

THE ROLE OF RESEARCH UNITS AT HIGHER EDUCATION INSTITUTIONS: INTENTION OR REALITY?

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ABSTRACT

Higher education institutions are moving towards highlighting the importance of research. According to the Department of Higher Education and Training in South Africa, the status of higher education institutions will be determined by the extent to which they are engaged in research and research-related activities. Higher education institutions have a role to play in generating new knowledge as well as producing appropriately skilled professionals. The current study explored key stakeholders' perspectives of the role of the research units within a faculty of health sciences that is clinically driven, and how these units could contribute towards developing and strengthening interprofessional postgraduate research, collaboration and capacity development amongst staff. The study adopted a qualitative, exploratory descriptive approach. Data were gathered from individual face-to-face, in-depth semi-structured interviews with 15 participants. Five themes emerged from the thematic analysis, namely: i) "There's been intentions and there is the reality"; ii) "Driving the research agenda and pulling it together"; iii) "The stronger your base, the stronger your output, the stronger your future: Creating a succession pipeline"; iv) "It takes a specific kind of personality to run a Unit" and v) "The climate has changed, views have changed". The findings of the study clearly indicated that the stakeholders perceived the role of the Units differently. The establishment of a 'Faculty Research Centre' with a contextually relevant framework or model could contribute towards developing a clear understanding and consistent description of a research centre. It may also facilitate the strengthening interprofessional, postgraduate research, collaboration, and capacity development amongst staff

Keywords:

Research units, research centre, stakeholders, capacity building, post-graduate research, interprofessional, collaboration, contextual framework

INTRODUCTION

The role of research in higher education institutions in South Africa has been recognised by the Department of Higher Education and Training (DHET) to make a significant contribution within the local context of institutions as well as positioning them globally. According to the Department of Higher Education and Training (DHET, 2019) the status of higher education institutions is determined by the extent to which they are engaged in research and

in the development of research activities. Universities are significant mediators for research, innovation, growth, and development (Bonander et al., 2016). Thus, higher education institutions have a role to play in generating new knowledge as well as producing appropriately skilled professionals (Bonander et al., 2016). Research has therefore become the basis for ensuring that teaching programs are contextually relevant and up to date. If universities and government want to achieve ambitious research goals, they must create an enabling environment through institutional structures (Youtie et al., 2018).

However, it has been recognised that there are challenges influencing the growth of research, especially in historically disadvantaged institutions. These challenges may include limited research experience amongst academics, disciplines without research tradition and an environment that is not sensitive to enhancing research capacity building (Singh, 2015). The Human Sciences Research Council (2022) indicates that despite the interventions by government to redress the shortcomings in research and development, historically disadvantaged institutions still continue to lag behind in this area. Various strategies to build research capacity have been introduced and these include the introduction of postgraduate programmes, faculty development initiatives as well as the establishment of a research unit (Department of Science and Technology, 2021; Singh, 2015). However, the success of any of these initiatives is dependent on external and internal support.

Within the context of research intense universities, a conducive environment needs to be created. One aspect of such an environment is the creation of research units. At the University of the Western Cape in South Africa, a 'Unit' is defined as a research structure that has the characteristics of demonstrating consistent research productivity to support a clear research hub or niche in a field of intellectual and/or applied study and is coordinated by a member of the academic staff who is an established researcher. The main purpose of such a research unit is moving towards developing a critical mass of researchers and has sustainability plans that will support the development of a research hub. Furthermore, such a research unit is linked to a department, and therefore does not have its own independent undergraduate or postgraduate programmes.

In the Faculty of Community and Health Sciences at the University of the Western Cape (UWC), which has been classified as a research intense university, there are several research initiatives which were established some years ago, as part of the faculty's research niche areas. The intention of these research initiatives were to offer a service component for interprofessional collaboration and research. With regards to the research units, the focus of research units may be limited and very narrow. Interdisciplinary research facilitates multidisciplinary research and collaboration by allowing the integration of ideas across various disciplines (Resnick, 2011). Thus, interdisciplinary research facilitates communication and research activities amongst researchers, which may foster an enabling environment to address the complex problems that researchers aim to address.

