WELCOME AND INTRODUCTION

Dear Postgraduate Student

Welcome to postgraduate study at the University of Limpopo.

This Postgraduate Manual has been especially designed for you so that you can become familiar with:

- The policies and procedures concerning your research at the University.
- Important information and tools to assist you to complete your studies successfully.

It is essential for you to study this manual carefully and apply it to all areas for your postgraduate studies. It includes all the necessary documents governing the submission of honours research reports, masters’ dissertations and doctoral theses. It will ensure that: you complete your studies within the prescribed minimum time for your degree; you have minimal corrections; and it smooths the way for a successful relationship between you and your supervisor/promoter.

This manual consists of the following sections:

Section 1
Commencing Postgraduate Studies

Section 2
Using technology in research

Section 3
You and your supervisor / promoter

Section 4
Using the library
Section 5
Technical Writing

Section 6
The Research Proposal

Section 7
Writing the dissertation / thesis

Section 8
Literature Review

Section 9
Turning your dissertation / thesis into publication

Best wishes for your postgraduate study!

Prof RJ Singh
Acting Director: Research
University of Limpopo
ACKNOWLEDGEMENTS

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- Research Office staff for their assistance.
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1.1 INTRODUCTION
Now that you have made a major decision to proceed with your postgraduate studies, there are a number of processes that you need to engage in before you actually commence the research. The first is the registration process which the administrative staff will assist you with. Choosing a supervisor is another major decision you will need to make as this expert in your field will guide you to successful graduation. In order to maintain a professional relationship between you and your supervisor/promoter, you will need to agree on details of a formal contract.

All your documentation will be stored in your personal portfolio which tracks your progress for quality assurance purposes. Throughout the research process, you will receive guidance from your supervisor and staff from the Research Office. A list of contact details will provide you with all the information you will need in this regard.

This section also contains information about the policies and procedures involved in registering your research topic as well as gaining ethical clearance, where required, from the University and other relevant bodies.

1.2 THE REGISTRATION PROCESS
After application and selection into a postgraduate programme, you will need to complete the registration process. This is done by the administration staff of the School where you wish to be registered. Registration should be renewed annually. Your supervisor will provide you with a progress report which is required for you to re-register annually. Financial aid is available to postgraduate students; contact the Financial Aid office in S Block. National Research Foundation (NRF) bursaries are also available to selected full-time students who apply. Forms for honours are available from the NRF administration officer at the Research Office. Online applications for masters, doctoral and postdoctoral
study needs to be completed online in July/August for funding in the next year. Students may also obtain bursaries from their supervisor’s funded projects. There are a number of other possible sources of funding available, please check on the internet.

1.3 CHOOSING A SUPERVISOR
Your supervisor/promoter is usually an expert in your field of study. Schools vary in the methods used to appoint a supervisor for a student. Students are sometimes given the names of a few supervisors to choose from who are experts in their field. Sometimes, supervisors are allocated by a department/school in consultation with the student and depending on availability of senior staff. Doctoral students usually have a greater say in their choice of supervisor.

Whichever method is used to appoint a supervisor for you, it is up to you as a student to develop a good working relationship with your supervisor. Consult the necessary documents available to you to establish a professional relationship with your supervisor (contract, grievance procedures etc.). Communication is essential in any relationship. It is crucial for you to maintain constant communication with your supervisor throughout your study period.

1.4 THE SUPERVISOR/STUDENT CONTRACT
A memorandum of understanding (MoU) between you and your supervisor / promoter has to be concluded after your initial consultation process. This is a formal agreement between the two of you outlining the basic principles of your relationship. It includes a schedule of your consultation and planning meetings, progress reporting, etc. The purpose of the MoU is to ensure a professional relationship between supervisor and student and also to confirm the rights and responsibilities of both parties.

1.5 YOUR RESEARCH PORTFOLIO
Your research portfolio contains all pertinent information on your registration and progress throughout your postgraduate studies. The purpose of this portfolio is to track
your progress and also to record all your research activities during your postgraduate study. Some of the documents that are stored in your portfolio include:

- MoU between you and your supervisor
- Record of meetings with supervisor
- Work Plan for each year
- Official Schedule of Meetings for the year
- Record of Courses / Workshops / Conferences attended for the year
- Departmental seminars attended or presented at
- Progress reports – annually
- Approved proposal (including paper-trail of approval process)
- Your contact details
- Other relevant documents

**NB:** Annexures contain examples of above documents

### 1.6 USEFUL CONTACTS IN THE RESEARCH OFFICE

Questions relating to your research should, in the first instance, be raised with your supervisor/promoter and if matters are not resolved, please follow the complaints procedure (see complaints section). If you have general queries about a range of other research issues, kindly contact the Research Office staff listed below who can offer assistance. When phoning the extension from outside the University, please use the prefix (015) 268 (for Turfloop) and (012) 521 (Medunsa) followed by the extension.

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1.7 APPROVAL OF RESEARCH TOPIC
Before you can commence with any research, you will need to identify a research topic and then come up with a title. You (with the assistance of your supervisor) are then required to prepare a research proposal (section 6) and go through a process of gaining approval for your topic. The Faculty Higher Degrees Committee (FHDC) of the University of Limpopo is the body that grants approval of the research proposal. However, your proposal needs to be approved at various levels before it can be tabled at the FHDC. You will start with your supervisor; once your proposal is finalised, you will need to do an oral presentation in your department, followed by one at your School. Thereafter, the proposal is approved by the School Research Committee and forwarded to your Faculty Research Committee. You need to be prepared to make changes to your proposal at each of the stages mentioned above.

Depending on the quality of your proposal, approval can take a minimum of 3 to 6 months. It is therefore vitally important for your proposal to be of a high standard before you commence with the approval process.

1.8 ETHICAL CLEARANCE
All research (see Code of Conduct for Research) conducted under the auspices of the University of Limpopo requires ethical clearance from the University. This must be done before the commencement of the research. The committees which grant clearance are: Turfloop Research and Ethics Committee (TREC) and Medunsa Research and Ethics Committee (MREC). Separate forms need to be filled for ethical clearance. This is filled together with registration of topic forms (Reg. 04 and 05). Various aspects of ethical clearance and ethical conduct are outlined in the Code of Conduct for Research policy document (see annexures). Relevant documents are posted on the UL website (under Research). Ensure that you provide the necessary documents to the committee or your ethical clearance could be delayed.

In addition, to ethical clearance from the University, if you are conducting research in other organisations or institutions, you will need permission from them as well. This
means that you will need to meet their requirements before permission is granted. It is vital for you to exercise great caution especially with ethical issues as this can impact negatively on your research if not properly handled. Always consult with your supervisor about relevant ethical issues and follow the policies and procedures of the University in this regard.

1.9 CONCLUSION
The purpose of this section was to outline some of the processes you need to follow upon commencement of your postgraduate study. If you follow these processes as outlined, you will have a smooth start to your studies. Please make sure that you read all the necessary annexures as they provide you with detailed information on each process.
SECTION 2

USING TECHNOLOGY IN RESEARCH

2.1 YOU AND YOUR PC

Your personal computer/laptop is going to be your closest companion over the period of your postgraduate study. Postgraduate students are required to submit typed reports and chapters, so it is important for you to own a computer and familiarise yourself with the way it works. If you are going to purchase a computer, please invest in a good laptop as it allows you to work anywhere, anytime. It is also advisable to have access to a printer. In addition, all students registered at the University have access to our computer labs situated in either your School or at several locations around the campus (find out from ICT). These labs have student lab technicians to assist you with any query. The library offers an ICDL course free to students. This teaches you how to work with different computer programmes.

