

The utilisation of library spaces by postgraduate students at a university in an African country

The utilisation
of library
spaces

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Abstract

Purpose – The purpose of this paper is to determine the use of library spaces by postgraduate students at the North-West University in South Africa.

Design/methodology/approach – A survey research methodology was used in which both online and print questionnaires were used to gather data.

Findings – The major findings of the study were that postgraduate students frequently visited the libraries to make use of the quiet study spaces, which include the research commons and the study carrels. The study further found out that postgraduate students rarely visited the libraries for the purpose of consulting librarians regarding their studies. Challenges expressed by the students include insufficient workstations, poor internet and Wi-Fi connectivity and limited seating capacity. The benefit of the study is that it will help librarians and the university administrators to better understand the postgraduate students space needs, as well as the challenges being encountered.

Research limitations/implications – This biggest limitation of this study was a lack or low response rate by certain faculties, which mitigated against comparing the use of spaces by faculty.

Practical implications – The results of this study re-affirm the need for postgraduate spaces. University libraries that seek to build postgraduate spaces in the future need to ensure that an adequate number of computer workstations are supplied and Wi-Fi and bandwidth are improved. University libraries that already have postgraduate spaces should consider adding more workstations and improving bandwidth and Wi-Fi connectivity in those spaces. These results further point to a need for libraries in Africa and elsewhere to consider having more quiet study spaces for postgraduate students while reducing the number of group study spaces.

Social implications – The results of this study point to a need for libraries and university authorities to periodically review library spaces as a way to ensure their continued optimal usage. They also point to a need for more funds to further enhance the library spaces for postgraduate students' use.

The results of this paper were first presented at the 40th Annual IATUL Conference held at The Universities of Western Australia and Curtin in Perth, Australia from 23 to 27 June 2019. The paper was sent for review to the journal after the authors obtained permission from the organisers, and an undertaking that the paper will not be published in the conference proceedings of IATUL. The authors would like to acknowledge the contribution of those who attended the IATUL session where the paper was presented for their critical insights, which led to the strengthening of this paper. The two anonymous reviewers are also acknowledged for their insights and suggestions, which helped to further strengthen the paper.



Originality/value – South African libraries are faced with challenges including the addition of 15 per cent value added tax to print and online resources. In this environment, libraries are expected by university authorities to demonstrate return on investment. This study, therefore, is located within the realm of determining return on investment for the funds spent by universities to build dedicated postgraduate library spaces. This study will further benefit librarians and the university administrators by helping them to better understand the postgraduate students space needs, as well as the challenges being encountered.

Keywords South Africa, Postgraduate students, Physical space, Space utilization, University library, Research commons

Paper type Research paper

1. Introduction

Academic libraries are libraries that are linked to an institution of higher learning (Feather and Sturges, 2003). It is often argued that they occupy the intellectual and physical centre of universities (Pather, 2016; Adeyemi, 2017). Academic libraries fulfil the critical task of serving the diverse teaching, learning and research needs of their host institutions' users (Feather and Sturges, 2003). Those user groups include staff (researchers, teaching and support staff) and students (undergraduate and postgraduate). Postgraduate students refer to students at honours, masters and doctoral level who have completed a first degree in the area of their current study and are pursuing an advanced degree (North-West University, 2016). To successfully fulfil their mission, universities and colleges require a well-supported infrastructure including information and communication technologies (ICT), as well as well-equipped libraries that are able to cater for the needs of the majority of their users (Pather, 2016). The report of the Research Information Network and the Consortium of Research Libraries (2007) in the British Isles and Bennett (2005) point out that technological advancements and the change from a teaching culture to that of learning have brought about a sea-change in the way academic libraries relate to their users. These have included enhancement and building of new dedicated library spaces to serve the unique needs of different user groups including postgraduate students (Daniels *et al.*, 2010). The value of the physical academic library has long been the subject of debate in the developed world with some pointing to the general decline of patronage and increased usage of online resources and the internet as possible threats to its survival (Bennett, 2005). In response, many academic libraries have spent millions of dollars to remain relevant to the changing world and to protect the library as a physical space. The success of these initiatives remain a subject of debate in literature with some pointing to the failure to arrest the decline in library patronage (Bennett, 2005; Shill and Tonner, 2003). The developing world has not witnessed drastic declines in library patronage on the same scale as those reported in the developed world (Adeyemi, 2017). This could mainly be caused by technological challenges that would render it nearly impossible for e-resources to totally replace physical material in the developing world.