However, understanding whether these units can meet the research needs of the higher education institutions is essential in driving the process forward. Therefore, the need to understand the views of stakeholders in implementing or driving these units towards supporting the research intense process is important. These research units have great potential to contribute towards developing and strengthening interprofessional, postgraduate research, collaboration, as well as capacity building amongst staff. Therefore, the aim of this study was to explore key stakeholders' perspectives of the roles of the units within the faculty that is clinically driven, and how the units could contribute towards developing and strengthening interprofessional, postgraduate research, collaboration and capacity development amongst staff. The findings of this study may offer insights into how research units could drive the research agenda of an institution.

METHODOLOGY

A qualitative, exploratory descriptive design was used to conduct the study within a Health Sciences Faculty at a University in South Africa. As the study was exploratory in nature, purposive sampling was employed where specific individuals with specific experiences were identified.

At the institution where this study took place, there are three models utilized in the Health Sciences Faculty where the focus is to develop research niche areas. These models comprise of a research unit, a research centre and a research focus area within a department. The sampling strategy was purposive so that a more diverse sample of participants could participate in the study. The criteria for the selection of participants included: the most research active units in the faculty, namely (n=3): a unit with a research focus on studies related to children and families, a centre with a niche area on sport for development and lastly, a unit with a core focus on Interprofessional Education (IPE). All staff and students were invited to participate in the study. The participants were recruited via an email invitation to participate in the study. The final sample consisted of 15 participants, including three faculty leadership staff members, three directors, two academic staff members, an administrator and six postgraduate students from different levels of study, for example, postgraduate diploma, masters, or PhD, in order to ensure a representative sample.

Data were collected through individual face-to-face, in-depth, semi-structured interviews with each of the 15 participants. The interviews were conducted by one researcher supported by a research assistant. Key questions were asked to define the areas which were explored, but also to allow the interviewer or interviewee to diverge in order to pursue an idea or response in more detail (Babbie & Mouton, 2010). The following questions were asked with each participant: i) How is the development of a research culture or a culture of scholarship central to the unit?; ii) Describe your experiences regarding research in the unit?; iii) What types of scholarship activities are you engaged in?; iv) Describe your role in the research unit?; v) What are the opportunities for developing the scholarship of research in the unit?; vi) What are the challenges for developing the scholarship of research in the unit?; and vii) What would you consider the critical success factors to be for establishing a strong research culture or scholarship of research within the unit?

Participation was voluntary and all participants were assured that they could leave the study at any time without any adverse effect. The study protocol received ethics approval. All transcribed data was coded using open coding and analysed using thematic analysis, following the five steps of analysis as suggested by Terre Blanche, Durrheim and Kelly (2006). The analysis of the data has been interpreted through the lens of the Appreciative Inquiry framework (Priest et al., 2013).

ANALYSIS AND RESULTS

From the thematic analysis, the following five themes emerged (Table 1).

Table 1: Themes and Categories

THEMES	CATEGORIES
1. "There's been intentions and there is the reality."	1.1 Role of the Units 1.2 Stakeholders' perceptions of the Units
2. "Driving the research agenda and pulling it together."	2.1 Interprofessional supervision 2.2 Collaboration
3. "The stronger your base, the stronger your output, the stronger your future: Creating a succession pipeline."	3.1 Capacity development 3.2 Sustainability
4. "It takes a specific kind of personality to run a Unit."	4.1 Challenges 4.2 Strengths 4.3 Way forward
5. "The climate has changed, views have changed."	5.1 Faculty driven 5.2 Advantages 5.3 Selling the concept

Theme 1: "There's been intentions and there is the reality"

This theme captured the participants' perceptions of the roles within the faculty and their perceptions regarding the culture of scholarship. Participants perceived the departments they previously registered with had a research culture, but it is not as active or intensive as the research culture in a research unit. One participant said:

"There is many things in the unit that kind of promotes a culture of scholarship and in my experience I would say that, that is what draw me towards the unit. Knowing that is the culture of scholarships."