Students with laptops also enjoy ICT support from the ICT Office. They will assist you to install software onto your computer that will assist you with research. As you can see, the services and facilities related to technology and your computer is available to you at the University. Please ensure to use them to make your research study more pleasurable and less complex.

2.2 SETTING UP AN EMAIL ADDRESS

As a student of the University, you have access to email. Using email makes communication between you and your supervisor easy and quick. It is also a very cheap method of communicating. In addition, you will have an electronic record of the communication. Please consult with the lab technician at the computer lab to assist you in setting up your email. Your student email also allows you access to many job and funding opportunities that are constantly being made available to university students. You can agree with your supervisor to submit your reports and chapters via email.
If you are a part-time student and have limited access to the campus, internet facilities will enable you to access your university email. In addition, you can set up an additional private email. It is important that you use one email address in your communication with your supervisor. This will ensure that no unnecessary confusion occurs. It is also important to secure the services of a good service provider for uninterrupted service.

2.3 SAVING DOCUMENTS AND BACKING UP

When saving your files on your computer, indicate date or version on the file name. For example: Research Proposal January 2014 or Research Proposal Version 1. Order your files systematically and make sure that you save all documents properly.

It is compulsory for you to back-up your reports, data and chapters. You can use a flash drive, CDs, external hard drive or save on a server (if available). In addition, you should also keep a hard copy of all your information. You must have a minimum of 2 copies of your files saved as a back-up. At least one back-up must be stored at a different location (eg. office, home, friend, neighbour, etc).

2.4 MOBILE TECHNOLOGY

You will find that during your postgraduate study, you will be often mobile and will need to work at your home, office, University. Therefore, it is advisable to use mobile technology so that you are always in touch with your work.

Laptop

A laptop is light and easy to take with you anywhere. Since it works both with electricity and battery, you will be able to work on it in any setting. You can use it to access the internet and make your oral presentations.

3G card

A 3G card allows you wireless access to the internet. You will be able to gain access to literature / articles without actually needing to be physically present in a library. 3G cards
work on the same principle as a cell phone. You purchase a SIM card and buy pre-paid airtime (bundles) or you can get a contract.

**Cell phone**

This is a very versatile mobile device and suits a researcher very well. It can take photographs, record information; give you internet access, email access, verbal communication and numerous other features. Ensure that your supervisor has your cell number and you have stored your supervisor’s number on your cell phone.

**External hard drive**

If you want all your files from your computer to be available to you all the time, invest in an external hard drive. It can act as a back-up device and allows you to have instant access to all your files.

### 2.5 USING THE INTERNET

The internet is the largest source of information available to you as a researcher. It allows you instant access to information from all over the world. In addition, it allows you access to the latest information. This will definitely make finding literature easier for you. In addition, most journals are available online. This means that latest articles are available to you upon publication.

### 2.6 SEARCH ENGINES

There are a number of search engines available in order to make your search easier. A popular choice amongst students is Google Scholar or similar advanced searches. The library has a subject librarian for each School who can assist you with the search engines as well as the necessary passwords. In order to get the relevant literature, it is important to limit your search to a specific topic or field. Use keys words (as few as possible) rather than phrases and sentences. You can also limit your search to a specific period. Use the services of the subject librarian to assist you in locating relevant literature.
2.7 PLAGIARISM

Plagiarism is copying the work of someone else and claiming it as your own. Plagiarism is a serious offence which can land you in a lot of trouble. Please read the University’s Code of Conduct regarding plagiarism.

It is absolutely essential that you acknowledge every source that you have used in your research. You may consult as many sources as you want to but never forget to acknowledge your sources. The University uses Turnitin (plagiarism software) to detect if you have plagiarized any of your work. You and your supervisor have access to this software via Blackboard. Please use it as it will assist you to overcome any issues around plagiarism. Queries about the use of Turnitin can be directed to the ICT office. In order to use the software, you will need to submit your chapters to your supervisor via Blackboard. Ask your supervisor to register you as his/her student on Blackboard.

2.8 USING BLACKBOARD

Blackboard is an electronic teaching tool. It enables your lecturer to communicate with you electronically. It is used to post lecture notes, course outlines, messages, tests, lectures, assignments and a host of other things. Your lecturer is required to enrol you as a student for any particular module.

As a postgraduate student, you can submit all your reports and chapters to your lecturer via Blackboard. You can also check for plagiarism. This teaching tool is used by most universities and is available at the University of Limpopo. To access Blackboard, go to tmlearn.ul.ac.za

2.9 TECHNICAL EDITING

For all your documents, ensure that you are consistent with your technical editing. Use the following settings when you specify the properties of your document (your supervisor may suggest some modification to this):

- Automatic page numbering – bottom centre
- Margin – 3cm on all sides
2.10 USING TRACK CHANGES

The following guidelines apply if your supervisor/promoter used the “track changes” tool in the word processor:

In order to derive the maximum benefit from the inputs, these are the steps that you must follow:

- Open the e-mail attachment.
- Save the attachment with a new name.
- Stand with the cursor (the arrow worked with your mouse) at the beginning of your newly saved document:
  - Click on the "tools" menu
  - Click on "track changes" and all the supervisor’s comments will appear in colour for you to see.
  - Move with the cursor inside the document to the first "track change" which you will see in a different colour. Usually the colour illuminates if you are standing on it. Read the comment, and if it is a spelling error, simply click on the tick mark at the top of the screen (if you stand on it
with the cursor, an "accept this change" message will appear). The change will be accepted and the coloured correction will disappear.

- Work through the changes one-by-one and accept each change individually once you understand why it has been recommended. You will definitely improve your academic writing skills and make progress if you understand why the required revisions are necessary. NEVER CLICK ON "ACCEPT ALL CHANGES" BECAUSE THEN YOU WILL SIMPLY DISCARD MANY HOURS OF THE SUPERVISOR’S WORK WITHOUT DERIVING ANY BENEFIT FROM IT YOURSELF.

- If for some reason you do not wish to accept the change, click with the cursor on the cross (wrong mark) at the top of the screen and it will also vanish. You can use this option where the supervisor simply explained something to you.

- Once you have worked through the whole document in this manner, and saved your changes (frequently), the simple corrections will have been done. Now you need to attend to the major issues - like adding more information, providing further explanations or providing references where requested. PLEASE NOTE – The supervisor will include phrases which he/she can use to detect whether or not you merely clicked on "accept all changes". If you did that he/she cannot render any further feedback, until you have indeed acted on all the suggestions provided.

- Once you have gone through the above steps:
  - Stand with the cursor at the beginning of your document and click on the “tools” menu
  - Click on “track changes” - this will cancel track changes and enable you to work with your document in the normal manner. It is essential to do so BEFORE you add your revisions - otherwise your document will appear chaotic as the computer will continue to keep track of all the changes made.

- Before you send your revised document to your supervisor:
  - Proofread your work.
  - Correct any errors.
Make sure there is NO TRACK CHANGE left in your document.

The following guidelines apply if your supervisor/promoter used the “insert comment” tool in the word processor:

- Open the e-mail attachment.
- Save the attachment with a new name.
- Read the comment which will appear on the right hand side of the screen.
- Attend to the suggestions contained in the comment, but do not delete the comments. The supervisor needs to determine whether you attended to the comments.
- Further revise the chapter as required.
- Proofread your work and submit it.