In South Africa, academic libraries have been involved in several space reconfiguration projects to accommodate researchers and postgraduate students and fully use prime space occupied by less used print resources (Daniels *et al.*, 2010; Pather, 2016; Majal, 2017; Kahn and Underwood, 2018). The demand for more access to the actual physical library has bulked the developed world trends with students constantly demanding 24h physical library access and services despite the availability of electronic resources. However, studies show that despite the high patronage of academic libraries, the circulation figures are declining (Chizwina *et al.*, 2016). Academic libraries in the country are faced with challenges, which include budget cuts and the addition of 15 per cent value added tax to electronic resources and library fines. To further compound matters, The Republic of South Africa is

gripped by a climate of fiscal austerity, which also affects public universities and academic libraries. As a result, academic libraries are expected to account for the funds used to purchase library resources and equip them with state of the art spaces and resources. This study is located within the realm of determining the return on investment for the funds spent by universities to build dedicated postgraduate library spaces. The main aim of this study is to determine the use of these spaces by postgraduate students at the North-West University in South Africa. The extent of usage, its purpose, and satisfaction levels of postgraduate students with current library spaces at the North-West University (NWU) will be outlined. The specific objectives of this study are to:

- establish the extent of library visits by postgraduate students;
- determine the reasons why postgraduate students visit the library;
- establish the spaces preferred by postgraduate students and the frequency of their use; and
- determine the satisfaction levels of NWU postgraduate students with current spaces.

It is hoped that the findings of this study will help shed light on the space needs of postgraduate students, as well as their perceptions about the adequacy of the current spaces. In addition, a case study of this nature can be useful for other libraries who intend to carry similar studies in future.

2. Description of North-West University and its library

There are 26 public universities in South Africa that are classified into three broad categories, namely, the traditional, technological and comprehensive universities (Bunting, 2006). Traditional universities are tasked with offering theory-based education. Universities of technology are tasked with providing vocational training while comprehensive universities are a combination of both traditional and technological universities. Currently, there are 12 traditional universities, 8 comprehensive universities and 6 universities of technology in the country.

NWU is a traditional university that has set itself an ambitious mission “to be an internationally recognised university in Africa, distinguished for engaged scholarship, social responsiveness and an ethic of care”. The University has three campuses, namely, Mafikeng (MC), Potchefstroom (PC) and Vaal Triangle (VTC). As such, it has footprints across two provinces of South Africa, the North West and Gauteng. NWU has eight faculties, which are Economic and Management Sciences, Education, Engineering, Health Sciences, Humanities, Law, Natural and Agricultural Sciences and Theology. These faculties are spread across two or all three NWU campuses except Engineering, which is only based in the Potchefstroom Campus. The University had about 72, 994 enrolled students in 2017 of which 16,167 (or 22.2 per cent) were postgraduate students (North-West University, 2017, 2018). Of the postgraduate students, 4,219 students were doing their Masters and PhD’s while the rest are at honours level. This makes NWU the second biggest university by number of enrolled students after the University of South Africa in the country. Among the University’s objectives is to excel in cutting-edge research (North-West University, 2016). The University is ranked among the top ten best universities in South Africa. Its immediate target is to increase its research outputs and be among the top five ranked universities in the country (North-West University, 2016). With regard to postgraduate students, the NWU strategy is to improve postgraduate throughput and output (North-West University, 2016). NWU has three Campus Libraries based in each of its campuses to support its mission. There are also five small departmental branch libraries within the Potchefstroom Campus. Taking a cue from the NWU, the North-West University Library and Information Service (NWU LIS) seeks “to be distinguished as a leading university library

in Africa and beyond, known for a commitment to partnership in student success, esteemed scholarship and research". To support the University's mission and keep abreast of the trends of twenty-first-century academic library, the NWU LIS has embarked in major space reconfigurations since 2014. The VTC campus library Research Wing for masters and doctoral students was built and opened its doors to users in 2015. The new facility includes fully equipped postgraduate research spaces (honours spaces and research wing for masters and doctoral students). Later that year, the PC library followed suit and reinvented its spaces to incorporate the honours and research commons for masters and doctoral students. Similarly, a research commons was built in Mafikeng in 2016 to cater for the masters and doctoral students (in the senior side) and honours (in the junior side) ([North-West University, 2017](#)). [Plates 1 to 3](#) are the research commons spaces built in the three campuses of NWU.

[Plate 1](#) shows part of the VTC Research Wing, which has spacious computer workstations, individual laptop stations and printing facilities. There is a technologically equipped discussion room with whiteboard, sound and lighting facilities. Data projector and laptop connection accommodating 16 individuals is available for booking by honours, masters and doctoral students in the VTC Research Wing. There are currently 60 lockers available for booking by masters and doctoral students. There is also a collection of research books and reference works for easy access. Onsite faculty librarians are available to provide research and information related services.



Plate 1.
The VTC
research wing



Plate 2.
PC research
commons



Part of Potchefstroom research commons is depicted in [Plate 2](#). It has 39 workstations, individual laptop points, 1 group discussion room with 4 seats and a table, skype room accommodating 10 people, an LCD screen and a whiteboard. There are also 12 Lockers in both honours and research commons for booking for a month by postgraduate students with the possibility to renew if not in demand. The space has a kitchen, which has a self-paid coffee machine and the restrooms for the convenience of the students. There is a research librarian and student assistants on site to assist with information and research related inquiries. A relaxing social space, which enhances academic, leisure and social interactions is in place along with a collection of periodical sources (magazines and newspapers) for leisure reading. Students are provided with a collection of research methodology and reference works. The space also boasts a state of the art conference room, which accommodates 23 individuals, with a SMART podium, projector, document camera and an interactive whiteboard. Papercut printing facility is available and free scanning facilities in both the honours and senior research commons are provided.

