

The research support needs of emerging researchers employed at the Education Faculty of a University of Technology.

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Abstract

Globally academic institutions are under pressure to improve their research outputs, both in terms of quality and quantity. The library plays an important role in providing research support services to its community of researchers so that they can contribute to research. As a young research institution, CPUT has a large cohort of emerging researchers—among those, teacher educators in its education faculty. This study, based on research for a master's degree (Oosthuizen, 2019), set out to determine their research support needs by using a mixed methods approach that included collecting mostly quantitative data from researchers and qualitative data from support staff. It found that this group of researchers needs the library's support at all stages of the research life cycle, but to varying degrees. The information gathering stage is where almost all researchers consider the library's support necessary, while the majority of respondents did not consider support in the planning stage as necessary. Many respondents were neutral about some services, indicating their unfamiliarity with what the library does or might offer. The study recommends that the library improve awareness for the research support services it offers and that it works more collaboratively with other research support entities at the university for a more streamlined approach to research support. While this study

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investigated a small sample of researchers, the library can use its findings to tailor services to a particular group of users.

Keywords: research support services, emerging researchers, academic libraries, South Africa, higher education institutions, research

Introduction and Background

In a special lecture presented at the University of the Western Cape in 2009, internationally acclaimed social scientist, Manuel Castells highlighted the importance of research in the global knowledge economy. In particular, Castells (2009) underlined the importance of research in higher education:

Knowledge production and technological innovation are the most important productive forces in the current global knowledge economy. Therefore, without at least some level of a national research system composed of universities, the private sector and public research centres, no country can really participate in the global knowledge economy (p. 61).

In a later publication, Cloete and Maassen (2015) supported Castells' view of universities' role in the production of scientific knowledge as an important function of higher education amidst the globalised knowledge society.

The significance of universities' ability to produce research outputs and scientific knowledge is similarly stated in the National Planning Commission's (n.d) National Development Plan (NDP). The NDP states that South African universities are expected to fulfil three main functions in modern society. One of these functions involves the production of new knowledge and the innovative application of existing knowledge (National Planning Commission, n.d.). Consequently, universities have transformed into teaching-research institutions that emphasize the role of research in performing their functions (Badsha & Cloete, 2011).

As a result of the above-mentioned developments in the higher education sector, universities began to intensify their research activities. This intensification included the establishment of research cultures and attempts to create environments in which research is supported and encouraged (Ion & Castro Ceacero, 2017). Research at universities is considered

critical in safeguarding their futures. For universities to ensure a sustainable future, it is essential to invest in research activities and in the development of future researchers (Blass et al., 2012).

The increased focus on higher education institutions' research outputs is an international phenomenon that also relates to the declining availability of public funds for higher education. All of these aspects explain why higher education institutions around the world are experiencing increased pressure to produce research (Singh, 2011). The improvement in research outputs is all the more important for newly-formed universities which are still attempting to build a research culture and an institutional research profile (Mtshali & Sooryamoorthy, 2019).

In South Africa, universities of technology (UoTs) fall into the category of institutions that have only recently become universities, having previously been classed as 'technikons.' South African technikons were the equivalent of polytechnics in other parts of the world and centered around vocational education and training (Singh, 2011). UoTs resulted from the restructuring of the South African higher education landscape that followed soon after South Africa's first democratic election in 1994 (Thathiah & Schauffer, 2007). The main purpose of the restructuring of South Africa's higher education landscape was to meet the needs of an increasingly technologically-oriented society (Badsha & Cloete, 2011). Another reason for the restructuring process was the government's intention to reduce the number of universities and technikons through a process of amalgamation (Ministry of Education, 2001).

Through the aforementioned restructuring process, some technikons were re-designated as UoTs whilst others merged with universities. Although this move was considered radical, it was in line with global trends. The technikons that were transformed into UoTs were disadvantaged in several respects. The tradition of research in these institutions was limited as the majority of the staff did not have higher degree qualifications. Moreover, adequate research infrastructure was lacking, supervision ability of the staff was minimal, and research outputs were consequently very low (Chetty, 2003).

Research production is also a new strategic focus for teacher educators employed at South African higher education institutions. As with technikons, the restructuring of the South African higher education sector resulted in the incorporation of colleges of education either into traditional universities or into UoTs. Similar to academic staff employed at technikons, teacher educators employed at colleges of education were unaccustomed to and did not prioritize the production of research outputs (Braund, 2015). With the restructuring of the higher education sector, teacher educators, just like other academic staff members, received a research mandate from government that necessitated them to develop their research capacity (Chiwere & Skelly, 2016).

The research productivity of academic staff employed at teacher training institutions is increasingly important (Winberg et al., 2017). However, efforts spent on research compared unfavourably to those spent on teaching. This was, firstly, because of the highly teaching-intensive training programmes and, secondly, because of a culture of research that was largely non-existent. Thus, there are fewer established researchers than emerging researchers that make up the academic staff cohort at teacher training institutions (Engelbrecht, 2012). Studies by Braund (2015), Chetty and Lubben (2010), and Jita and Mokhele (2013) agree that it is important for higher education institutions (HEIs) to make concerted efforts to improve the research capacity of teacher educators.

The COVID-19 pandemic has accentuated the importance of educational research. As a result of the pandemic, global educational systems rapidly transformed from face-to-face delivery to remote online teaching. This transformation necessitated prompt research to inform decisions around practices and approaches required for changed teaching and learning realities. Like other educators, teacher educators were confronted with decisions about ways to ensure that their learners experienced online classes as meaningful and effective. At the same time, teacher educators have an additional responsibility to support the broader education community. They were expected to take the lead in research initiatives around, for example, the effect and impact of the COVID-19 pandemic on the education sector (Quezada et al., 2020).

Research at universities flourishes when there is a favourable environment for research and publication. It is fostered through proper research direction, strategy, institutional support, provision of research facilities and resources, motivation, incentives, and research skills (Mtshali & Sooryamoorthy, 2019). A way to establish a research culture is for the institution to provide effective research support services. According to Wiklund and Voog (2013), research support services are “about [facilitating] for the researcher to get his/her job done, i.e. saving the time of the researcher” (p. 2).