2.11 CONCLUSION

This section contained aspects of technology relevant to research. The intention is for you to use the available technology to make your work easier and of a high standard. Please use the technology available. If you experience problems, please use the extensive support services available at the University (library, Research Office, computer labs and ICT) as well as seek help from your supervisor.
SECTION 3

YOU AND YOUR SUPERVISOR/PROMOTER

3.1 BUILDING A PROFESSIONAL RELATIONSHIP

On admission to the University of Limpopo as a postgraduate research student, you will be allocated or choose a supervisor who is a member of the academic staff and is experienced in the research area that you are interested in. This academic staff member is called your main supervisor and s/he will be the person you will spend most of your time with and is the person who is responsible for guiding and monitoring your research work for the entire period of the qualification. You and your supervisor / promoter should meet formally for the first time, preferably within the first week after your formal registration, to:

- Discuss the project which you will carry out
- Discuss the general requirements for your degree and research work
- Discuss all relevant rules, regulations, policies and procedures of the University
- Inform you of departmental requirements and arrangements for research students
- Make you aware of safety and ethical requirements related to your research
- Point out and assist you to draft a research proposal according to approved official proposal format and requirements
- Work out a formal work-plan for the first year
- Determine the nature of any formal coursework and induction which you are required to do
- Sign the MoU

Further details on how the supervision system works at the University of Limpopo are given in the “Code of Practice on the Admission, Supervision and Examination and Appeals Procedures Masters and Doctoral Research Degree Students”.
You and your supervisor: the things you must do...

- Ensure that you have an approved research proposal
- File a copy of your research proposal
- Ensure that you read and understand the “Code of Practice on the Admission, Supervision and Examination and Appeals Procedures Masters and Doctoral Research Degree Students”
- Ensure that you have a “Portfolio File”
- Ensure that you and your supervisor have signed the MoU
- Ensure that you have a schedule of meetings with your supervisor on a regular basis
- Prepare an agenda/checklist of things you want to discuss with your supervisor at each meeting (you are the chair, secretary and minute-taker for all the meetings)
- Be on time for all meetings
- Type the minutes, send a copy to the supervisor and file a signed copy (signed by you and your supervisor) of the minutes in the “Portfolio File”
- Use the meeting to also discuss any of your problems about your research or about your supervisor
- If you are puzzled/confused by criticisms, ask for further explanation
- Always arrange/confirm the next meeting (put it in your diary at the meeting; enquire whether the supervisor is doing the same)
- Seek out others to talk about your work – other students, other members of staff (your supervisor can advise here)
- Ensure that you read extensively all literature relevant to your research
- Be motivated, enthusiastic, excited and committed to your research. It is your degree which you are working towards, not your supervisor’s!
- Make sure you are registered and have settled your fees for each year until you graduate.
3.2 SETTING TIMELINES

By setting a timeline for your research, you will be able to graduate in the minimum possible time. Depending on the degree you are doing, you will need to draw a timeline of activities, supervision meetings and due dates of chapters. A timeline for each year of study will greatly assist you in achieving your goal. This can be done in consultation with your supervisor. Be realistic when drawing up a timeline; an unrealistic timeline will only delay your progress. Once the timeline has been drawn, a work-plan of various activities can be scheduled in line with the timeline. Drawing a timeline and following it is actually you practicing self-discipline and a useful skill for life.

3.3 HANDLING SUPERVISOR FEEDBACK

A lot of your postgraduate progress depends on the relationship you establish with your supervisor. It is important that you and your supervisor set out the parameters under which you are going to function. Your professional relationship with each other will enable you to handle comments/suggestions/inputs from your supervisor.

You must establish, very early in your study, the way in which you will work on your supervisor’s comments. Please be prepared for many changes. Comments may sometimes discourage you but they are ultimately aimed at improving the quality of your work. To minimize minor corrections and comments, stick to the guidelines given to you. For example, you should have no technical errors in your proposal and chapters because you have the guidelines under which you should present these documents. Always use the SPELLCHECK function on your computer before making a submission. Follow the format consistently. Use electronic referencing to avoid unnecessary errors.

Read through every comment made by your supervisor. Nowadays, most supervisors use track changes when correcting your document. Accept those changes which you agree with first. Handle each comment separately. You may sometimes have to make major changes to your document which will involve re-writing certain sections. Be open to re-working sections. It is always advisable to make all the minor corrections first and then
handle the comments/suggestions. Always take notes and clarify changes that need to be made. Ask your supervisor if you are not sure. You may also reject changes that your supervisor suggests provided you are able to substantiate in a manner that satisfies your supervisor. Avoid power struggles with your supervisor; this will only delay your progress. Do not leave feedback unattended for too long – you will lose track of your work.

Some supervisors make corrections on a hard copy. If your supervisor corrects in this way, you will need to clarify all comments during your supervision meeting. Failure to do so can result in you making unnecessary trips to your supervisor’s office.

3.4 RESOLVING DISPUTES / DISAGREEMENTS

Not all supervisor/student relationships are smooth-sailing. Due to clash of personalities or ideologies, conflict may occur. Try as much as possible to resolve conflicts in an amicable manner. If you are in a conflict situation with your supervisor, there are certain procedures that you may follow to resolve the conflict without affecting your relationship. As these procedures are set out by the University, both you and your supervisor will benefit from adhering to them.

Below is a flow diagram briefly outlining the complaint procedure: (also consult with the Code of Conduct for Research policy):
COMPLAINTS PROCEDURES IN BRIEF

Not satisfied with your progress?

See your supervisor

Not satisfied?

See the Department Postgraduate Coordinator

Not satisfied?

See Departmental Head

See the Director of your School

Not resolved?

See the Dean of your Faculty

See the Director of Research

Not resolved?

The Dean and the Director of Research will take up the matter with the DVC Academic and Research if the matter is not resolved. The Dean will inform the Director of the School of the outcome, who in return will inform the HoD and the HoD will communicate with the supervisor and the student.
3.5 COMMUNICATION WITH YOUR SUPERVISOR

In your initial meeting with your supervisor where you draw the MoU, please ensure that you both clearly understand and agree to what method/s of communication you will be using. Thereafter, stick to the agreed form of communication. Preferably, use a traceable method of communicating. For example, if you use emails, make sure you have a separate folder for emails to and from you and your supervisor. If you are handing in hard copies, ensure that it is recorded in your portfolio under submissions, clearly stating the date and content. Return submissions should also follow the same procedure.

Communication must be an on-going process. You need to communicate often with your supervisor. Let your supervisor know exactly what you are busy with at any given time. This will reassure your supervisor that you are working consistently. Never miss a deadline that you have set in your schedule of activities. In the event that you are likely to miss a deadline, let your supervisor know in advance and agree on a revised date.

It is up to you to communicate with your supervisor. It is expected that as an adult, you will respect the agreement between the two of you. If you are in breach of the agreement, it is unlikely that your supervisor is going to chase after you. So the onus is on you as a student to be responsible for your own progress.

3.6 CONCLUSION

This section has endeavoured to assist you with different aspects of the relationship between you and your supervisor. It is important for you to understand the dynamics of this relationship and work towards maintaining a cordial relationship. If you can maintain this professional standard in your relationship, your postgraduate study will proceed with great ease and enjoyment.
SECTION 4

USING THE LIBRARY

4.1 INTRODUCTION

The University of Limpopo has libraries at the Turfloop and Medunsa Campuses and also at Polokwane Hospital and Mankweng Nursing College. This guide is designed to be a brief introduction to the major library services available for you at the Turfloop Campus Library. Please visit the library on other campuses for services available.

