relationships, international collaborations (joint projects, opportunities created by international office)
Promoting the English language as a cross-cultural communication tool (oral/written)
Learning from international speakers
Promoting respect for diversity through films, readings and discussions in courses

The above listed activities represent current spaces and practices employed at participants' institutions to train future researchers, mainly doctoral students in Education. The responses reveal that outside of formal spaces, such as research methods courses or research workshops, engagement in other learning activities also provides educational environment for researchers in the making (Nicolas 2008). Supervision and mentorship were frequently noted as well as the importance of cross-cultural communication and mobility. According to Miller and Salkind (2002, 15), "There are no shortcuts in becoming a competent researcher. It [becoming a researcher] involves a great deal of time and practice in every sense of the word. An increasing number of experiences in different settings leads to enhanced competence." On the same note, Lee and Roth (2003, para. 11) articulate that "becoming more fully engaged and becoming an expert are two sides of the same coin".

There is no doubt that higher education institutions need to engage in systematic planning to provide quality research education. Although it is impossible to predict an outcome or success of a researcher's development, it is possible to create conditions under which GCRs can flourish. According to participants, the above listed research learning spaces and practices provide conditions conducive to the development of future global researchers.

In agreement with participants' views, the literature (Niemczyk 2015; Rossouw and Niemczyk 2016) showcases the importance of doctoral students engaging in a research community and being exposed to hands-on research learning. McWey, Henderson and Piercy (2006) argue that research development in graduate programmes involves more than taking research methods courses and completing a thesis: it involves a broad range of educational opportunities where students can connect and apply their theoretical knowledge to research practice. The APEC and Deloitte (2010) report also supports the idea of learning while doing and suggests that it is best for students to join research teams as soon as possible to develop their skills.

Q4: What challenges are associated with preparing the next generation of globally competent researchers?

In order to enhance quality research education, it is essential to understand existing challenges and limitations. Table 4 reflects challenges participants faced at their respective institutions. As clarified below, the challenges noted by participants closely resonate with findings from other studies.

Table 4: Challenges with the preparation of GCRs

Lack of funding and resources to support students' conferences, establish international collaborations, etc.
Insufficient training and preparation of study supervisors and promoters
Promoters' lack of collaborations with strong research-oriented institutions
Lack of time – high teaching workloads and high demands in terms of publications
Lack of strategies that allow researchers to see themselves as global researchers and contributors to global knowledge
Poor training of peer reviewers (many reviewers do not understand their role and attempt to impose their views)

Key challenges identified by most participants included limited funding and thus limited resources for students' research development. This indicates that even if research supervisors are dedicated to connecting their students to international research community, they are limited by internal funding allocated for research development of graduate students or highly competitive external funding (Niemczyk 2015). It is important to note that the co-participation of novices with expert researchers and engagement in research communities contribute to the development of researcher identity. Pyhältö, Stubb and Lonka (2009) claimed that doctoral students developed their identities as researchers by engaging in research communities and doing research. However, to do so, they needed opportunities to acquire a sense of belonging to research communities. This sense of belonging can be prevented when students' collaborative participation is limited.

Another detailed challenge refers to insufficient training and preparation of study supervisors and promoters. International literature informs that research supervisors are expected to nurture the development of novice researchers (Strike et al. 2002) and provide them with educational opportunities that advance their research skill development and self-identities as researchers (Grundy 2004). However, some faculty members may not think comprehensively about research education and reflect on their own mentoring practices (McGinn, Niemczyk and Saudelli 2013). In fact, research supervisors frequently adopt past experiences (as supervisors or as students) without attention to new mentoring practices (Niemczyk 2015). The reliance on

one's own past experiences can, however, be problematic. Diamond (2010) described his journey in learning to mentor and be co-mentored, indicating that attempts to mentor can be problematic when grounded in the mentor's own past experiences. He encouraged educators and researchers to reflect on their personal experiences of mentorship, and to explore other and richer forms of mentoring, since there is always more than one way to mentor. This suggestion regarding exploring diverse mentoring practices implies a potential need for universities to provide such professional development spaces for research supervisors.

In terms of challenges, participants also commented on researchers' high volume of teaching and pressure to publish, which align with literature that reports faculty being time-poor due to heavy teaching loads, pressure to conduct research and publish, and substantial administrative and service responsibilities (Austin 2003; Deem and Brehony 2000). Given the reports from scholarly literature, the participants' concerns are well-founded.

REFLECTIONS AND CONCLUSIONS

In South Africa, as in nations across the globe, the expectations for postsecondary education and graduate training are changing. As evident from the presented literature, the role of research in universities is expanding and the expectations of researchers are becoming more complex. It is fair to state that if dynamics of research are shifting along with expectations from researchers, then uplifting current research education in higher education institutions is in order.