Research Problem

The transformation of South Africa’s higher education landscape, combined with international trends reflecting an elevated focus on research production, compelled UoTs in our country to adopt a research identity and culture as they had “no other choice but to increase their published research output if they want to survive as viable tertiary institutions, nationally and globally” (Chetty & Lubben, 2010, p. 816). In so doing, it is important for UoT’s to promote conducive research environments that would nurture the development of a new

generation of researchers. Because of their intense focus on the practicalities of teaching, teacher educators in particular need the help of their institutions to develop a culture of research. Cultivating an environment that encourages research in a UoT is a long-term process that needs continuous strategic planning, committed leadership, and a favorable climate (Mtshali & Sooryamoorthy, 2019).

Academic libraries at HEIs where research is a strategic goal must provide research support services to their respective communities of users. These services must be relevant and timely and, to be so, service providers must understand their users' needs. Support needs differ between disciplines and within disciplines and among established and emerging researchers (Auckland, 2012).

According to the National Research Foundation (2022, p. 2), an emerging researcher is a “young researcher (within 5 years from PhD) who is recognised by all or by the overriding majority of reviewers as having the potential to establish him/herself as a researcher of considerable international standing on the basis of the quality and impact of his/her recent research outputs.” Because they only recently began focusing on research, many teacher educators are still ‘emerging’ as researchers. Emerging researchers are encouraged to become established researchers so that, in turn, they may mentor and grow new cohorts of researchers in their field.

This paper originated from a master's degree study at the University of Cape Town (Oosthuizen, 2019) but was implemented at the Cape Peninsula University of Technology (CPUT), where one of the authors is employed. The Faculty of Education at CPUT has a rich history of teacher training (Chetty & Lubben, 2010). The faculty was created by the amalgamation of the Cape Town College of Education in Mowbray and the Boland College of Education in Wellington with the Cape Technikon in 2001. Neither of the education colleges nor the Technikon had a focus on research before 2001. In 2005, the Cape Technikon subsequently amalgamated with the Peninsula Technikon to form the Cape Peninsula University of Technology. It was the case that “the notions of a university and its role in the scholarship of research were new to most of the teacher educators who had no previous university experience” (Chetty & Lubben, 2010, p. 818).

Establishing a research culture requires a commitment to invest in researcher support. While the support of established researchers is required, supporting emerging researchers—especially in the case of teacher educators at our former technikons and colleges of education—is crucial in order to give emerging researchers the opportunity to become established researchers. The objective of this study, therefore, was to determine the research support needs of emerging

researchers employed by the CPUT Faculty of Education within the context of the library.

Literature Review

As mentioned previously, for research support services to be effective they must evolve along with the changing research milieu (Auckland, 2012). Researchers are not a uniform group; their support needs differ depending on their discipline or subject and on the stage of their research careers. For this reason, academic libraries have devoted a lot of time and energy in an attempt to determine what their researchers' needs are and how best these needs can be met (Auckland, 2012). These aspects (research support needs in relation to the efficient delivery of research support services) are referred to in this article as the 'research support value chain.' The research support value chain will be further discussed in the following overview of the literature comprising research support, research support needs, research support services, and the interrelatedness thereof.

Research Support

Research support can be described as "all services enabling researchers to spend more time on actual research and less time on administrative tasks" (Daland & Hidle, 2016, p. 17). From an academic library's perspective, research support services are the services that libraries offer that contribute to their researchers completing their research tasks successfully and producing scholarly outputs (Parker, 2012). Nevertheless, not only do institutional support services assist researchers in the completion of their research, they also contribute to the improved status of their institutions in terms of research competitiveness. The global emphasis placed on the production of quality research outputs has urged academic libraries in particular to rethink, strengthen, and expand on the research support services they already offer (du Pré, 2006; Corral, 2014).

Research Support Needs

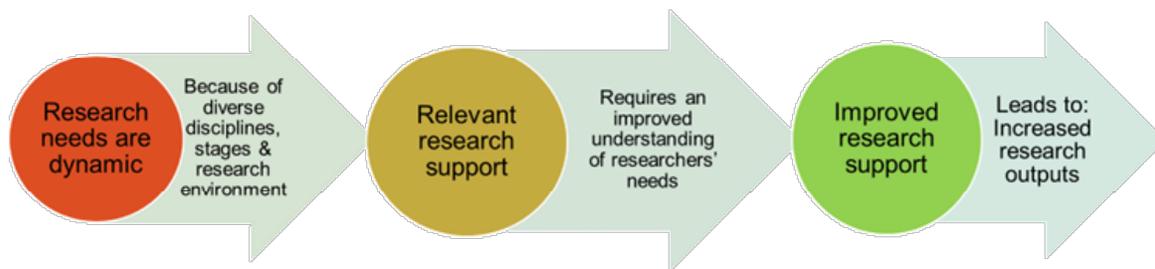
For libraries to support researchers effectively, they must determine the type of support services their community requires. Assessment must happen continuously (Tise et al., 2015). According to Mamtora (2013), "the continuous assessment of researchers' needs will help the library play a critical role in the success of their researchers' endeavours" (p. 369). Additionally,

it will help academic libraries to improve the quality of the research services they render, which could positively impact researchers' outputs and the consequent establishment of emerging researchers (Auckland, 2012).

Auckland (2012) highlighted the fact that researchers have diverse support needs that not only depend on their disciplines, but also on at what stage they are in their careers and in their specific research projects. For emerging researchers, targeted research support services can contribute to an increase in their scholarly outputs and their own growth into established researchers. For the library, contributing to increased research outputs and promotion of researchers point to its impact on the academic endeavor. A needs-based service design can be referred to as a research support value chain. Figure 1 illustrates the chain where increased research outputs can be seen as a result of improved research support provided by the library. Improved research support is a consequence of understanding researchers' specific needs and therefore offering them research support that responds to these needs. The starting point is an understanding of the diversity and changing nature of researcher needs (Research Information Network, 2010).

Figure 1

The research support value chain (visual representation of the interrelatedness of research support needs and the efficient delivery of research support services that leads to an increase in research outputs).