4.2 PHYSICAL STRUCTURE

The Turfloop Campus Library has two wings and the 24/7 Reading Room. The West wing has four floors with different subject collections allocated to each floor as follows:

- 4th Floor: Economics, Management and Leadership (books and journals)
- 3rd Floor: Science (books only)
- 2nd Floor: Government Documents; undergraduate Computer Laboratory & the Audio Visual Collection
- 1st Floor: Law
- Ground Floor: Africana

The Eastern Wing has three floors with the following collections:

- 1st Floor: Social Sciences; Languages; and Education (books, journals including Science Journals)
  - Electronic Room
  - Post graduate Room
- Ground Floor: Circulation, General Reserve, Inter Library Loans, Photocopy
- Basement: Old Runs of Journals / periodicals

4.3 LIBRARY MEMBERSHIP

Senior students currently registered with the University of Limpopo have access to different services offered by the University Library. Students must also register as library users in order to be able to borrow library materials and to use library facilities like the
computers in the postgraduate room as well as study carrels. The Library has a number of study carrels which are for use by postgraduate students (Masters and Doctoral). These are always locked and if a student needs use them s/he can contact Mr S. S. Modiba @ 2466. Should a student wish to use a particular study carrel for a prolonged period, a refundable fee of R100 is to be paid.

**Library Hours**

<table>
<thead>
<tr>
<th>Day of the Week</th>
<th>Turfloop</th>
<th>Medunsa</th>
<th>Polokwane</th>
<th>Mankweng</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>During Term</td>
<td>During Term</td>
<td>Year Round</td>
<td>Year Round</td>
</tr>
<tr>
<td>Monday to Thursday</td>
<td>07:30-22:00</td>
<td>07:30-22:00</td>
<td>07:30-16:30</td>
<td>07:30-16:30</td>
</tr>
<tr>
<td>Friday</td>
<td>07:30-16:00</td>
<td>07:30-16:00</td>
<td>07:30-16:30</td>
<td>07:30-16:30</td>
</tr>
<tr>
<td>Saturday</td>
<td>08:00 -16:00</td>
<td>09:00-17:00</td>
<td>Closed</td>
<td>Closed</td>
</tr>
</tbody>
</table>

**4.4 THE III INNOPAC INTEGRATED LIBRARY SYSTEM**

The UL LIS uses the III Innopac Integrated Library System for all its operations including ordering, acquisition, cataloguing, lending, and catalogue production.

**4.5 SUBJECT LIBRARIANS**

Each School has a Subject Librarian. A Subject Librarian is located on each floor next to the collection s/he is responsible for. The Government Document Librarian and the Languages and Communications Studies Librarians respectively serve as librarians for the Social Sciences Librarian and Africana Collection as well and are located on the 2nd floor and in the Africana Library.

Subject librarians act as the main point of liaison between the respective Schools and Academic Departments. They provide research level information services to staff and students and ensure that library services support learning, teaching and research activities of the University.
They also play a role in monitoring book ordering and expenditure on library resources by the departments. It is advisable to contact your Subject Librarian soon after you register at UL so they can offer you an introduction to the services and resources available. The Subject Librarians help you with in-depth searches like online database searches, internet searches and other information services you may require. They also provide help with training in information literacy, subject enquiries and collection management. Should you require personal or group instructions please contact your Subject Librarian.

Subject Librarians also assist in organising training sessions with database suppliers the library subscribes to. The training offered is very effective as databases behave differently and also offer different formats of information. To find out the name and contact details of your Subject Librarian, please visit http://www.ul.ac.za then click on libraries and then staff.

4.6 INFORMATION DESK
Librarians are always ready to help you. There is always a librarian at the Information Desk who is waiting to help with your queries. They can help or direct you to where your query can be handled effectively.

4.7 BORROWING AND RETURNING MATERIALS
The University of Limpopo postgraduate students may borrow books from any of the UL libraries. To borrow materials, you must present your current University student card at the Circulation Desk. Items cannot be borrowed without the student card. Do not borrow books for someone else. You are responsible for all lending transactions linked to your card, if a book gets lost or is returned late, you have to pay.

Library staff check out books to you by scanning the barcode on your library card and the barcode on the material you are borrowing into the III Innopac System. Always get a slip from the Circulation Desk as proof of having returned an item.
Some items are held in closed access, e.g. Special Collections (Africana, Law and Government Documents) cannot be loaned or borrowed. These may be viewed upon surrendering some form of personal identification. Please return materials to the locations from which you borrowed them.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>QUOTA</th>
<th>LOAN PERIOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>8</td>
<td>30 days</td>
</tr>
<tr>
<td>Videos</td>
<td>5</td>
<td>2 days</td>
</tr>
<tr>
<td>Journals</td>
<td>Not Loaned</td>
<td>Not Loaned</td>
</tr>
<tr>
<td>Reference Materials</td>
<td>Not Loaned</td>
<td>Not Loaned</td>
</tr>
</tbody>
</table>

### 4.8 RECALLING LOANED MATERIALS

Books currently loaned to you may be requested by another patron. The Library will contact you to find out if you have used the item already and to return it if possible so as to enable another user to access it.

### 4.9 RENEWING MATERIAL

 Loaned materials may be renewed, unless the item has been requested by another borrower. You can renew loaned items online. Please renew your items before they are due. Students who plan to be away for some time should return all Library items or provide a temporary address at which to receive Library notices. Some items are not available for loan and are for use in the Library only. These include Reference, Africana, Law materials, Government Documents and Periodicals.

### 4.10 FINES

Fines are charged for overdue items. Borrowers are expected to be responsible for what they borrow.

It is important to note that:

- Library materials have a late fee of R1 per item.
• A recall notice and two reminders and a final letter will be sent to you after the due date.
• After the final letter has been sent out you will be required to pay for the replacement cost of the material.
• You will be liable for the actual cost of the material at current market value plus R100 administrative fee where the cost of the material exceeds R300.
• View your patron account to see fees that are owed. Fines and fees are paid at the University Finance Section.
• You will be required to replace lost or damaged materials. The replacing copy must be identical to the lost or damaged copy or be the latest edition. If not, prior approval must be obtained from the Head of Acquisitions and Collection Development.
• You will be required to pay a fine of R500 if you do not pay replacement costs or return the material within 12 months.

For more information or Library Rules please visit http://www.ul.ac.za then click on libraries and then on rules.

4.11 RESERVE MATERIALS

Heavily used materials are placed by Lecturers on the Reserve Desk for student use. Electronic reserves can be accessed and downloaded for personal use by the student. The Reserve Desk is on the east of the Circulation Desk on the ground floor.

For more information on borrowing, loan periods, reservations and fines, please visit: http://www.ul.ac.za, then click on libraries and then on Rules.

4.12 ACQUIRING MATERIALS FOR THE LIBRARY

Annually the Library allocates a proportion of its monograph budget to each academic department for the development of library collections. This money may be spent on books (print or electronic), audio-visual aids and other materials.
Staff members recommend library materials for purchase. Final decisions on purchase are made by the Library. The Academic staff involvement in recommending titles is very crucial as it helps to ensure that the libraries are well stocked with the resources needed to support the activities of Schools and Departments. If you want to request any titles, please speak to your supervisor.

4.13 STARTING WITH RESEARCH / STUDIES

Postgraduate students are urged to contact the respective Subject Librarian as soon as they register so to assess if current Library resources are adequate to support their study / research needs in order to gain full support from Library resources.

4.14 PRINT PERIODICALS AND ONLINE DATABASES

The Library has both print and online databases, as stipulated below.