[Plate 3](#) shows part of the Mafikeng research commons, which is fully equipped with 64 state of the art computers in the senior side and 45 in the junior side. The space has 6 group study rooms each with a discussion table and 6 chairs for group discussions. There is a reprographic room for students to print and photocopy. The space also houses some of the popular research books and dictionaries for the convenience of postgraduate students. Students are also able to purchase coffee from the coffee machine that is situated in the coffee area within the research commons. The MC research commons is overseen by a senior librarian who acts as both a faculty librarian for the Faculty of Natural and Agricultural Sciences and a research support librarian. Additionally, there are 16 long-term study carrels that postgraduate students hire for a semester after paying a small fee.

3. Literature review

The literature review of this paper focusses on two aspects, which are academic libraries as physical spaces and physical library spaces for postgraduate students.

3.1 Academic libraries as physical spaces

The academic library as a physical space was perceived to be in crisis at the beginning to mid-1990's ([Crawford, 1999](#); [Demas, 2005](#)). However, the prediction of their immediate demise was found to not only be unfounded but also the debate changed to a need for specialised physical library spaces by the end of the 1990's. [Demas \(2005\)](#) identifies several reasons why the end of the physical library has not materialised including the sense of

security and comfort that people feel in a library, an opportunity to interact with information resources free of immediate charge, and being in a social learning environment. As early as 1999, Crawford predicted that physical library space would be one of the biggest debates in libraries by the turn of the twenty-first century. True to the prediction, there is currently a growing body of literature on academic libraries and physical spaces. Certain themes emerge when one reads literature on academic library spaces. There is literature that focusses on types of spaces that these libraries (ought to) have (Crawford, 1999), the planning of these spaces (Kahn and Underwood, 2018), how they are redesigned (Majal, 2017) and the assessment of their usage (Adeyemi, 2017). A seminal paper by Crawford (1999) identified six different types of physical spaces required in academic libraries, which are: shelving spaces, study spaces, reading spaces, meeting spaces, coherent spaces and research spaces. According to Freeman (2005) library as a physical space also serve the psycho-social aspects of an academic community by allowing them to converge in one space in a way that university lecture rooms and halls cannot do. It provides students with an opportunity to feel part of a larger community and to be able to interact with different groups of students that are not necessarily their peers or in the same classes. Demas (2005) identified several reasons why people come to the physical academic library. These include:

- to read (for individual study, for group study);
- for accessing and checking e-mails and the internet;
- to find information for projects, tests and assignments;
- to produce information for presentations, computing and writing;
- to attend formal classes; and
- to browse the shelves.

In other words, the physical library is a place to find, study and read journal articles, books and other library material. This requires shelving spaces, study spaces and reading spaces. Further, the physical library can be thought of as a place to discuss, create, write and research. This would require meeting spaces, coherent spaces and research spaces. Rodriguez (2017) pointed out that library spaces are not only about the users but also library staff as well. Rodriguez (2017) advises that library spaces for staff should be designed in such a way as to promote collaboration, innovation and creative problem-solving. Academic libraries as physical spaces, therefore, are also working spaces where library staff spend most of their time. They are also working spaces where library staff interact with their users.

3.2 Physical library spaces for postgraduate students

Postgraduate students are a critical group of library users. However, their usage of the library is not always similar to undergraduate students though the majority of them value the physical library (Beard and Bawden, 2012; Kekana, 2016; Majal, 2017). This is because unlike undergraduate students, postgraduate students have more responsibilities and are involved in more research than the majority of undergraduate students (Ince, 2018). A study by Beard and Bawden (2012) found that 66 per cent of postgraduate students still value the library as a physical space though the overwhelming majority of them (82 per cent) value the silent study spaces than group study spaces (48 per cent). The same can also be noticed in Majal's (2017) study that shows that the silent spaces are popular than group study spaces. However, the requirement for physical study spaces by postgraduate students, perhaps, like all other groups of users is paradoxical, as they need both the silent

and social spaces. At the University of KwaZulu-Natal, [Kekana \(2016\)](#) was able to determine that even though postgraduate students do not use as much group study spaces as silent ones, they still expressed a need for both spaces. Similarly, [Rempel *et al.* \(2011\)](#) found that postgraduate students preferred both social and private spaces at the Oregon State University. One of the most critical postgraduate spaces of the twenty-first century libraries is the research commons. The research commons are spaces dedicated to postgraduate students. In the South African context these spaces are equipped with state-of-the-art computer workstations, printing and copying facilities, individual and group study spaces, lounge areas, small reference and research collections staff offices, as well as tea and coffee areas ([Daniels *et al.*, 2010](#)).