There is also an indication from most of the participants that the academic staff who work in the units drive the culture of scholarship. The findings revealed that a research unit allows for the appreciation of multiple views in order to meet the needs of a society as one participant quoted:

"...Looking for this interdisciplinary approach and if we are to meet the needs of society we cannot look at it from one view anymore, we need to look at it as a collective."

The majority of the participants were of the opinion that the agenda of the different units was to drive interprofessional education and research, with some having a service learning component linked to their department. Whereas, some of the participants perceived the units as taking a life of their own due to the changing requirements from institutional facilities and in doing so they try and make sense of their own reality. However, despite a clear focus for a research unit, at times there is a lack of control in driving the research agenda. As one participant stated:

“...spirals this way and then faculty wants us to do something else and then it spirals a bit the other way.”

Whereas, another participant said:

“It mushroomed too much out of control.”

The findings also indicated that despite challenges, the majority of the participants found having research units motivating and encouraging because their access to resources within the research unit was centralised. The unit also encouraged and allowed for self-directed learning activities to occur, which promotes a ‘supportive environment’ as quoted by a participant:

“...so it started off with that experience so that, it gave me a kind of at home feeling where I knew if I got stuck, even if it’s not to my own supervisor or to some of the students that were in my group there will always be someone that you can ask because I find that the people that work in the unit they really want to help the students... I think it’s a very supportive environment they create.”

Theme 2: “Driving the research agenda and pulling it together”

This theme highlighted the participants’ perceptions and experiences of how they have tried to facilitate interprofessional postgraduate research and collaboration by offering different types of scholarship activities. All the participants agreed that they have received supervision and postgraduate teaching from various disciplines within the faculty and that an interprofessional approach to different research topics was applied. In addition, some participants mentioned that they have accessed departments across faculties to assist with supervision as they have experience with individuals coming from multidisciplinary backgrounds. This theme also highlighted the different activities that were conducted within the different units with regard to the research process.

“... my role is to engage with faculty, whoever that is to try to collaborate so while we grow we also allow others to grow from a research perspective.”

“...We believe that for us research is central so research must cover teaching and learning and then research must cover community engagement, we starting to build those aspects, so our scholarship would be in teaching and learning and our scholarship would also be community engagement but for the students, we believe that we must arm students in order for them to successfully do what they are required to do.”

Theme 3: ‘The stronger your base, the stronger your output, the stronger your future: Creating a succession pipeline’

All the participants were in agreement that there are opportunities for development within a research unit. The majority of the participants were in agreement that as staff members, they were able to contribute in some ways towards capacity building and development of staff and students. It was evident from the findings that some units were contributing more towards interprofessional capacity development. The units who collaborated interprofessionally had a variety of opportunities available for individuals to participate in, which contributed towards capacity development. There were many opportunities for staff and students to participate in various activities, which enhanced their research skills and abilities. Some of these opportunities included: seminars,

discussions, workshops, writing retreats, block weeks, publishing of articles as well as supervision, as one participant quoted:

“...the biggest opportunity that I became aware of was where we were reminded that once you were done with your thesis, it will not just be the thesis that will get published and placed wherever; you will actually write an article for publication, so that is one of the main opportunities.”

Another participant said:

“If you take the co-supervision of a post graduate student as a capacity building [exercise], and you take the thesis that comes out and take it to a publication, you do capacity building right through.”

Theme 4: “It takes a specific kind of personality to run a unit”

This theme emphasised the challenges and the strengths experienced within each research unit. Challenges such as finding time and funding appeared to be a commonality across all participants’ perceptions. The majority of participants were of the opinion that conducting research is a time consuming and lengthy process. Therefore, adhering to a time frame is of utmost importance. Another challenge to consider is the bureaucratic process of obtaining funding for research. One participant indicated the following:

“...so you may have many students that don’t have funding within the unit but you see the potential [in the student]...but the criteria does not always match the scholarship, so I think that could be one of barriers which the unit may experience.”