Research Support Services in Education

A study executed by Hollister and Schroeder (2015) emphasized the importance of the academic library's ability to cement its role as an essential partner in an education faculty's research enterprise. In their study, "[most] respondents indicated that 'information access and retrieval' was an area of library support from which they benefited" (Hollister & Schroeder,

2015, p. 106). Collection development and information provision was the focus of library support for education faculty members.

A number of studies have identified additional services from which researchers in education faculties would greatly benefit. Examples include support in relation to grant applications, publishing avenues, intellectual property management, data management, and promotion (Hollister & Schroeder, 2015, p. 110); identifying research gaps for future studies, seeking funding, proposal writing, and measuring impact (Atkinson, 2016, p. 138); literature searches, management of researcher identities, and connecting to potential collaborators (Bruxvoort & Fruin, 2014, p. 20); and data preservation services, bibliometric analyses, and open access (Raju & Schoombee, 2013, p. 29). All of the above-listed research support services indicate current and potential research support services suggested for libraries in an education faculty context (Hollister & Schroeder, 2015).

In a publication on academic libraries' roles in the current research landscape, Delaney and Bates (2015) advised libraries to adopt a user-centered approach when designing a service model: "Academic libraries need to respond more accurately to their users' needs and develop capabilities to build better profiles of their users through continual needs analyses" (p. 32). In the above-reviewed literature, the importance of a library's ability to understand their researchers' needs and their ability to respond accordingly is often highlighted. To this end, this study is an attempt to create a renewed understanding of the research support needs of emerging researchers within CPUT's education faculty.

Study Framework

Papers by Parker (2012), Raju and Schoombee (2013), and Vaughan et al. (2013) suggested the use of the research life cycle to guide academic libraries when planning for the future or examining current research support services. This study used their advice, employing a research life cycle that originated from a combination of research life cycle models. It combined models used by the following institutions: the Online Computer Library Center (OCLC) (Kroll & Forsman, 2010); University of North Carolina at Chapel Hill (UNC-CH) (Vaughan et al., 2013); Joint Information Systems Committee (Joint Information Systems Committee, n.d.); Research Information Network (Research Information Network, 2010); University of Stellenbosch model (Schoombee, 2014); and Cape Peninsula University of Technology models (Cape Peninsula University of Technology, n.d.). The resultant model consisted of five stages, which were:

- Stage 1: Ideas and planning
- Stage 2: Information gathering
- Stage 3: Research process
- Stage 4: Dissemination
- Stage 5: Measuring

The combined research life cycle model successfully facilitated the investigation of the research support needs of emerging researchers at the various stages of the research life cycle.

Research Design and Process

This research study was empirical in nature and involved a mixed methods research approach. Research data was collected and analyzed using qualitative and quantitative methods. A mixed methods approach has the potential to facilitate an enhanced understanding of a research problem (Maree, 2016) and was thus deemed appropriate for this study. A case study research design was used. According to Rule and John (2011), one of the most important reasons for social researchers' selection of a case study design is its potential "to generate an understanding of and insight into a particular instance by providing a thick, rich description of the case and illuminating its relations to its broader contexts" (p. 7). A case study design thus allows the researcher to investigate a research question within a focused setting but from different perspectives (Rule & John, 2011). For this study, the case study design was used in order to facilitate a multi-perspective investigation of the research support needs of a specific group of researchers.

Multiple data collection methods were used as required in case study research. An online questionnaire was sent to emerging researchers of the Faculty of Education at CPUT. The questionnaire collected both qualitative and quantitative data through a combination of closed and open-ended questions.

A census was conducted because the population of this study was small. Thus, all 37 individuals in the population group were invited to participate. The design of the questionnaire was guided by the research life cycle model referenced earlier. It was crafted around the five main stages of the life cycle, even those where the library did not offer services. Respondents' research support needs could then be determined according to the stages. Gaps in current services would also become evident. Respondents used a Likert scale for ratings. The questionnaire also collected respondents' demographic details and data on each respondent's researcher profile. A

copy of the questionnaire is attached to this article as Appendix A.

Table 1 below provides a summarised presentation of the stages and ‘sub-stages’ involved in crafting the questionnaire.

Table 1

Summary of the Various Stages and Sub-Stages of the Research Life Cycle Model Used to Create the Online Questionnaire

Stage 1: Ideas development & planning	Stage 2: Information gathering	Stage 3: Research Process	Stage 4: Dissemination	Stage 5: Measuring
Choosing a topic	Locating and accessing information	Handling intellectual property and copyright issues	Selecting suitable journals for publishing	Tracking my research impact
Formulating a research question	Keeping up to date with new information published in my field of interest	Managing citations and references	Identifying suitable open access journals for publishing	Demonstrating research impact through the use of metrics
Identifying collaborators	Constructing complex searches	Developing a data management plan	Managing copyright issues	Using metrics to decide where to publish
Identifying funding opportunities	Managing the collected information	Managing datasets and making them discoverable	Depositing work in digital repositories	Updating my professional information on relevant platforms
		Obtaining ethical clearance	Understanding the use & implications of various licenses	Optimizing my visibility and expanding my research network

The research life cycle also provided a framework for the design of a focus group interview with faculty librarians. Four faculty librarians were sampled. An interview with a key informant, the education faculty’s research coordinator, was also guided by the research life cycle. “Triangulation uses evidence from different sources to corroborate the same fact or finding” (Rowley, 2002, p. 23) and so all data collected were triangulated. Through triangulation, this study’s research aim could be examined from multiple perspectives. Ethical approval to carry out the study was obtained from all necessary parties.