4. Research methodology

Data were collected through the administration of a survey questionnaire with multiple-choice questions spread over six sections ([Appendix](#)) at three campuses of NWU in South Africa. The questionnaire was administered with the assistance of faculty librarians in the case of Vaal Triangle Campus and the Research Support Librarian in the case of Potchefstroom Campus. They were self-administered in Mafikeng as two of the researchers are based at this campus. The questionnaires (online and print) were distributed in February to April of 2019. The first section of the questionnaire required the demographic data of the respondents including the age, user category, campus and faculty. The second one dealt with their library usage that is the frequency of their visits to the library and their main reason for visiting. The third dealt with the usage of library space, that is, the most frequently used floor and space in the library. Section 4 dealt with the respondents' perceived challenges and benefits of using postgraduate spaces. Section 5 of the questionnaire sought to find out the satisfaction level of respondents with the postgraduate spaces at NWU while the last sections looked into their future needs in terms of the library spaces. At the end, the respondents were given an opportunity to make any comments or suggestions in relation to postgraduate spaces. The data were initially only collected through an online survey tool, QuestionPro, in February until mid-March 2019. This tool has been used by library and information studies researchers before ([Moonasar and Underwood, 2018](#)). However, the response rate to the online questionnaires was low. [Creswell \(2018\)](#) is aware that one of the main disadvantages of online surveys is the low response rate. A print questionnaire was later used to complement the online one. The researchers then uploaded responses of the print questionnaire online for easier analysis of data. The data were then analysed with the assistance of QuestionPro, which is able to generate graphs and tables emanating from a questionnaire. A hundred and thirty-six postgraduate students responded to the survey. There were 65 comments/suggestions made by the students and they fell under nine themes ([Table I](#)) decided with the assistance of QuestionPro. In categorising the themes, however, there were more comments than the number of students as some students would make more than one comment. The findings of this study are presented in graphs and a table.

5. Findings and discussions

The findings of this study are aligned to its objectives.

5.1 Demographic data

The demographic data of the responds by age showed that 5 (3.7 per cent of 136) respondents were under 21 years of age, 68 (50 per cent of 136) were between 21 and 25 years, 29 (21.3 per cent of 136) were between 26 and 30 years, 12 (8.8 per cent of 136) were

between 31 and 35 years of age, 9 (6.6 per cent of 136) were between the age of 36 and 40 years, 5 (3.7 per cent of 136) were between 41 and 45 years of age, 7 (5.2 per cent of 136) were between 46 and 50 years of age and 3 (2.2 per cent of 136) were over 50. There were 51 honours, 55 Masters and 23 PhD students. Surprisingly, seven postdoctoral fellows also responded to the survey. Their interest could stem from the fact that some of them had just graduated from a PhD and they were at their initial stages of the postdoctoral fellowship. This topic was still of interest to them. These postdoctoral fellows were treated as PhD students in this study for easy analysis. The majority of respondents were from the Faculty of Natural and Agricultural Science (51) followed by Humanities (33), Economic and Management Science (27), Law (15), Health Sciences (5), Education (4) and Theology (1). There were no responses from the Engineering faculty.

5.2 Library visits by postgraduate students

Figure 1 reflects the frequency of visits to the library by postgraduate students at NWU. Close to 68 per cent of them visit the physical library for more than three days a week, 25 per cent visit the library for between one and three days a week, while just more than seven per cent of them hardly visit the library. These results point to possible different physical library usage patterns between the postgraduate students at the NWU and those of other libraries. At the Kenneth Dike Library in Nigeria, Adeyemi (2017) determined that only 9.6 per cent of postgraduate students visited the library more than 3 times. In the case of KwaZulu-Natal, Kekana (2016) found that only 61.9 per cent of postgraduate students expressed that they visit the library either daily or weekly while about 38.1 per cent hardly visit the library at all. Similarly, only 42 per cent of postgraduate students claimed to visit the library at least once a week in Beard and Bawden (2012). These results, however, are very similar to those of Cooper and Hughes (2017). While studying the use of library spaces by postgraduate students at the University of New Mexico,

Table I.
Postgraduate students' comments by themes

Categories	No. of respondents
Expression of gratitude (library staff helpful, thank you for postgraduate spaces)	15
More computers and improved internet/Wi-Fi connectivity	17
Conducive study environment (with no noise, enforce library code of conduct)	13
More seats in the research commons	7
Fix malfunctioning computers	7
Increased hours	5
Unhelpful staff including security personnel	3
Insufficient research collection	2
Require more social spaces	1

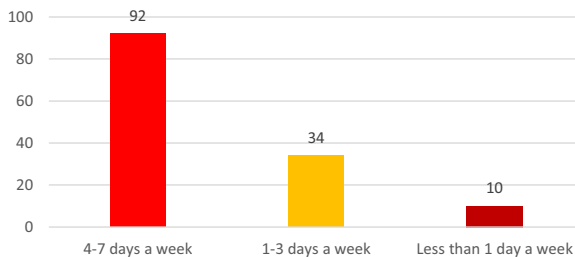


Figure 1.
Number of visits to the library per week

Cooper and Hughes (2017) found that 93 per cent of international postgraduate students expressed that they visit the library weekly or monthly. The possible reason for similarities between the findings of Cooper and Hughes and this study may be as a result of the strong contingent of postgraduate international students at the North-West University (2019). Though the researchers did not focus to the international students or even ask respondents about their country of origin, it was observed that many respondents in this study were international students.