As always, the list of challenges experienced dominated everything else. Most of the participants (11 of 15) agreed that the biggest challenge was to get everybody together at the same time, on the same page and to agree and commit themselves. Another challenge experienced by some of the participants was that they had difficulty in recruiting interprofessional researchers to their projects. Those researchers who participated in these projects, which were outside their departments, were concerned that they could not add it to their departmental workloads. Retaining students was another challenge as some students never completed their postgraduate studies as some failed to meet the deadlines for submission of their thesis. Research funding, especially for community projects, did not always cover administrative responsibilities or the running of workshops. A concern raised by one of the participants was that in order to monitor progress within the community, you have to go back to the community which normally happens outside of the funding period. Resource allocation has been experienced by some of the participants as another challenge as quoted below:

“This unit doesn’t have an assigned administrator but there are other units that actually have a permanent full time administrator yet, they cannot compare with the outputs that we have, so for me there is a sense of unfairness around this whole process of resource allocation.”

According to one participant, it takes a particular personality to be able to run a multidisciplinary interprofessional unit and the challenge is that there are only a few people that have the necessary skills. At times, they have leadership skills, but they don’t always have the research skills as one participant quoted:

“You have to be, I almost want to say, be a very strong visionary but, a stronger advocate and a stronger lobbyist to convince people so that they get onto the same page as where you are. And that’s not easy; you have to do a lot of communication, a lot of selling, a lot of talking to others so that eventually you see the thing through the same lens.”

A strength identified by most of the participants was that everybody was clear about the research niches of the units. All the participants were in agreement that a lot of opportunities were available for individuals to get involved in research and projects of their choice. Despite these activities being voluntary, staff and students took on opportunities to be involved in research projects as it may contribute to capacity development of self and others. One participant said:

“There is a kick back eventually, when you publish with students it all counts to when you want to do promotion and also if you publish you get the researchers’ authors fund.”

Another strength identified was the structure and procedures implemented by some of the units that worked well. The three units who participated in this study could all fund an administrator, which was beneficial as all the administrative work was done on time and reports submitted by the deadlines. International partnerships were identified as another strength of the units towards facilitating internationalisation of research.

Theme 5: “The climate has changed, views have changed”

This theme captured participants’ views about the establishment of a Centralised Postgraduate Interdisciplinary Research Centre comprising the different research units in the faculty, as a critical success factor. The majority of the participants were in favour of such a Centre. They believed that if it was a faculty initiative and driven by the faculty, then everyone would buy into it. All the participants were in agreement that they did contribute in some ways towards capacity building and development. It was evident from the findings that some units contributed more towards interprofessional capacity development.

One participant quoted:

“Our collaborative interprofessional research, our postgraduate drive to increase the postgraduate numbers and supervision in the Faculty could stem from this.”

Another advantage of the establishment of a Faculty Research Centre was the allocation of research funding which could be centralised. All the participants supported having administrative support centralised. Having a Centre with a proper infrastructure and expertise centralised could contribute towards capacity development of staff. Often within decentralised spaces there may be duplication of research projects or administrative processes. Should there be a centralized research centre, these forms of duplication would no longer take place and more time would be available for the implementation of other creative research initiatives. In addition, the establishment of a faculty research centre would facilitate collaborative grant writing for funding proposals.

According to one participant:

“I think the other critical thing that can add to the success would also be: just having more and more engagement with students, not just in supervision but maybe have workshops, seminars things to kind of stimulate students.”

“So maybe that is one of the things how they can help. How they can offer a strong research foundation.”

Participants who were not very supportive of the establishment of a Faculty Research Centre needed more clarity about the concept of such a Centre. They were concerned about how it would work, who would report to who and what would be the benefits? Some of the participants who had difficulty in recruiting interprofessional researchers to their units, the reasons given being that they were busy with their own research agendas, could not visualise the conceptualisation of such a Centre, and question why it would suddenly work now. One critical success factor could be determined by the make-up of such a Centre. The importance of ‘buy-in’ of a vision within such a Centre is key to the ongoing sustainability and success of such a Centre.

One participant stated:

“Motivated students, capacitated supervisors...working towards one vision to create communities of engagement.”

DISCUSSION

This discussion of the findings follows the four stages of the Appreciative Inquiry framework.