Results

Data obtained from the online questionnaire will form the main focus of the results discussed in this paper. In total, 21 out of the 37 researchers completed and submitted the

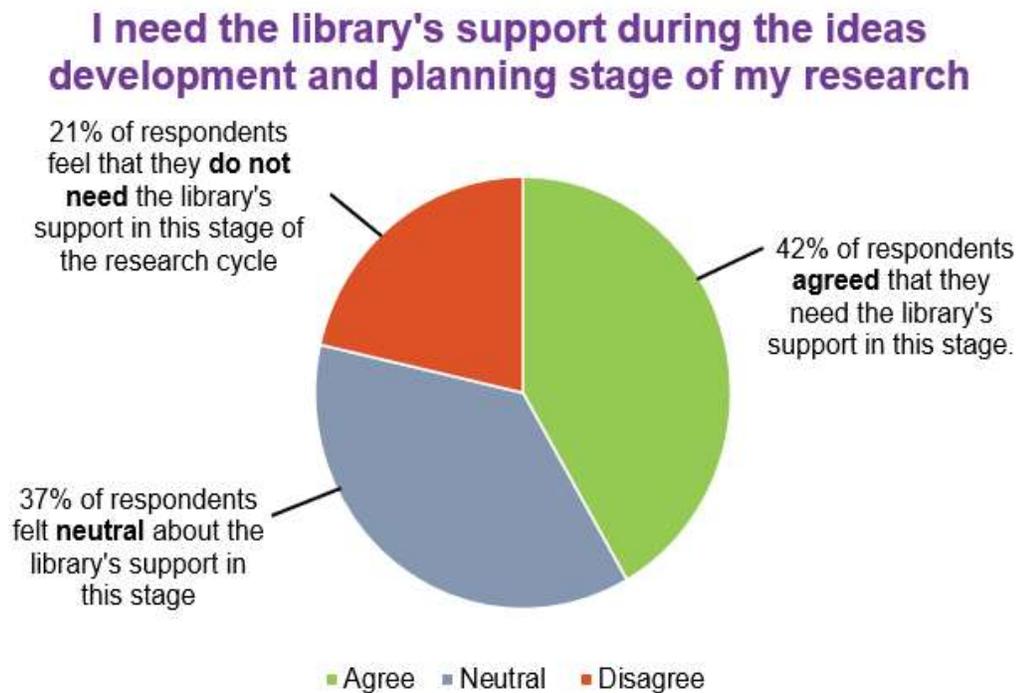
online questionnaire resulting in a response rate of 57%. Four of these respondents were based at the Mowbray Campus; the remainder were at the Wellington Campus. These two campuses host CPUT's education faculties. A third of respondents (seven) held a PhD and 13 (62%) held a master's degree. The majority of respondents—18 (86%)—had authored between zero and two papers. At the other end of the scale, a smaller number of respondents had published several journal articles (nine to 10 journals articles) and had presented at a number of national conferences (nine to 10 national conferences). Because most of the respondents were former teachers, they had been involved in publications and initiatives supporting basic education, such as the co-authoring of textbooks or teaching manuals. These demographic and researcher profile details illustrate the emerging state of these respondents as researchers. Each stage of the life cycle is reported on in the sections that follow.

Research Support Needs at Ideas and Planning Stage

As shown in Table 1, the investigation into research support needs at the start of a research project was broken down in the questionnaire into needs related to choosing a topic for research, formulating a research question, identifying collaborators, and identifying funding opportunities. Only six respondents (29%) indicated that they needed the library's support in formulating a research question, though a more significant number (11; 52%) needed the library's support in identifying research collaborators. Traditionally, at this institution, formulating research questions and identifying funding opportunities have not been associated with the support that the library offers, yet it was found that at least some respondents would like the library's support in these respective areas. For each sub-stage, there were seven to eight neutral responses (as indicated in Figure 2), possibly indicating an openness to support services that the library might offer in these aspects of research.

Figure 2

Research Support Needs in the Ideas Development and Planning Stage



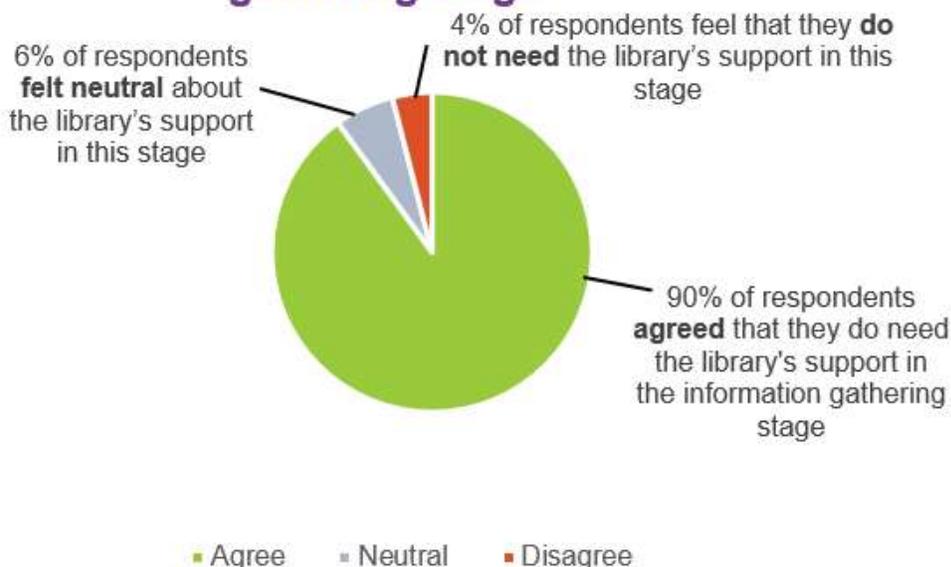
Research Support Needs at Information Gathering Stage

The second stage explored the need for more traditional library services. It was not surprising to see respondents' concurrence on their need for support in these areas with 20 (95%) respondents agreeing that they needed support in locating and accessing information, keeping up-to-date with new publications, and constructing complex searches. It was just in managing their collected information that slightly fewer (16; 76%) agreed, with four respondents remaining neutral and one disagreeing. A summary of researchers' responses is presented in Figure 3.