The researchers further sought the main reason why postgraduate students visit the library. Figure 2 shows that close to 38 per cent of postgraduate students expressed that they visited the library to use quiet study spaces. This was in stark contrast to only 2.2 per cent of postgraduates who listed the use of group study rooms as their main drive for visiting the library. Close to 29 per cent visit the library to use either the Research or the Honours Commons. Of concern is the number of postgraduate students who consult a librarian. Only 2.2 per cent of postgraduate students listed their main reason as the consultation of a librarian. Beard and Bawden (2012) also found that about 85 per cent of students were not consulting librarians at the Southampton University; Bournemouth University; and Queen Mary College at the University of London. The results of this study are somewhat similar to other studies before it. Zeivots and Schuck (2018) conducted a study at the University of Technology Sydney and found that 93 per cent of postgraduate students perceived quietness as essential for their studies. In another study conducted at the Florida State University Libraries, Kinsley, Besara, Scheel, Colvin, Brady and Burel (2015) determined that when engaged in academic work, most postgraduate students prefer to work in a private space (76 per cent) or alone (88 per cent). Researchers such as Beard and Bawden (2012), Kekana (2016), Oliveira (2016) and Majal (2017) were also able to notice that postgraduate students prefer silent study areas to group study areas. However, the percentages of students who expressed this preference were much higher in the studies of Kekana (2016) and Beard and Bawden (2012). This is because of the way the questions were framed between this study and the two other studies. In Beard and Bawden (2012) and Kekana (2016), students could rate each area by order of importance. The possible reason why postgraduate students prefer quiet study is because they are involved in intensive individual research that may focus on a single topic of interest to them.

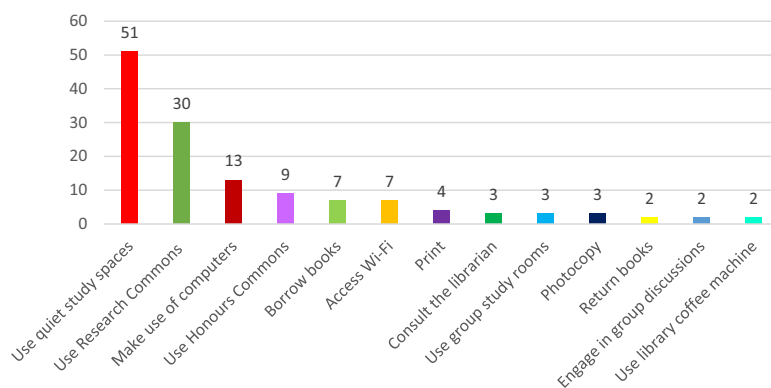


Figure 2.
Main reason for
visiting the library

5.3 Postgraduate library spaces preferred by students and the frequency of their use

The third objective of this study was to establish the space/s that postgraduates most prefer in the library and the frequency of their use. Figure 3 shows that 68 per cent of postgraduate students expressed that they mostly prefer to use the commons areas (Research and Honours Commons) followed by quiet study areas at 35 per cent, and finally, the group study spaces at 5 per cent. The results show a slight difference between what postgraduates prefer and their reason for visiting the library on the day of filling the survey. This could be as a result of the timing of the questionnaire as they had just registered in the months of February to March. Usage of the library by postgraduate students may not follow the normal patterns during these months, therefore. These results differ to those of Adeyemi (2017), who determined that 52.4 per cent of students (both postgraduate and undergraduate) visit the library for the quiet study space. However, it is not clear whether the Nigerian library where the Adeyemi study was conducted has the commons. The preference for the commons reflects a preference by postgraduate students to work in spaces where like-minded students are. This finding supports Kekana (2016), who also determined that postgraduates prefer separate spaces from the rest of the students.

Figure 4 depicts the frequency of use of postgraduate spaces by students. Close to 63 per cent of the students expressed that they use postgraduate spaces for between 4 to 7 days a week. In total, 25 percent use them for between 1 to 3 days a week while 8.8 per cent hardly use them. Close to 4 per cent never use the spaces. These results also agree with Beard and Bawden (2012), Kekana (2016) and Majal (2017) on the postgraduate students' preference for the quiet study spaces compared to the group study spaces.