- **Print Periodicals**

  Most of the print periodicals in the Library run up to 2003. Due to low usage, the Library terminated subscriptions to many print periodicals and started to subscribe to basic Online Databases. The policy now is to facilitate online access to journal articles. Currently the Library subscribes to just over 200 print periodicals

  - that have to be subscribed to before online access can be made possible
  - relevant South African published journals with no online versions
  - that the lecturers prefer to use for teaching and research

- **Electronic resources**

  The University subscribes to online databases. The vast majority can be accessed from both on and off campus and from anywhere else in the world.

To log into most of the electronic resources, all you will need is your University **username and password** (which is also used to login to your e-mail). Some need
additional passwords, especially for off campus access – please refer to the list of online databases. You can either log into the electronic resources via the links on the library webpage http://www.ul.ac.za and then click on libraries.

- **New Online Databases (Indexing and Full-text) and Electronic Journals**

The Library arranges for trial runs of online databases to enable users to evaluate their relevance. After the end of each trial academic staff send their recommendations to the Acquisitions & Collection Development. If a subscription is required a short justification is submitted to the Head of Acquisitions & Collection Development and Subject Librarian. Depending on the availability of funds the Head of the Library will approve the purchase before ordering can be done.

**4.15 INTER-LIBRARY LOANS**

No academic library in the world, including large ones, can have all the published materials in its stock. Academic libraries have in their stock only a fraction of the publications relevant to your needs. UL staff and postgraduate students who are unable to find materials they need in UL LIS can utilise the Interlibrary Loans Services (ILL). The ILL service desk is located on the Ground Floor on the right hand side as you enter the Library.

The Interlibrary loan service is provided to staff and currently enrolled postgraduate students. Books, journal articles and microforms are provided for UL LIS users from other libraries across the country and the Library will try to obtain these for you from anywhere in the world.

All items obtained from within South Africa are free. If materials are available from overseas only, a charge is levied. In this case then, the library staff will contact you before processing your requests to see if you are willing to pay the charges.
For books, please check the Libraries Webopac.

If your book is not available locally, please submit an interlibrary loan request. For journal articles, search the online databases following instructions of the database you are searching. The UL LIS subscribes to Open Access journals. If the article is not available in all the databases, then submit an interlibrary loan request. Although some interlibrary loan requests take longer time, please allow at least two weeks for your materials to arrive. Books shipped from across the country may take up to three to four weeks to arrive. You will receive an email notifying you of the status (arrival, delayed, etc.) of your ILL, or you can check the status of your request. Students staying far and not always on Campus usually have their items mailed to their chosen address upon request. Interlibrary loan items may be renewed. Please make sure you request a renewal before the due date as renewals are granted by the lending institution. If you need to request a renewal after the due date, please contact the interlibrary loan staff at extension 2368.

4.16 USE OF OTHER ACADEMIC LIBRARIES IN SOUTH AFRICA

If the Library does not have the materials you need to consult and you are visiting an area near to another academic library in South Africa, you will be given permission to use that academic library. This is so as per Committee Higher Education Librarians of South African (CHELSA) agreement. The agreement allows academic staff, researchers and postgraduate students to borrow from participating institutions. This is allowed only when the local library does not have the required resources or when the staff member or postgraduate student’s place of residence or work is nearer to the participating library.

The Executive Director, LIS or her representative is the only one who has the right to issue a letter requesting the other library to allow such a researcher to use their Library. Please consult you Subject Librarian to assist in finding information before going to the Executive Director’s Office.
4.17 SPECIAL COLLECTIONS
The University of Limpopo Library has a well-established Africana collection on the western part of the ground floor. The collection consists of books written about Africa by Africans and of high research importance. There is also a Government Documents collection on the second floor. It covers all the publications by the South African Government (National, Provincial and Local).

The library has a collection of materials on videos, CDs and DVDs. These are located on the 2nd floor, in a specifically designed Audio Visual Room where they can be used and read using the appropriate equipment in the room. They are not for loaning or borrowing.

The Law Library on the western wing of the first floor also constitutes our special collection. All the legal materials are found here.

Special collections operate on a closed stack system, meaning that materials in these collections cannot be borrowed from the Library but can only be used inside the Library, in the reading areas next to the collections.

4.18 WEBOPAC
The WEBOPAC is the Library Catalogue on the web. It lists all the bibliographic records of materials available in the libraries irrespective of format. The WEBOPAC is used to determine the location on the shelves and status (available, on-loan etc) of the material in the libraries. It is a key to collections and you have to use it before going to the shelves as it gives you the location of related materials you are looking for. This saves you time searching whilst enabling you to browse through materials on the related subjects. To access WEBOPAC visit the UL website @ http://www.ul.ac.za then click on libraries and on catalogue.
4.19 WEBPAGE
The Library webpage is important as it helps you in knowing library resources, services and library staff. You are advised to use it frequently to access information. Please go to http://www.ul.ac.za and then click on libraries.

4.20 TRAINING
The Library provides a wide range of Library courses and services for staff and students to enhance their information literacy skills. These include bibliographic instruction for postgraduate students, library orientation, individual consultations, and Information literacy.

4.21 SUBJECT AND COURSE-RELATED LIBRARY COURSES AND SEMINARS
Course-related or assignment-specific library courses, seminars, short talks, tours or orientations can be arranged in advance for your classes. Sessions can be based on any Library resources, such as using a specific database, or on topics such as advanced search techniques, referencing or finding statistical data.

Contact your Subject Librarian to book library instruction or seminars for your students. Senior students can come in either individually or as a group. Computer training rooms with workstations are available in the Electronic Classroom.

A postgraduate room with computers is available for senior students to work independently.

4.22 LIBRARY NOTIFICATION
All Library users of the University receive their Library notices electronically through their UL email address. Notices are initiated a few days before loans are due and when books have arrived for pick up. Please provide your Subject Librarian with your email address for fast and easy contact.
4.23 TECHNICAL HELP DESK

The IT help desk is located on the first floor. If you have problems using any of the library computers please call the Library IT Technician @ x2720. This technician is responsible for Library computers only.

4.24 PHOTOCOPYING

Photocopying facilities are provided on a self-service basis. If you wish to use the photocopiers in any of the site libraries, you can purchase a rechargeable photocopying card. Full details about photocopying facilities, including prices, can be found in the Photocopy Room on the Ground Floor just behind the Circulation Desk in the Library.

4.25 COPYRIGHT

The DALRO Blanket license is the most important licence for the purpose of teaching and learning as it grants permission for UL to make multiple photocopies of limited extracts sourced from printed books, journals and magazines (paper-to-paper)

Ensure that you always comply with the Copyright Act. Guidelines will be available on the Website @ http://www.ul.ac.za clicking on libraries and then click on copyright & plagiarism.
SECTION 5
TECHNICAL WRITING

5.1 INTRODUCTION
Technical writing is a formal way of writing which uses formal language and conventions specific to a discipline (not every day or SMS language). It is compulsory for all documents such as research proposals, chapters submitted for a dissertation or a thesis, and research articles for journals to comply with the general rules for technical writing. Any work submitted by students and researchers are judged according to these criteria. As a postgraduate student, you will also need to comply with the conventions of technical writing in order for your dissertation/thesis to meet the standards required by the University and the research community in general.