Figure 3

Research Support Needs at the Information Gathering Stage

I need the library's support in the information gathering stage

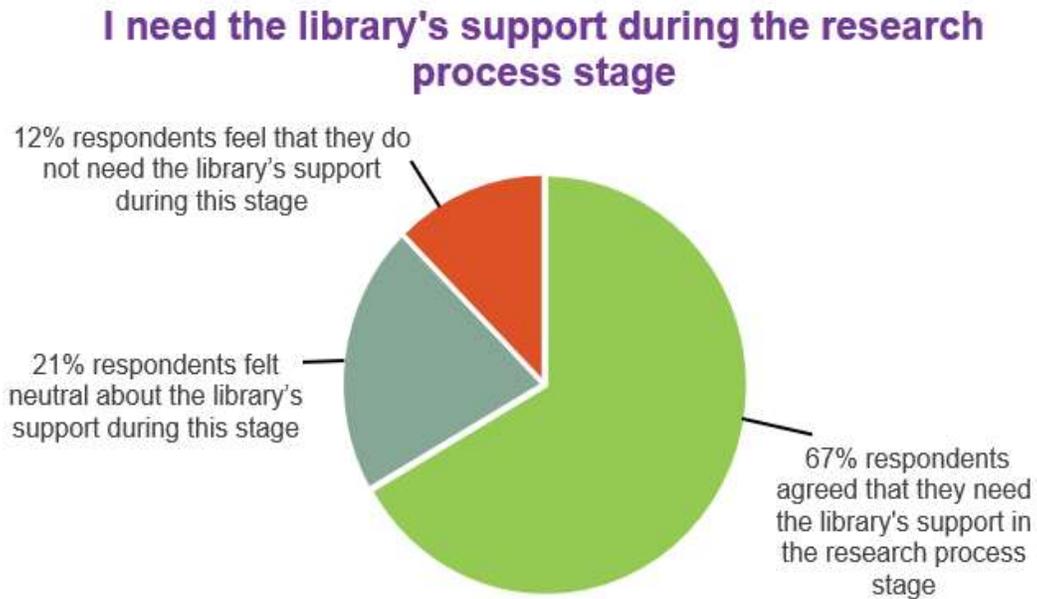


Research Support Needs at Research Processing Stage

At this stage, the majority of respondents again agreed that they needed support from the library, with the exception of obtaining ethical clearance, where six (29%) agreed and five (24%) disagreed but 10 (48%) were neutral. The biggest need for the library's support in the processing stage of the research cycle was in managing datasets and making them available for future use (18 respondents or 86% agreed). Sixteen (76%) respondents agreed that they needed support in managing citations and references and in developing a data management plan respectively. A substantial number of respondents (14; 67%) needed the library's support with intellectual property and copyright issues. In this stage of the research cycle, managing datasets and making them discoverable were where most respondents (86%) indicated their need for the library's support. A summary of researchers' responses is presented in Figure 4.

Figure 4

Research Support Needs at the Research Processing Stage

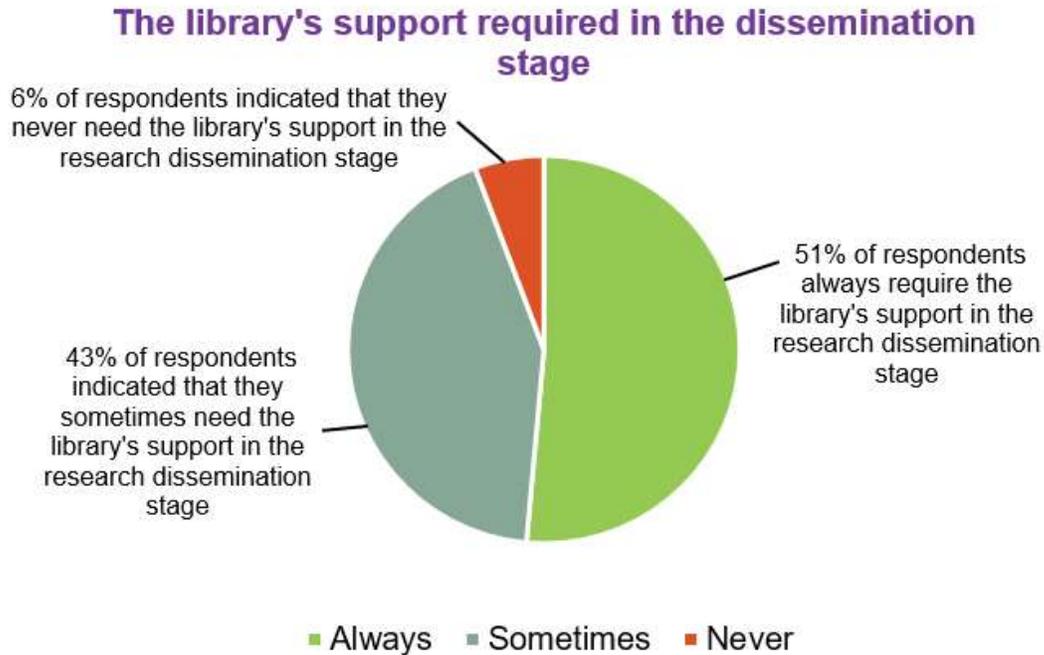


Research Support Needs at the Dissemination Stage

For this stage, respondents were asked for the regularity with which they consulted the library for assistance in research dissemination activities. Few (between zero and two) indicated that they never need the library's support in these activities, meaning that 90% to 100% do. Of those who do, it was only the activity of depositing in digital repositories where there was a marked difference between those who always consulted the library (13; 62%) and those who only do so sometimes (six; 29%). For the others, there was only a difference of one to three responses between the two categories. Overall, a small majority (11; 52%) needed the library 'always' as opposed to 'sometimes' or 'never' in this stage. A summary of researchers' responses is presented in Figure 5.

Figure 5

Research Support Needs at the Dissemination Stage



Research Support Needs at Measuring Stage

In the research measurement stage, a slightly larger majority (11; 52%) needed the library's support always, with nine (43%) responding sometimes and one (5%) responding never. As the population of the census was made up of emerging researchers who would mostly not have published extensively and/or would not have been expected to measure their research impact yet, it makes sense that many of them would not, so far, have needed the library's support in this area.

When comparing the need for support in the measuring stage to the dissemination stage, it is evident that responses align, with 52% of respondents indicating that they always need the library's support during these two stages of the life cycle. This shows support of these stages is of equal importance to respondents. A summary of researchers' responses is presented in Figure 6.