5.4 Satisfaction levels of North-West University postgraduate users with current spaces

Figure 5 shows the satisfaction levels of postgraduate students with current postgraduate spaces at NWU. In total, 74 per cent of postgraduates are either satisfied or very satisfied

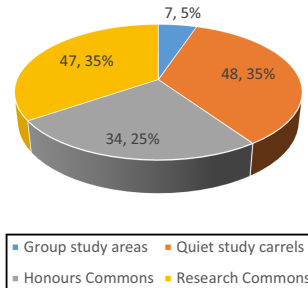


Figure 3.
Spaces preferred by postgraduate students

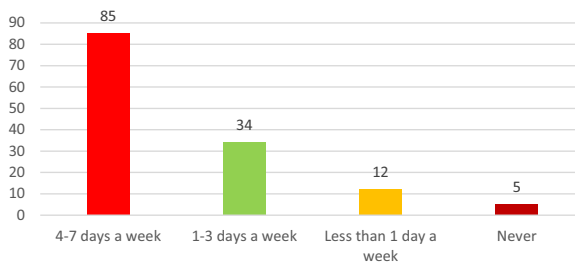


Figure 4.
Frequency of use of postgraduate spaces

with their spaces while 15 per cent are somewhat satisfied. Six-per cent were not satisfied at all. This places a responsibility to the library management to ensure that they identify areas of concerns for the postgraduate students and rectify where possible. The results of this study are similar to [Beard and Bawden \(2012\)](#), who determined that the majority of postgraduate students felt that the physical library provision met their needs reasonable well at three universities in the UK, which are: Southampton University; Bournemouth University; and Queen Mary College at the University of London. About 20 per cent rated the physical library in the [Beard and Bawden \(2012\)](#) study as “poor” or “very poor” while only 6 per cent were not satisfied with the physical library spaces in this study. The respondents were also given an opportunity to pinpoint the most pressing challenge they experience while using postgraduate spaces at NWU.

[Figure 6](#) shows that computer-related problems dominated the students’ challenges. More than 24 per cent of students felt that an insufficient number of computers was a challenge. Close to 15 per cent identified insufficient seating space as the greatest challenge followed by few study carrels (14 per cent), intermittent internet and Wi-Fi access (both at just more than 13 per cent), high noise levels (at just more than 8 per cent) and insufficient PowerPoints (at just more than 5 per cent). Limited group study rooms stood at close to 3 per cent further confirming the non-reliance of postgraduate students to group discussions. The challenge of insufficient computers and poor bandwidth and Wi-Fi connectivity in libraries appear not to be unique to the NWU ([Majal, 2017](#); [Kekana, 2016](#); [Adeyemi, 2017](#)

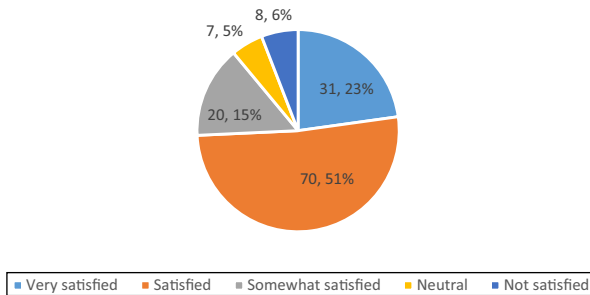


Figure 5. Satisfaction with current postgraduate spaces

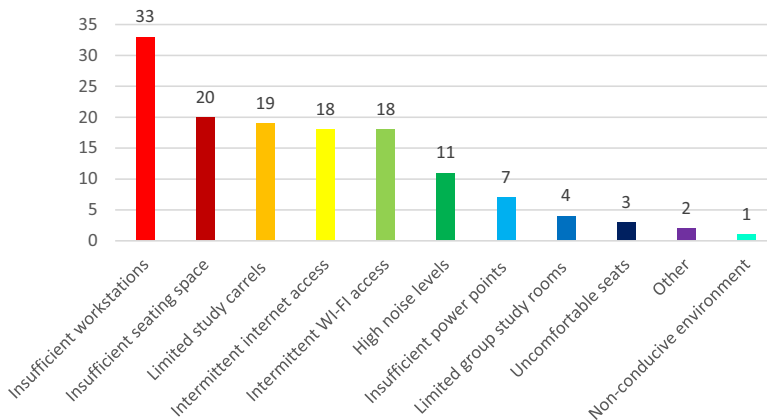


Figure 6. Challenges of using the postgraduate library spaces

also point to similar challenges at their universities). In [Majal's \(2017\)](#) study, at the Cape Peninsula University of Technology students identified more workstations and labs as the biggest need. [Adeyemi \(2017\)](#) also determined that 43.4 per cent per cent of library users do not agree with the statement that there are enough computers at a university in Nigeria meaning that they perceive them to be in short supply. This yearning for more computer workstations and better bandwidth and internet connectivity in the African countries' postgraduate spaces is in contrast to some studies conducted in the developed countries ([Kayongo and Helm, 2010](#); [Cha and Kim, 2015](#)). The study conducted by [Kayongo and Helm \(2010\)](#) at the University of Notre Dame in Indiana in the USA determined that students ranked use of computers in the library the seventh most important reason for using the library. This was not surprising as 65.5 per cent of them used computers at home and 62.7 per cent owned laptops. While studying students' space preferences in the central academic library of the Eindhoven University of Technology in The Netherlands, [Cha and Kim \(2015\)](#) found that more than 70 per cent of the students (undergraduate and postgraduate) had laptops. The high levels of access to personal computers and faster internet and Wi-Fi connectivity in the developed countries are the possible reasons why computers and poor bandwidth and Wi-Fi connectivity are not identified as a challenge by postgraduate students in using library spaces in those countries. [Oliveira \(2016\)](#) also observed that the majority of students at the James White Library at the Andrews University preferred to use the computer station area. Unlike this study and other studies conducted in the African context ([Majal, 2017](#); [Kekana, 2016](#); [Adeyemi, 2017](#)) there is no indication that computers are perceived to be in short supply by postgraduate students in the [Oliveira \(2016\)](#) study.