5.2 WRITING STYLE
In order for you to produce technical writing in your research proposal, reports, chapters, or in journal articles, you will have to adhere to the accepted technical style of writing. Below are some of the important aspects of technical writing:

5.2.1 General aspects
- You will need to read extensively so that you get the ‘knack’ of the technical writing style of your discipline. Writing has to be concise and to the point. You will only be able to do this once you have read and understood the literature. Then, you will need to apply the knowledge gained to your specific research area.
- Technical writing is done in a formal writing style. Only the proposal may be written in the future tense. All other writing should be written in the past tense. There is much controversy about writing in the first person (I) and third person (The researcher). Whichever style you agree on with your supervisor, BE CONSISTENT with its use. In other words, if you use the third person (The researcher), stick with it throughout the proposal, reports and thesis/dissertation.
- Never do research with the aim of proving a preconceived idea. This is unethical and unscientific. Your research document should show evidence that you have
researched all recent literature in your field and that you have presented a balanced approach to the topic. This means that you need to include varying opinions, data and facts on the topic and not only those that agree with your point of view.

- You should use an objective writing style as opposed to a subjective writing style. Objective writing presents all points of view (balanced arguments). Avoid subjective and unsubstantiated statements in your document. Any/All claims you make must be substantiated by evidence (several references). Please avoid emotional and sweeping statements that you cannot prove nor have no evidence to support. Where your dissertation/thesis demands an informed educated guess (such as in the problem statement), your writing should reflect this. Also avoid emotionally laden statements and exaggerations.

- There are occasions when you will need to state your personal opinion; it is important that you clearly state that this is your personal opinion and that you can substantiate it with evidence. It is sometimes possible that your personal experience has led you to make conclusions about an issue or your personal understanding of something can cause you to make a certain claim. Whatever the case, it is still necessary to qualify your statements.

- Any statement you make must be justified by referring to reputable sources and/or findings from research that has been carried out previously. References must not be dated (old). Depending on the type of research, references should be most recent (not older than 5 to 6 years). Exceptions include original theories. These should be minimal and only include absolutely essential references.

- Ensure that you define all terminology from the point of view of 2 to 3 resources. Terminology should relate directly to your research and be explained in the context of your research.

### 5.2.2 LANGUAGE

At the University, all submissions of masters’ dissertations and doctoral theses are done in UK English. This means that whether you are a first language speaker of English or an additional language speaker, you will need to possess formal writing skills that are used
in English. These include English proficiency in grammar, tenses, vocabulary and writing style. You can pick up this writing style from reviewing scholarly articles specific to your discipline.

The following are general aspects that apply to language usage:

- Be concise and to the point (make a point and make it in simple, easy to understand language).
- Meanings of concepts must be clear. Where applicable, they should be discipline specific or specific in terms of the theory and philosophy underlying the research.
- Use scientific language including subject specific terminology throughout the document.
- Construct your sentences carefully, arguing your point in simple and clear language. Avoid long, complex sentences that contain two or more ideas / thoughts.
- Use the language / grammar function on your computer that alerts you to incorrect language use and incorrect spelling.
- All documents must adhere to the UK spelling rules and principles. Simply set the language function on your computer to ‘UK English’. In other words, use the UK word “behaviour” (and other such words) instead of the American word “behavior.” Further use an “s” in words such as intellectualisation, and not a “z”. However, direct quotations must be exactly as the original, including spelling mistakes and punctuation. Officially registered names such as the World Health Organization must be spelled with the original “z.”
- Please ensure that you are using the correct tense. As mentioned previously, the proposal should be in the future tense and the study and findings in the past tense. Recommendations and findings may take on the present tense. Sources are also referred to in the present tense. Generally, students make fewer grammar errors if they use the past tense and plural nouns, wherever possible.
5.2.3 ABBREVIATIONS AND ACRONYMS

Please use the following guidelines when using abbreviations and acronyms:

- Limit your use of abbreviations as far as possible.
- Abbreviations are written without full stops between letters. For example, the World Health Organisation is abbreviated by the letters WHO not W.H.O.
- Before an acronym can be used, the full detail of what it stands for should be indicated, for example: The South African Nursing Council (SANC)… Hereafter the acronym SANC may be used in the text. Please note that acronyms, when written, request an article as they are not actual names. Thus, when referring to these they should be preceded by “the”:
  “The SANC requires . . .” and “The WHO states . . .”
- In headings and sub-headings terms are written out in full; abbreviations are not allowed in these instances.

5.2.4 STRUCTURE AND ORGANISATION

In relation to structure and organisation, the table of contents should clearly reflect the internal consistency of the document and the layout of the document should strictly follow the guidelines as set out in the policy document on proposal writing. Take the following into consideration:

- The document must bear evidence of logical thematic development. The key to this is STRUCTURE! This in turn is founded on knowledge of and familiarity with the topic and literature and the extent to which you succeeded in “making the information your own”.
- The discussions must be consistent with the title and research problem. This can only be achieved through the systematic development of themes and sub-themes. This in turn implies the development of headings, sub-headings and sub-sub-headings. In each case, it is important for the content to relate pertinently to the headings and sub-headings. This can only be achieved once the structure of the phenomenon under investigation is well understood.
• Structure and internal consistency are further enhanced by the “logic” of the research process and the structure which research designs provide.
• The chosen research design should be appropriate considering the research problem and purpose.
• The proposed methods and techniques ought to be consistent with the selected research design.

• Internal consistency can further be enhanced or eroded by one’s writing style. In this regard, you should be on the alert for “reference” words such as “they”, “them”, “those” and similar words. Often it is better to remind the reader pertinently what these refer to, especially if some discussion ensues after a pertinent issue has been mentioned.

• Fragmentation of contents is yet another issue that blemishes internal consistency of a technical document. Several factors could cause this. Not knowing the structure, taking detours, not keeping to sub-headings. Fragmentation can be avoided by using the structure of an existing theory, model or conceptual framework, or by carefully planning the structure of your discussions. It is also advisable to address only one idea in any given paragraph and to avoid repetitive discussions. Individual paragraphs ought to consist of statements which communicate an introduction, body and conclusion.

• All technical documents must consist of a clear topic, an abstract, an introduction, a well-structured body of knowledge, implications, recommendations and conclusions. These may take on different forms in different types of documents.

• Make the work your own by interpreting and paraphrasing the ideas which you obtained in the literature. Many students simply copy text from different sources (this is plagiarism). The result is fragmented discussions which do not make much sense. Read different texts and integrate the thoughts into a paragraph that expands your understanding and which relates directly to your research.
5.2.5 TABLES

The following guidelines apply to tables:

- Tables must be numbered consecutively according to the chapters of the dissertation/thesis and the numbers of the tables within the different chapters (for example in chapter 1, the tables should be numbered Table 1.1; Table 1.2 etc. and in chapter 2, the tables should be numbered Table 2.1; Table 2.2 etc.). All tables should be labelled as well (for example: Table 1.1: Frequency of absence).
- Each table must have a “name” or label indicated above the table.
- Each table must be discussed before the table is presented. You cannot just put in a table without it being discussed.
- A reference for a table, where applicable, appears at the bottom of the table, in size 10 lettering, aligned to the right. Naturally this does not apply to tables exhibiting data gathered during the research being reported on.
- Line spacing for tables must be set at 1 and not 1.5 as in the text.
- Table contents are presented in a letter size smaller than the general text, usually size 10.
- Be on the alert when copying statistical data from SPSS and other statistical packages. Often lettering appears minute and unreadable in the Word documents.
- Tables must be centred on a page if it does not fill the whole space between the left and right margins.
- Whenever practical, tables should not run over from one page to another. If the text cannot be adapted rather leave a blank space following on the text on the page preceding the page on which a table is fitted. However, when reporting data, it might be necessary for a table to extend over two or more pages. In such cases, ensure that the columns (running vertically down the pages) are identical on all pages.
- Tables can take on many different forms within these specifications. However, the layouts must be consistent and standardized for a single document (proposal, report, dissertation/thesis or article).
Example of labelling and adding reference to a table

The fifth table to appear in chapter 7 of a dissertation/thesis, obtained from Mouton (2006:207), may be displayed in any of the following two formats, but use the same format consistently throughout your dissertation/thesis.