Figure 6

Research Support Needs at the Measuring Stage

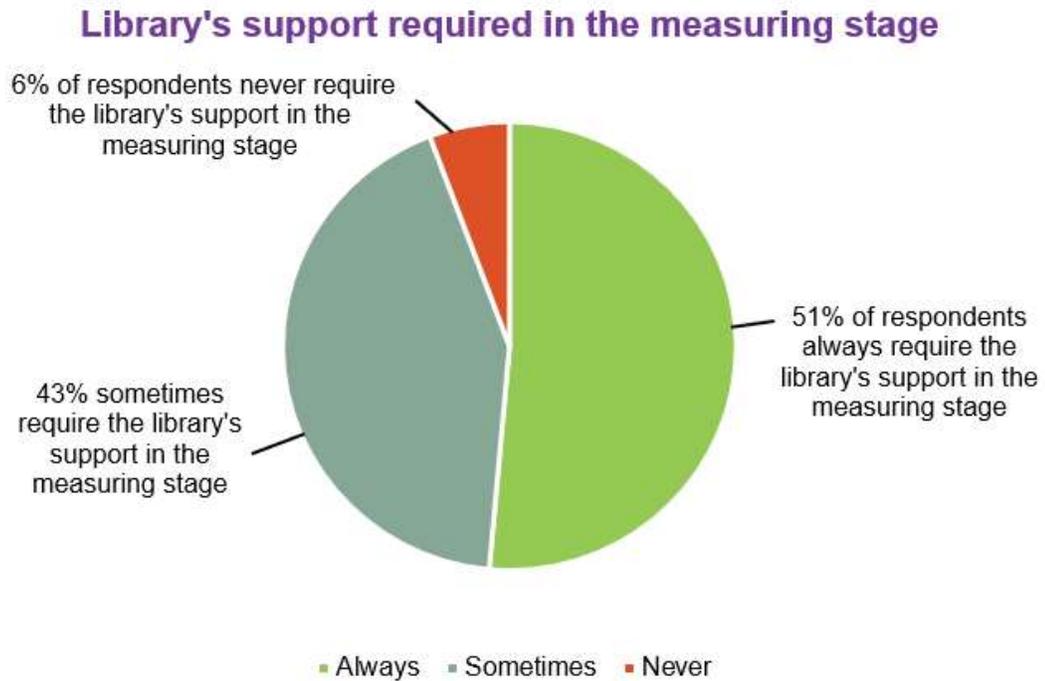
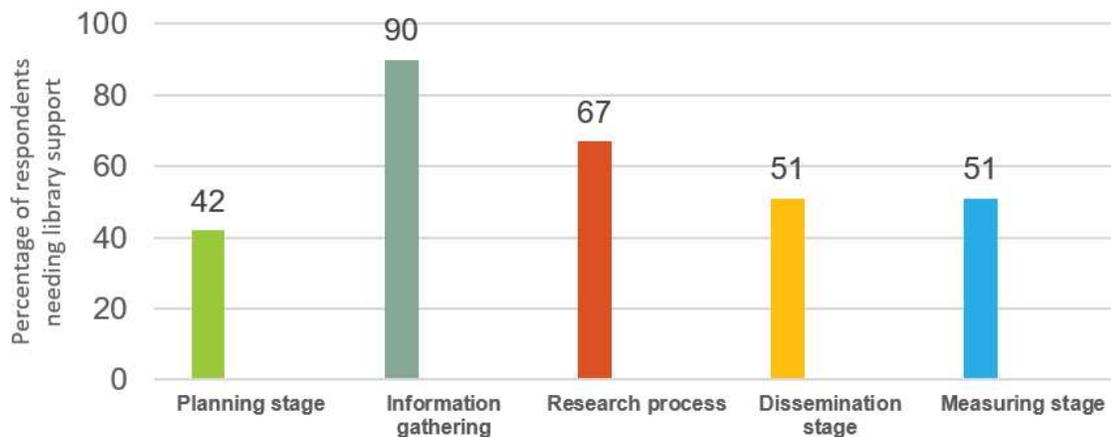


Figure 7 is included to provide a concluding presentation of the information shared in the discussions.

Figure 7

Research Stages in Priorities of Importance in Terms of Library Support Needed



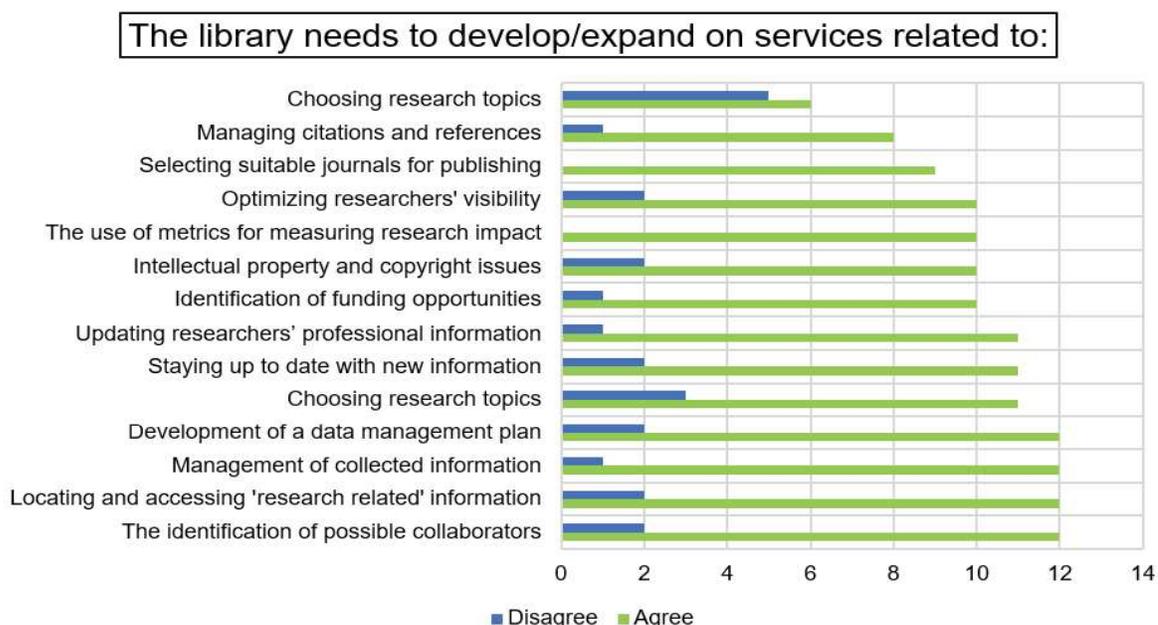
Suggestions for Library Support Expansions

Lastly, respondents were asked to show the extent to which they agreed with the library expanding or developing certain research support services. Figure 8 shows the results for those who agreed with the statements presented. What it shows is that the fewest respondents agreed that they need assistance from the library in choosing their research topics but that, more often than not, the libraries would be their port of call for assistance in accessing scholarly literature (11; 52%), identifying collaborators (12; 57%), locating and accessing research-related information (12; 57%), staying up-to-date with new information in their field (11; 52%), managing their information (12; 57%), and assistance with developing a data management plan (12; 57%).