5.5 Additional comments by postgraduate students

The questionnaire allowed students to make any additional comments they may have about the library. There were 65 students who made comments and they fell under 9 themes decided with the assistance of QuestionPro in [Table I](#). In categorising the themes, however, there were more responses than the number of students as some students' comments fall under more than one theme.

The students' comments (reflected in [Table I](#) and the *verbatim* account of postgraduate students' comments below) shows that in the main, the postgraduates reaffirmed the quantitative results of the study. Like in the challenges in [Figure 6](#), the majority of comments reemphasised the lack of an adequate number of computers and poor internet and Wi-Fi connectivity as the challenge. This further vindicates previous studies that found that students in South Africa and other African countries also complained about inadequate computers and poor internet and Wi-Fi connectivity ([Kekana, 2016](#); [Adeyemi, 2017](#); [Majal, 2017](#)). More than 7 per cent (5 of 70) of students requested access to postgraduate spaces for 24 h. This is despite the availability of a 24 h facility in the library that caters for all groups of users ([Chizwina et al., 2016](#)). Other comments (7 out of 70) demanded more seats in the Mafikeng research commons despite the fact that each and every computer had a seat when two of the researchers went to investigate. It is possible that the postgraduates at NWU are also yearning for a bigger research commons ([Majal, 2017](#)). One of the comments actually indicated that the research commons must be increased to accommodate more students. It was concerning that close to 4.3 per cent (3 of 70) of students found library staff not to be helpful. Students also complained about the high noise levels at the research commons further affirming the quantitative results of this study and others before it that showed that the majority of postgraduate students prefer quiet study spaces ([Beard and Bawden, 2012](#); [Kekana, 2016](#); [Majal, 2017](#)). This may be a call for more research librarians to be employed and be based in those spaces especially in Mafikeng. Currently, only the Potchefstroom

Campus has a Research Librarian. Several comments highlighted that undergraduate students must not be allowed in the research commons. In fact, some comments went further to request the separation of PhD students from masters. This further confirms an earlier observation that postgraduate students prefer to work in spaces occupied by like-minded people. Some of the comments are written below *verbatim* followed by [Table I](#):

Desktop computers usual breakdown with no access to internet, kindly make upgrade or effect repairs in the MC research common, Library, Mafikeng Campus. (Respondent 1)

The honors computer lab/quiet study should have a bigger space to accommodate more of the students. Many times you find it full and if you don't get there early, you need to use space by ground floor computer lab and it gets way too noisy. (Respondent 2)

Please make the research commons a 24 hour study area. Control the noise levels. (Respondent 3)

Please increase the opening hours of the library. (Respondent 4)

The library hours are limited. Other postgrad. spaces are occupied by undergraduate students. (Respondent 5)

Internet and wifi connection are a serious problem as it mostly slow. (Respondent 6)

The library is nice and clean, but the noise can be a bit too much at times. Some people fail to uphold the rules otherwise the library staff is responsible and helpful. (Respondent 7)

The security in postgraduate commons is very low, postgraduate students allow undergraduate students access to the commons thus less space for postgraduates. (Respondent 8)

Grateful we postgrads have a quiet space where we can work. Please fix computers, deal with the noise, and not allow other students to use our space. (Respondent 9)

I am satisfied with the library. (Respondent 10)

Noise makers should be dealt with. Doctoral students should not be mixed with masters students. (Respondent 11)

6. Conclusion

The study investigated the use of library spaces by postgraduate students at a university in South Africa. The objectives of the study were to; establish the extent of library visits by postgraduate students, find out reasons why postgraduate students visited the library, establish the spaces, which they preferred to use and to determine the postgraduate students' levels of satisfaction with available library spaces. From the findings, it can be concluded that postgraduate students consider the library as a useful resource for their studies as evidenced by the high rate of library visits and the use of some dedicated spaces such as the research commons, which comprised both quiet and collaborative study spaces. The study also concludes that there were challenges, which may need to be attended to and these include insufficient computers for students' use, as well as insufficient seating spaces and intermittent internet connectivity, etc. The study concludes that some of these challenges such as the insufficient computers, Wi-Fi and internet connectivity seem to be

peculiar to the developing countries particularly in Africa (Kekana, 2016; Adeyemi, 2017; Majal, 2017).