### TABLE 7.5: FREQUENCY DISTRIBUTION OF THE AGE OF RESPONDENTS (N = 299)

<table>
<thead>
<tr>
<th>AGE GROUPS</th>
<th>F</th>
<th>X¹</th>
<th>Fx¹</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>46 – 50</td>
<td>11</td>
<td>48</td>
<td>528</td>
<td>3.7</td>
</tr>
<tr>
<td>41 – 45</td>
<td>8</td>
<td>43</td>
<td>344</td>
<td>2.7</td>
</tr>
<tr>
<td>36 – 40</td>
<td>28</td>
<td>38</td>
<td>1064</td>
<td>9.4</td>
</tr>
<tr>
<td>31 – 35</td>
<td>52</td>
<td>33</td>
<td>1716</td>
<td>17.4</td>
</tr>
<tr>
<td>26 – 30</td>
<td>102</td>
<td>28</td>
<td>2856</td>
<td>34.1</td>
</tr>
<tr>
<td>21 – 25</td>
<td>88</td>
<td>23</td>
<td>2024</td>
<td>29.4</td>
</tr>
<tr>
<td>16 – 20</td>
<td>10</td>
<td>18</td>
<td>180</td>
<td>3.3</td>
</tr>
<tr>
<td>∑f = 299</td>
<td></td>
<td></td>
<td>8712</td>
<td></td>
</tr>
</tbody>
</table>

Mean = \( \frac{\sum fx_1}{N} = \frac{1712}{299} = 29.1 \) (Mouton 2006:207)

OR

### TABLE 7.5: FREQUENCY DISTRIBUTION OF THE AGE OF RESPONDENTS (N = 299)

<table>
<thead>
<tr>
<th>AGE GROUPS</th>
<th>F</th>
<th>X¹</th>
<th>Fx¹</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>46 – 50</td>
<td>11</td>
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<td>36 – 40</td>
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<td></td>
<td></td>
<td>8712</td>
<td></td>
</tr>
</tbody>
</table>

Mean = \( \frac{\sum fx_1}{N} = \frac{1712}{299} = 29.1 \) (Mouton 2006:207)

### 5.2.6 FIGURES

Figures include models, diagrams (pie diagrams, bar diagrams), graphs, maps, photos and theoretical and conceptual diagrams (frameworks).
The following guidelines apply to figures:

- Figures must be numbered consecutively according to the chapters of the dissertation/thesis.
- Each figure must have a “name” or label indicated at the bottom, or underneath it.
- A reference for a figure, where applicable, appears at the bottom of the figure, in size 10 lettering, aligned to the right. Naturally, this does not apply to conceptual models and diagrams structured during a study by the candidate, nor the figures presenting your research results.
- Figures are usually presented in a letter size smaller than the general text, usually a font size 10 though this depends on the density of the figure, the number of labels and the space available. Be on the alert when copying diagrams from SPSS and other statistical packages. Often lettering appears minute and unreadable in the MSWord document.
- Each figure must be centred on a page between the left and right margin if it does not fill the whole space between these margins.
- Each figure must be discussed before it is presented.
- An example appears on the next page.
- Tables and figures copied from a source must be acknowledged by stating the source.
5.2.7 TABLE OF CONTENTS

The table of contents must:

- Correspond with the content of the document. Headings and sub-headings must be exactly the same as in the document.
- Indicate the correct page number on which different headings and sub-headings appear in the text. These must be indicated next to these headings and sub-headings, aligned to the right hand margin.
- Give evidence of the logical use of headings and sub-headings for easy reading and understanding of the flow of argument.
- Reveal the structure of the different topics under discussion in a logical manner.
- Must be correctly formatted.

**Figure 4.1** Area map of the research site

http://geology.com/world/nigeria-satellite-image.shtml
In the case of dissertations and theses, additional and separate “tables of contents,” meeting the requirements set out above must be given for the following:

- List of tables
- List of figures
- List of abbreviations/acronyms (if there are many abbreviations/acronyms used in the text)

5.3 PLAGIARISM

The issue of plagiarism is very important to postgraduate students and you are advised to study this section very carefully. In this section intellectual property and strategies to avoid committing plagiarism are discussed. This is in the interest of protecting the intellectual property of the authors of the publications which you consult.

Plagiarism entails using another person's ideas or expressions in your writing without acknowledging the source. Derived from the Latin *plagiarius* ('kidnapper'), plagiarism refers to a form of intellectual theft. To plagiarise is to give the impression that you wrote or thought something that you in fact borrowed* from someone else. Doing so is a violation of professional ethics (Gibaldi 1998:151).

*Plagiarism is stealing another person’s ideas.*

It is to prevent plagiarism that referencing and listing of sources are emphasized. Please be aware that numerous computer programmes are currently available, to which any ‘technical’ writings can be submitted to identify cases of *cyber plagiarism.*

The following concepts associated with the concept plagiarism are worth receiving your attention and illustrate in more detail what plagiarism is about and why listing and references should be attended to meticulously in all scientific writings. These concepts, which indicate different types of plagiarism, were derived from information at the following web sites:
Cyber-plagiarism entails copying or downloading in part, or in their entirety, articles or research papers found on the Internet or copying ideas found on the Web and not giving proper attribution.

Deliberate plagiarism refers to the "wholesale copying of another's published work with the intention of representing it as one's own" (http://www.jmir.org/2000/1/e4/). In addition, the definition of deliberate or intentional plagiarism includes the theft of another person's ideas.

Unintentional plagiarism can be described as careless paraphrasing and citing of source material such that improper or misleading credit is given. This can also be due to moral ignorance on the part of the person who commits plagiarism.

It is needless to say that all these forms of plagiarism are unacceptable and should be avoided at all cost.

5.3.1 PLAGIARISM SOFTWARE
The University used Turnitin, which is plagiarism software intended to prevent plagiarism by identifying sections of your proposals, chapters, dissertation/thesis which have been plagiarised. This software works through Blackboard. Please consult your supervisor who will register you to make submissions via Blackboard so that you can make use of this programme. You may also consult the ITC department on your campus in this regard.

In addition, other plagiarism software is available for free on the internet. You are also encouraged to make use of this free facility.
5.3.2 INTERNET PLAGIARISM

The availability of information on the internet and the ease with which such information can be copied and pasted to other information systems and documents are sources of great concern as far as plagiarism is concerned. The information that follows, in addition to alerting you to the way in which you may compromise yourself by committing plagiarism, also serves to help you paraphrasing information obtained from the Internet.