The Appreciative Inquiry (AI) is an intervention theory and methodological framework that focusses on the positive aspects of a system to incite change (Cooperrider & Whitney, 2005). Furthermore, AI is a thorough investigation of what works in an organisation and uses the strengths of the organisation as the impetus for continued growth. According to Priest et al. (2013), AI has been found to be a useful tool for leadership educators, as its foundation in constructionist theory aligns with contemporary leadership and learning theories. The authors go further by stating that leadership educators are uniquely positioned to serve academic communities as facilitators of change by bridging theory and practice in pursuit of new ways of knowing and working together. Appreciative Inquiries are conducted in a series of phases known as the 4-Ds, or Discovery (What is); Dream (What could be); Design (What should be); and Destiny (What will be) (Clarke & Thornton, 2014).

Discovery (What is?)

The intention of the establishment of different research units should be to facilitate collaboration, interprofessional education (IPE) and research. Over the past three decades, universities have become decentralised to allow units, research centres and other entities to practice autonomy in their academic projects (Martin, 2016). The findings in the current study demonstrate the reality that the stakeholders interpreted the roles within the units differently. They perceived that the intention to collaborate, to work interprofessionally, and to conduct research did not always reflect the practical realities. On the other hand, the findings also revealed that the culture of research was stronger and more focused within a research unit than within individual departments. This provided clear motivation of the

value played by research units within higher education intuitions. This is supported by Franco and Pinho (2019) who indicated that the intention of university research centres is to facilitate and promote research collaboration in a way that allows for the development and transmission of knowledge.

Whilst there may be some challenges related to defining how a unit is run, who runs it, and what the research agenda may be, it is also found to be a space that fosters an encouraging and motivating environment that allows the research to thrive. Furthermore, it was clear that interprofessional education played a role in the advancement of a research unit. Similarly, Soini et al. (2018) indicated that research centres aim to engage in participatory and interdisciplinary approaches. This allows for the facilitation of deeper understanding of connections between human and natural systems. Interprofessional collaboration fosters a conducive environment for capacity development amongst staff and students (Singh, 2015). A clear and focused research agenda of the unit should be driven by all stakeholders in the unit in order to avoid lack of control and conflict.

Dream (What could be?)

The dream is visualised by the current higher education climate that is located in a changing environment. Amid a changing environment, universities still play a key role in knowledge acquisition, by conducting research and building capacity in the form of human capital (Bonander et al., 2016). The findings in the study indicated that a shared vision and mission for the units, that should be driven by faculties, are of utmost importance. All the challenges, for example where academics perceive these units as “belonging” to the school or department where the unit is situated, would therefore be mitigated and collaboratively addressed by all stakeholders due to shared vision with a collaborative buy-in. If a research unit is driven from a central point, and all stakeholders understand the intention based on the everyday realities, then sustainability can be assured and brought into fruition. To achieve such sustainability, literature shows that administrative support is of utmost importance in the day-to-day operations in order to uphold the standards of the institution (Youtie et al., 2018). Therefore, if a unit should be centralised, a strong administrative infrastructure and smooth functioning should also be considered.

Design (What should be?)

One of the leveraging points for research units lies in the acquisition of supervisors from various disciplines, which further strengthens the knowledge economy within research units. Franco and Pinho (2019) indicate that within research centres, knowledge transfer allows for faster access to knowledge held by researchers. This approach leads to collaborative participation, problem solving as well as a deeper understanding of market needs. The advantage of having different supervisors and academics with different expertise from different disciplines is that it contributes a broader worldview of research perspectives. In addition, to disseminate scientific knowledge, centres of research are often orientated towards transdisciplinary systems, which involve stakeholders from various disciplines by using various participatory methods (Soini et al., 2018). Furthermore, the findings in the study highlighted that the success of a research unit is mediated by the availability of resources that could contribute towards the facilitation of approaches such as self-directed and experiential learning. This is similar to findings by Amanjee and Carmichael (2015) who found that the collaboration between students facilitate group processes to achieve their learning goals.