Ten respondents (48%) said that they agreed fully that the expansion of services for identifying funding opportunities, advice on intellectual property and copyright issues, assistance with measuring research impact, optimizing their individual research visibility, and assistance with depositing research outputs in institutional repositories was needed. As is evident, the services that respondents identified as important are those for which they have higher expectations as they are also those services in which they would like some improvement.

Figure 8

Suggestions for Library Support Expansions



Discussion of the Findings

The study's main intention was to determine what research support services emerging researchers in the education faculty expect the library to provide.

The study found that respondents considered services rendered in the information gathering stage of the research cycle to be the most important with 90% of respondents indicating a need in this stage. Additionally, 67% indicated a service need in the research process and dissemination stages respectively, while 51% agreed that they need the library's support in the measuring stage of the research cycle. The smallest group, 42%, agreed that they need the library's support in some way in the ideas development and planning stage of the research life cycle.

To triangulate the data from the questionnaire, a focus group interview was held with a group of education faculty librarians and an interview was also held with the faculty research coordinator. Data from these interviews confirmed the questionnaires' findings. In the focus group, librarians agreed that it was most important for libraries to provide support for locating and accessing relevant information sources (support in the information gathering stage). They considered those services to be satisfying emerging researchers' most important research support needs. According to the research coordinator, information support from the library is paramount for emerging researchers. Unlike librarians, however, her view was that the provision of information was the *only* support service the library offers to the education faculty's researchers. Clearly, all study participants regard the provision of information support as paramount in research support. However, other services emerged as necessary to some degree. Table 2 provides a hierarchical table of services arranged in order of priority as they were identified by all study participants.

Table 2

The Most Important Services that Should Be Provided for Emerging Researchers at CPUT's Faculty of Education

<p>Essential research support services</p>	<p>Participants identified the following as essential support services that the library should provide:</p> <ul style="list-style-type: none"> • Locating and accessing information • Keeping up-to-date with new information published in researchers' field of interest • Constructing complex searches to find the most suitable electronic and print resources available • Managing datasets and making them discoverable for future use
<p>Important research support services</p>	<p>Participants identified the following as important support services that the library should provide:</p> <ul style="list-style-type: none"> • Managing collected information • Development of data management plans • Managing citations and references • Support with intellectual property and copyright issues • Depositing research outputs in digital repositories
<p>Useful research support services</p>	<p>Participants identified the following as useful support services that the library should provide:</p> <ul style="list-style-type: none"> • Using metrics to decide where to publish • Updating researchers' professional information on relevant websites and platforms • Optimizing researchers' visibility and expanding their research networks • Identifying collaborators • Identifying suitable open access journals for publishing • Using metrics to demonstrate researchers' scholarly impact • Managing copyright issues • Tracking researchers' research impact • Identifying funding opportunities • Providing assistance in choosing a research topic • Selecting suitable accredited journals for publishing
<p>Unimportant research support services</p>	<p>Participants identified the following as unimportant for the library to provide:</p> <ul style="list-style-type: none"> • Formulating a research question • Obtaining ethical clearance

Table 2 confirms the persistence of the traditional view of academic libraries as mostly associated with information provision.

Beyond the traditional information services provided by libraries, a number of 'new' or expanded services have emerged in the literature. According to Raju and Schoombee (2013, p. 28) these include:

- Research data management support
- Data curation and preservation services
- Facilitation of open access practises
- Bibliometric analyses to improve the visibility of researchers' output.

Some of these were considered important or useful services by this study's respondents.

An adjustment in librarians and researchers' perceptions of library research support functions might contribute to librarians' expansion of their research support role and of researchers' optimal use of library support services offered. To this end, the research life cycle model, as used in this study, is valuable for libraries to use as a framework when developing the research support services they offer across all stages of the research cycle.

Conclusion

Research outputs are very important and contribute to the standing of academic institutions, helping them to compete for funding, staff, and students. In South Africa, with the change of status of technikons in the 1990s and the merging of education colleges into UoTs in 2005, a number of faculty members employed at these newly established institutions had to develop a culture of research. In particular, education researchers with a teaching-intensive workload had to adjust to a research-orientated work environment.

Academic libraries are expected to provide effective research support services to their community of researchers, whatever their discipline and status (Atkinson, 2016). To do so, they must continually enquire about researcher support needs and expectations (Wiklund & Voog, 2013) and have the ability to identify the diverse needs and expectations of their users (Atkinson, 2016). In this study, emerging researchers employed at CPUT's Faculty of Education were identified as a sub-group of users whose needs and expectations needed to be investigated in light of the inherited research backlog experienced by education faculties.

Though this was a small study and the sample cannot be generalised, it reached an un-

derstanding of the research needs of the identified group. The library can use these findings to align its current research support services to the unique needs of this small community of users. In doing so, the library can efficiently support research production and increase research output at CPUT. Findings also allow the library to plan for future research support services. To this end, Figure 8 is useful in terms of expanding research support for this study's researcher population.

Since the literature emphasizes that libraries should “move beyond traditional levels of service, and [assume] more proactive roles in faculty research” (Hollister & Schroeder, 2015, p. 99), this study recommends that the library make itself more visible to create awareness of its services and that it market itself more effectively. One of the librarians who participated in the focus group interview said the following about the library's research support services: “If more people know about our services more people will make use of our services.” This statement accentuates the importance of the library's improvement of its marketing strategies to improve researchers' use of the research support services available to them.

The study also recommends that the library tailor its training to different user groups and take advantage of opportunities for collaborative training (such as with the education faculty's research coordinator) for new staff. Closer cooperation between institutional research entities would also clarify for new researchers where support is available to them, so that there is no duplication of services and efforts. While it is gratifying for the library to be considered ‘the friendly face’ in the research process, there is often a need to redirect queries elsewhere. Conversely, when researchers do not know that the library offers a service like the identification of possible collaborators, then they will not seek it in the library.