The results of this study have implications for university libraries in South Africa and Africa. These results affirm the repurposing of certain library spaces for exclusive use by postgraduate students. Therefore, libraries in South Africa and Africa should continue building state of the art research commons for postgraduate students. The results point to a need for university libraries that seek to build postgraduate spaces in the future to ensure that an adequate number of computer workstations are supplied and Wi-Fi and bandwidth are improved. Those university libraries that already have specialised postgraduate spaces should consider adding more workstations and improving bandwidth and Wi-Fi connectivity in those spaces. The probably implication of this is that more postgraduate students will use the library frequently. Further, these results point to a need for the NWU LIS and possibly other university libraries in South Africa (Kekana, 2016; Majal, 2017) to add additional quiet study spaces for postgraduate students while reducing the number of group study spaces. The results of this study can be used to bridge the gap between theory and practice in so far as the evolving role of academic libraries in meeting the needs of different user groups is concerned.

As for recommendations, the library and the NWU university authorities should periodically review library spaces as a way to ensure continued optimal usage of the facilities. In addition, the University should continuously strive to allocate financial resources for more workstations and improve internet bandwidth and Wi-Fi connectivity, which will ensure stability in access to resources, which will ultimately result in improved graduate output rates. The South African Department of Higher Education normally provides funding for university infrastructure and as such, a comprehensive study involving all public universities may help to indicate current strengths and gaps, which may require both the university and the parent department's attention. Additionally, studies that investigate trends in the design or redesign of academic library spaces in Africa may provide more insights about postgraduate spaces in the continent.

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1. DEMOGRAPHIC INFORMATION

1.1 Which of the following categories relates to you? (please tick next to the appropriate answer)

A. Age (in years)

Under 21	
21-25	
26-30	
31-35	
36-40	
40-45	
45-50	
Over 50	

B. User Category

Honours	
Masters	
PhD/Doctoral	
Post-Doctoral	

C. Campus

Mafikeng Campus (MC)	
Potchefstroom Campus (PC)	
Vaal Campus (VC)	

D. Faculty

Economics & Management Sciences	
Engineering	
Education	
Health Sciences	
Humanities	
Law	
Natural & Agricultural Sciences	
Theology	

(continued)

2. LIBRARY USAGE

A. How often do you visit the library?

Less than 1 day a week	
1-3 days a week	
4-7 days a week	

B. What is your main reason for visiting the library? (tick only one answer)

Consult the librarian	
Borrow books	
Return books	
Make use of computers	
Access Wi-Fi	
Use quiet study spaces	
Use group study rooms	
Engage in group discussions	
Photocopy	
Print	
Use library coffee machine	
Mafikeng Campus (MC)	
Use MC Junior Research Commons	
Use MC Senior Research Commons	
Potchefstroom Campus (PC)	
Use PC Honours' Commons	
Use PC Research Commons	
Vaal Triangle Campus (VC)	
Use VC Honours' Spaces	
Use VC Research Wing	
Other (state)	

(continued)

3. UTILISATION OF LIBRARY SPACES

3.1 General Spaces

A. Which floor of the library do you use the most? (tick only one answer)

Mafikeng Campus (MC)	
Basement	
MC ground floor	
MC first floor	
Potchefstroom Campus (PC)	
PC ground floor	
PC first floor	
PC second floor	
PC third floor	
Vaal Campus (VC)	
Basement	
VC ground floor	
VC split level 1	
VC split level 2	
VC first floor	

3.2 Spaces dedicated to postgraduate students

A. Which spaces dedicated to postgraduate students do you use most? (tick only one answer)

Group study areas	
Quiet study carrels	
Mafikeng Campus (MC)	
MC Junior Research Commons	
MC Senior Research Commons	
Potchefstroom Campus (PC)	
PC Honours Commons	
PC Research Commons	
Vanderbijlpark Park Campus (VC)	
VC Honours Spaces	
VC Research Wing	

(continued)

B. How often do you make use of the spaces dedicated to postgraduate students?

Never	
Less than 1 day a week	
1-3 days a week	
3-7 days a week	

C. Please indicate how important for the library to have spaces dedicated to postgraduate students

Very important	
Important	
Somewhat important	
Neutral	
Not important	

4. Challenges and benefits of using library spaces

A. What is the biggest challenge do you encounter using library spaces? (tick only one answer)

Insufficient workstations	
Insufficient seating space	
High noise levels	
Intermittent internet access	
Intermittent WI-FI access	
Uncomfortable seats	
Limited study carrels	
Limited group study rooms	
Non-conducive environment	
Insufficient Power Points	
Other	

B. Please indicate the most important benefit/s of using library spaces? (tick only one answer)

Quite study	
Group study and interaction with others	
Comfortable seating	
Research	
Computer access	
Wi-Fi access	
Internet access	
Convenient access to librarians	
Other (state)	

(continued)

5. PLEASE INDICATE YOUR SATISFACTION LEVELS WITH CURRENT LIBRARY SPACES AT NWU

Very satisfied	
Satisfied	
Somewhat satisfied	
Neutral	
Not satisfied	

6. WHICH IDEAL FACILITIES AND SERVICES WOULD BE REQUIRED FOR FUTURE?

Research Data Management Services	
Lockers	
Scanners	
Social spaces	
Smoking areas	
Video-conferencing facilities	
Other (state)	

Any other comments or suggestions regarding library spaces for postgraduate students?

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Thank you for your participation

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