Students who function within the research units may develop a sense of agency as they are able to autonomously direct and take responsibility for their own learning. Therefore, one of the benefits of a centralised, well-resourced Faculty Research Centre could contribute to increased scholarly outputs, especially in interprofessional postgraduate research, collaboration, capacity development and education. To this end, it is important to ensure that resources are allocated to a research centre. Franco and Pinho (2019) indicate that universities in developing countries, like South Africa, should implement cooperative strategies with other centres in developing countries

in order to negate some of the resource challenges. They further suggest that this strategy may also reinforce research capacity amongst staff and students. Creating opportunities for engagement, outreach, scholarship, and professional staff development will empower, capacitate individuals, and develop an understanding of engaged scholarship across disciplines (Fitzgerald et al., 2016).

Destiny (What will be?)

The importance of sustainability and capacity development as a growth opportunity in research units are crucial to the maintenance and sustainability of research units, especially from an interprofessional perspective. Units who collaborate interprofessionally have a greater capability to contribute more deeply and meaningfully to capacity development of staff and students through the various research opportunities and activities. Disterheft et al. (2015) found that the relevance of capacity building was an important component of transformative participation and critical thinking as it allowed a space for relevant stakeholders to have a voice and offer their input. To this end, the cyclical approach informed by this study shows that sustainability is achieved by continuous offering of workshops, block teaching, writing retreats, research capacity development activities and seminars to develop research capacity in faculty, staff, and students. Thus, the importance of providing workshops and seminars to staff and students within the units are fundamental.

Sustainability is informed by a strength-based approach in the design of a research unit. According to literature, capacity development facilitates sustainability. Sustainability of an autonomous and independent unit is dependent on having support from the university for funding, infrastructure, and affiliations (Soini et al., 2018). Each unit is then seen as having a unique set of strengths and challenges. One challenge identified in the current study was the issue of academics' time, as in many academic settings, lack of time is created by high workloads (Miller, 2019). Thus, institutions should be cognisant when establishing a research centre in a health science environment as the stakeholders are from across various health professional disciplines. The success of such a research centre is compounded by complexities in the availability of participants, as well as structural conditions. Ideally, conditions and the universities should allow participants to allocate enough time and availability to a centre. This is important in order to integrate sustainability into the institutional structure (Disterheft et al., 2015).

From the discussion, the development and implementation of a contextually relevant and responsive framework has been identified as a need to address the complexities as unpacked in the various phases of the AI methodological framework as applied to the study results.

RECOMMENDATIONS

This study recommends that in order to develop a sustainable Faculty Research Centre, higher education institutions should consider the implementation of continuous academic support for staff and students—for example, regular supervisory meetings, access to centralised resources, and training programmes that may mediate capacity development. The implementation of bi-annual writing retreats are successful ways to engage all parties and to increase research outputs. The establishment of projects which offer emerging researchers opportunities to participate in research processes through a subtle self-directed learning approach are recommended, as well as a mentoring system whereby experienced researchers are paired with novice researchers for capacity development and to facilitate collaborative publications. Finally, an annual Faculty Research Day could be offered as an opportunity for post-graduate students to showcase their research.

CONCLUSION AND IMPLICATIONS FOR PRACTICE

In conclusion, the aim of this study was to explore key stakeholders' perspectives of the roles of the units within the faculty that is clinically driven, and how the units could contribute towards developing and strengthening interprofessional, postgraduate research, collaboration and capacity development amongst staff. The findings in the current study propose the establishment of a Faculty Research Centre with a clear vision and mission supported by all stakeholders. The adoption and implementation of a contextually relevant framework or model in the Centre could contribute towards strengthening interprofessional, postgraduate research, collaboration and capacity development amongst staff. A Research Centre with a clear framework, underpinned by sound procedures and governance could allow for opportunities such as internationalisation, digitisation and transformation.