Lastly, this study recommends that the research life cycle should be used as a framework for designing future research support services. Regarding future studies, while this study investigated the research support needs of emerging researchers in an education faculty, it would also be valuable to compare these with the support needs of established researchers in the same faculty to gain a full understanding of the faculty research support needs as a whole.

To conclude, the importance of libraries' abilities to establish their users' support needs and to develop their services according to these needs was fittingly voiced by one of the librarians who participated in this study's focus group interview. She stated that:

Libraries internationally tend to not listen to their researchers' needs. We tend to exclude our researchers when we implement certain tools and systems. So we first implement

systems and then we want to motivate researchers to adopt them whilst actually it should work the other way round.

This study heard from researchers so that current library services can be improved, and new ones implemented for the sake of research development among the group of emerging researchers employed at the faculty of education at a university of technology.

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Appendix



UNIVERSITY OF CAPE TOWN
 IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD
 Faculty of Humanities
 Library and Information Studies Centre

Electronic Questionnaire

1. Demographic details: Please answer the following questions by ticking the appropriate option.

1.1 At which campus are you situated?	Mowbray	Wellington		
1.2. Highest qualification obtained?	B-degree	Hons.	Masters	PhD Post PhD
1.3. How long ago did you obtain this degree?	1 -2 years ago	3 -5 years ago	5 -7 years ago	More

2. Research profile: Please answer the following questions related to your research profile.

2.1. Are you currently pursuing another degree?	Yes <input type="checkbox"/> No <input type="checkbox"/> If <u>yes</u> please specify _____				
2.2. How many papers have you presented/co-presented at National Conferences?	None	1-2 papers	3-5 papers	6-8 papers	9-10 papers
2.3. How many papers have you presented/co-presented at International Conferences?	None	1-2 papers	3-5 papers	6-8 papers	9-10 papers
2.4. How many journal articles have you published/co-published?	None	1-2 articles	3-5 articles	6-8 articles	9-10 articles
2.5. How many book chapters have you published /co-published?	None	1-2 chapters	3-5 chapters	5-8 chapt.	9-10 chapt.
2.6. Apart from the examples listed above, have you been involved in the production of any other form of scholarly output? Please specify.					

3. Research Support in the ideas and planning stage:

Please indicate the support that you require from the library during the ideas development and planning stage of your research.

Support needs according to the following rating:	Agree	Neutral	Disagree
3.1. I need support in choosing a research topic			
3.2. I need support in formulating a research question			
3.3. I need support in identifying collaborators			
3.4. I need support in identifying funding opportunities			

4. Research support in the information gathering stage:

Please indicate the support that you require from the library during the **information gathering stage** of your research.

Support needs according to the following rating:	Agree	Neutral	Disagree
4.1. I need support to locate and access the information I need			
4.2. I need support in keeping up to date with new information published in my field of interest.			
4.3. I need assistance with constructing complex searches that will help me to find the most suitable electronic and print resources available.			
4.4. I need support to manage the collected information			

5. Research support in the research process stage (Conducting the research)

Please indicate the support that you require from the library during the **research process when conducting the research**.

Support needs according to the following rating:	Agree	Neutral	Disagree
5.1. I need support with intellectual property & copyright issues			
5.2. I need support with managing citations and references			
5.3. I need support in developing a data management plan			
5.4. I need support in managing my datasets and making them discoverable and available for future use			
5.5. I need support with the processes involved in obtaining ethical clearance for my research			

6. Research support in the dissemination stage (Disseminating the research)

Please indicate the support that you require from the library when you start **publishing and disseminating your research** outputs.

I need the library's support with:	Always	Sometimes	Never
6.1. Selecting suitable accredited journals for publishing			
6.2. Identifying <u>suitable open</u> access journals to consider for publishing			
6.3. The managing of copyright issues			
6.4. Depositing my work in digital repositories			
6.5. The use and implications of various licenses <u>e.g.</u> Creative Commons Licensing.			

7. Research support in the measure stage (Measuring the impact of the research)

Please indicate the support that you require from the library when measuring the impact of your research.

I need the library's support with:	Always	Sometimes	Never
7.1. Tracking my research impact			
7.2. The use of metrics to demonstrate my research impact			
7.3. Using metrics to decide where to publish			
7.4. Updating my professional information on relevant websites and platforms (for example, ResearchGate and ORCID)			
7.5. To optimize my visibility and to expand my research network			

8. Library support expansions:

Of all the research support services mentioned above, in which area would you like to see the library expanding/developing the services that they offer?

Library research support service	1 – I agree with this statement	2 – I am neutral about this statement	3 – I disagree with this statement
8.1. The library needs to develop services that assist researchers in choosing research topics.			
8.2. The library needs to improve on services that provide access to a wide range of scholarly literature.			
8.3. The library needs to develop services that assist researchers with the identification of possible collaborators.			
8.4. The library needs to expand those services that assist researchers with the identification of funding opportunities.			
8.5. The library needs to improve on services that assist researchers to locate and access 'research related' information.			
8.6. The library needs to improve on services that assist researchers to stay up to date with new information.			
8.7. The library needs to improve on services that assist researchers with the management of collected information.			
8.8. The library needs to develop services that will assist researchers with intellectual property and copyright issues.			
8.9. The library needs to improve the assistance it provides to researchers in the development of a data management plan.			
8.10. The library needs to improve on their assistance to researchers in selecting suitable journals for publishing.			

8.11. The library needs to improve their assistance to researchers in the use of metrics for measuring research impact.			
8.12. The library needs to improve on services that regularly update researchers' professional information on all relevant academic platforms.			
8.13. The library needs to expand their assistance to researchers when it comes to optimizing their visibility and expanding their research networks.			
8.14. The library needs to improve the assistance provided to researchers in depositing research outputs to digital repositories.			
8.15. The library needs to improve services related to the management of citations and references.			

9. Do you have any further recommendations for the library to improve on the research support services offered?

10. What are the most significant challenges that you experience during the research process?

Thank you very much for taking the time to complete this questionnaire

Your inputs are valued and highly appreciated.

The student