A knowledge-based economy relies on the production and use of ideas rather than physical labour to ensure economic growth. The reliance is on knowledge, information and skills that are used to promote economic and social development. The relevance for this research is that a knowledge-based economy puts pressure and expectations on higher education institutions to produce highly skilled researchers and scholars. Each country relying on global knowledge economy needs to build and sustain a strong and innovative research and research training environment. As researchers conduct research in new ways, research learning spaces and practices must stimulate the acquisition of progressive research knowledge, skills and values. Researchers are driven by creative inquiry and intellectual rigour, but research learning is shaped by the environment in which it is carried out.

This study provides a glimpse of information of what it means to be a GCR. In fact, this is only a first attempt at defining the term; however, what is considered more important, is to continue the dialogue to shape a more comprehensive definition. Outside of the much-needed definition, this work provides important perspectives of international scholars based on the programmes offered at their institutions and beyond. The participants identified a multitude of proficiencies required by GCRs, from expertise of own field and research methodologies to

cultural competencies, social justice orientation, and moral conduct.

In his work about values and virtues in qualitative research, Macfarlane (2010) brought attention to the virtues of researchers as a way to live research ethics. He referred to virtues as actions and behaviours based on ethical principles and argued that “virtues are closely connected with human emotions and personalities. Nobody is perfect, and it is important to recognize that a virtue approach is about realizing the importance of trying to improve through practice” (2010, 23). Macfarlane’s argument calls for a deeper reflection about what kind of GCR behaviours, attitudes and actions should be considered acceptable.

As listed in Table 3, promoting respect for diversity may occur through films, readings and discussions. It can be taught in courses, workshops or informal conversations with colleagues. Social justice values can also be transferred through the use of social media campaigns, demonstrations raising awareness of social issues. The findings indicate that preparing prospective researchers to become globally competent involves exposing novices to new perspectives in order to broaden their own worldview. The importance of understanding diverse worldviews and accepted norms of a specific community pertains not only to research conducted in different countries but also to research conducted across diverse cultural groups within a single nation, as is the case in South Africa.

It is easy to see that knowledge, skills and values GCRs need to have are substantial and growing. Participants’ views showcase what kinds of research learning spaces allow for the acquisition of the various research competencies. The obvious next step will be to explore through what specific practices, lessons and experiences these competencies are being effectively transferred. The acquisition of research knowledge and skills can be achieved through a strategic means of instruction; however, genuine development of values such as cultural sensitivity, compassion or integrity calls for spaces of reflection and critical examination. Potentially, a dedicated space within the programme where novice researchers may examine themselves as researchers, examines systemic inequalities and evaluates levels of inequality or discrimination in diverse contexts. It is also essential to allow space where young researchers can share their ideas and freely express their disagreements in order to learn how to deal with conflicts and allow different perspectives to co-exist.

Another aspect to focus on in order to strengthen the quality of research education is to address challenges identified by participants. Challenges such as lack of funding are not easily fixable. However, as the global landscape continues to evolve to favour knowledge-based economies and innovation, private and public funding, although competitive, needs to increase to support researchers’ cutting-edge discoveries and scholarship excellence through helping with costs associated with research activities and infrastructure. To promote novice researchers’

engagement in global research community, it is essential to have means to support their mobility. This can be achieved by providing additional funding for doctoral students in the form of new and expanded scholarship programmes, and through increases in research grant programmes.

Preparation of supervisors and promoters could be achieved through institutions providing workshops and sessions focused on diverse supervision practices and mentoring styles. This, of course, would require researchers to find time to attend such sessions, since another identified challenge was researchers' lack of time due to academic demands and pressures. Deem and Brehony (2000) argue that academic pressures experienced by researchers leave little time for supervision of research students and some supervisors may transfer their workload pressures onto doctoral students.

Certainly, the role of a research supervisor is very large and there is a long list of skills that faculty members need to have in order to assist novice researchers. It is fair to suggest that faculty members may need to update their own skills (e.g., mentoring skills) in order to provide quality research training. The question that remains is if such professional development of practicing researchers is (a) an institutional responsibility, (b) an individual faculty member's responsibility, or (c) a shared responsibility.

In conclusion, challenging times and complex social issues call for world-leading research and GCRs. As stated earlier, novice researchers are the research leaders and decision-makers of tomorrow. To that end, more attention needs to be devoted to understanding the process of preparing future researchers. Higher education institutions need to commit to nurture competent, world conscious researchers able to collaborate and communicate globally across multiple disciplines.

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