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REFERENCES

- Amanjee, C., & Carmichael, T. (2015). Collaborative learning among South African MBA students. *Alternation*, 22(1), 114–138. <https://journals.ukzn.ac.za/index.php/soa/article/view/1375>
- Babbie, E., & Mouton, J. (2010). *The practice of social research* (10th ed.). Oxford University Press Southern Africa.
- Bonander, C., Jakobsson, N., Podestà, F., & Svensson, M. (2016). Regional science and urban economics universities as engines for regional growth? Using the synthetic control method to analyze the effects of research universities. *Regional Science and Urban Economics*, 60, 198–207. <https://doi.org/10.1016/j.regsciurbeco.2016.07.008>
- Clarke, M., & Thornton, J. (2014). Using appreciative inquiry to explore the potential of enhanced practice education opportunities. *British Journal of Occupational Therapy*, 77(9), 475–478. <https://doi.org/10.4276/030802214X14098207541153>
- Cooperrider, D., & Whitney, D. (2005). *Appreciative inquiry: A positive revolution in change*. Berrett-Koehler.
- Department of Higher Education and Training, Republic of South Africa. (2019). *Post-school education and training monitor: Macro-indicator trends*. https://www.dhet.gov.za/SiteAssets/Post-School%20Education%20and%20Training%20Monitor%20Report_March%202019.pdf
- Department of Science and Technology, Republic of South Africa. (2021). South African national survey of research and experimental development: Statistical report 2019/20. https://www.dst.gov.za/images/RD_StatisticalReport2019-20_WEB.pdf
- Disterheft, A., Caeiro, S., Azeiteiro, U. M., & Filho, W. L. (2015). Sustainable universities - A study of critical success factors for participatory approaches. *Journal of Cleaner Production*, 106, 11–21. <https://doi.org/10.1016/j.jclepro.2014.01.030>
- Fitzgerald, H. E., Bruns, K., Sonka, S. T., Furco, A., & Swanson, L. (2016). The centrality of engagement in higher education. *Journal of Higher Education Outreach and Engagement*, 20(1), 223–244. <https://openjournals.libs.uga.edu/jheoe/article/view/949/948>
- Franco, M., & Pinho, C. (2019). A case study about cooperation between University Research Centres: Knowledge transfer perspective. *Journal of Innovation & Knowledge*, 4(1), 62–69. <https://doi.org/10.1016/j.jik.2018.03.003>
- Human Sciences Research Council. (2022, February). *Historically disadvantaged universities still lag in R&D*. <https://hsrc.ac.za/news/latest-news/historically-disadvantaged-universities-still-lag-in-rd/>
- Martin, B. (2016, January 1). What is happening to our universities? *SPRU Working Paper Series*, 2016-03. Science Policy Research Unit, University of Sussex. <https://dx.doi.org/10.2139/ssrn.2745139>
- Miller, J. (2019) Where does the time go? An academic workload case study at an Australian university. *Journal of Higher Education Policy and Management*, 41(6), 633–645. <https://doi.org/10.1080/1360080X.2019.1635328>
- Priest, K. L., Kaufman, E. K., Brunton, K., & Seibel, M., (2013). Appreciative Inquiry: A tool for organizational, programmatic, and project-focused change. *Journal of Leadership Education*, 12(1). <https://doi.org/10.12806/V12/11/R2>

- Resnick, J. C. (2011). Increasing opportunity through interdisciplinary research: Climbing down and shattering a Tower of Babel. *Frontiers in Psychiatry, 2*(20). <https://doi.org/10.3389/fpsy.2011.00020>
- Singh, R. J. (2015). Challenges and successes of research capacity building at a rural South African University. *South African Journal of Higher Education, 29*(3), 183–200. <https://journals.co.za/doi/pdf/10.10520/EJC176228>
- Soini, K., Jurgilevich, A., Pietikainen, J., & Korhonen-Kurki, K. (2018). Universities responding to the call for sustainability: A typology of sustainability centres. *Journal of Cleaner Production, 170*, 1423–1432. <https://doi.org/10.1016/j.jclepro.2017.08.228>
- Terre Blanche, M., Durrheim, K., & Kelly, K. (2006). First steps in qualitative data analysis. In K. Terre Blanche, K. Durrheim, & D. Painter (Eds.), *Research in practice* (pp. 345–369). University of Cape Town Press.
- Youtie, J., Li, Y., Rogers, J., & Shapira, P. (2018). Institutionalization of international university research ventures. *Research Policy, 46*(9), 1692–1705. <https://doi.org/10.1016/j.respol.2017.08.006>