Please note the following which are indicative of copying and pasting and which should be avoided:

- Writing style, language, vocabulary, tone and grammar, suddenly changes that are different from that which the student usually produces. It does not sound like the rest of the student’s work. Even a single sentence could indicate an instance of plagiarism.
- American spelling and idioms that suddenly appear in an otherwise UK English manuscript which is the approved language style for proposals, reports and dissertations/theses at UL.
- Sections or sentences that do not relate to the overall content of the paper. Attempts to integrate this with the rest of the document are made by adding a paragraph that aims at tying such a paragraph to the rest of the document; an attempt that is usually unsuccessful.
- Often, strange text is present at the top or bottom of printed pages. Strange symbols are also present in the printed text or on-screen. The formatting section of the word processor indicates that some paragraphs or sentences are formatted in a web format.
- Hyperlinks within a text reveal that the information has been downloaded from the web.
- Web addresses left at the top or bottom of the page is a sure indication that no paraphrasing was done.
- A sudden change in, and poor layout of a manuscript indicate that the information has been downloaded. Often page numbers, headings and sub-headings, line spacing, letter type just do not “look right”. This is usually most evident in bulleted lists.
• No references to graphs, charts, or accompanying information appear in the text.
• Pertinent and obvious quotations are not accompanied by quotation marks.
• Citations refer to topics and material slightly (or even vastly) different from the actual topic under discussion.
• Information included is mostly from the Internet and not from sources that were prescribed, recommended or acknowledge by other renowned sources.
• Citations in the bibliography or works cited cannot be verified. This often shows up at the end when the bibliography is thoroughly checked by the examiners.
• Citations in the paper are not included in the works cited in the bibliography. This happens due to the fact that Internet sources often do not give complete lists of references (which in itself is plagiarism). Students might not know where to obtain the needed references and often do not care to do so.
• Web sites listed in citations are inactive and access dates are not specified.
• Citations are to materials that are older than five years.
• Anachronisms appear with references to historical persons, events and places.
• Students cannot provide copies of the cited material.
• Students are not able to summarise the main points of the document or answer questions about specific sections of the document, such as indicating to which specific country research results refer.

http://www.northwestern.edu/uacc/plagiar.html;
http://www11.georgetown.edu/programs/gervase/hc/index.html;
http://owl.english.purdue.edu/owl/resource/589/01/ (These sources were accessed on 2008-01-11)

5.3.3 INTELLECTUAL PROPERTY

Intellectual property is a form of creative endeavour that can be protected through a copyright, trademark, patent or industrial design. For the purposes of this discussion we shall focus on copyright, which involves:
• granting the legal right to an author, composer, playwright, publisher, or distributor to the exclusive publication, production, sale, or distribution of a literary, musical, dramatic, or artistic work
• protecting literary, dramatic, artistic, and musical works, sound recordings, performances, and communication signals
• providing creators with the legal right to be paid for - and to control the use of - their creations
• providing exceptions to the rights of creators for users, like educational institutions, who want access to material protected by copyright. A balance is achieved by providing creators with legal "rights" and then limiting those rights through "exceptions."

The copyright holder has the sole rights to produce or reproduce his/her work through publication or performance, or to authorise such activities by others. Anyone who engages in such activities without permission is infringing on the copyright holder's rights. One specific form of infringement is plagiarism.

The following concepts refer to the responsible utilisation of other peoples’ ideas:

• **Attribution** refers to the ascribing of a work or an idea to a particular author or artist.

• **Citation** indicates the act of directly quoting and giving intellectual credit to another person's work or ideas.

• **Fair dealing** pertains to the use of copyright material in such a way that it does not infringe on the copyright of that material. Any “fair dealing” with a work for the purposes of private study or research, or for criticism, review, or news reporting is not an infringement. However, in the case of criticism, review, or news reporting, the user is required to supply the source and the author's, performer's, sound recording maker's or broadcaster's name if known.

• **Paraphrasing** referred to earlier involves:
• a restatement of a text or passage in another form or other words, often to clarify meaning.
• the restatement of texts in other words as a studying or teaching device.

• **Common knowledge** can be defined as facts known by a large number of people. These "facts" do not have to be cited.

(http://www.aquinas.edu/library/plagiarism.html (Accessed 22 April 2008);

### 5.4 REFERENCING

The origin of information, whether cited directly or indirectly, must always be acknowledged in all scientific writings including your proposal. Plagiarism intentionally or unintentionally relates to slackness with regard to referencing and listing of sources. This could have grave results: master’s dissertations and doctoral theses accepted and degrees being conferred upon candidates might be withdrawn, expensive court cases might result and the University’s academic and ethical integrity could be jeopardised. Many a good dissertation and thesis have been turned down due to slackness with regard to referencing and listing. It is therefore important that you maintain a high standard of referencing, both in technique and in accuracy.

Take note of the following guidelines pertaining to acknowledging the sources which you consulted:

• All sources consulted must be referred to, that is, must be “referenced” in the text and listed in the list of references (or bibliography) at the end of the document.

• The University of Limpopo uses the abbreviated Harvard system of referencing and listing of sources as well as the Vancouver system. These reference techniques must be used consistently throughout the text.

• All sources referred to in the text must be included in the references. Likewise, all sources entered into the list of references must have a corresponding text reference. However, it may be acceptable to provide a “list of sources consulted but not referred to” in addition to the list of references.
• All references must appear in a complete and accurate form. This applies to the author(s), spelling, year of publication, page numbers and titles.

• Information contained in the text references must correspond with the information in the list of references with regard to: spelling, date of publication and page numbers.

• In cases where the ideas of different authors are used in one paragraph in the text, they should be sequenced within one set of brackets in alphabetical order according to the surnames of the first authors, with complete publication dates and relevant page numbers. This facilitates the task of the examiners to check your references.

• Remember that we acknowledge sources rather than authors. For this reason one would indicate:


• In addition, sources are referred to in the present tense:


Within the text, generally, the following must be indicated in brackets when referring to, or acknowledging, a source.

• the surname of the author
• the year of publication, colon
• the relevant page number(s).

## 5.4.1 REFERENCING STYLES

Popular referencing styles include: APA (American Psychological Association); Harvard and Vancouver. For the purposes of this manual, the abbreviated Harvard style will be used under 5.3.4 when examples are cited.

## 5.4.2 WHEN AND HOW TO REFER

Indicate a reference at the end of a discussion as follows:
If you write a paragraph on information obtained from one source, followed by a paragraph containing information from another source, references should be provided at the end of each of these paragraphs.

When more than one source is used for the same idea in a paragraph, all the sources should be listed in the same brackets separated by a semi-colon. The sources must be organised in alphabetical order. In this case the paragraph is ended with a bracket, followed by a full stop.

It is sometimes necessary to include a text reference after a single or couple of sentences within a paragraph. A direct quotation is an example in case.

**General aspects of listing**

Listing refers to the list of references or the bibliography inserted at the end of any scientific document. All sources referred to in the text are listed in this section giving full bibliographic details of these. You are again strongly advised to study the section that follows on specific reference and listing techniques required by different literature and electronic information sources. This section serves to acquaint yourself with, and alert you to, the different sources you may encounter during your study and the array of sources available to you.

In general, avoid sources that are more than five years old unless you are discussing a historical perspective. When discussing the latest developments and trends in research, you should use sources that are not older than three years. It may even be necessary to use sources that are not older than one year. It is therefore of the utmost importance to continue to update your discussions and sources as you progress with your dissertation or thesis. No chapter should be regarded as finalised until you are ready to submit the dissertation/thesis for examination purposes.

The following general issues apply to listing:

- All references in the text need to be supplemented by a detailed list of sources at the end of the document. The list of sources should commence on a **new page**.
- List sources alphabetically according to the authors’ surnames.
• Sources should not be numbered.

• The following must be indicated when listing a book:
  o the author’s surname, followed by a comma, and initial(s), followed by a full stop
  o the year of publication, full stop
  o the title of the book, full stop. Only the first letter of the title should be capitalised and the title should be underlined or italicised.
  o an indication of the edition (2nd edition) where more than one edition exist – never refer to the 1st edition as such
  o the place (city or town) of publication (not the place of printing) followed by a colon
  o the name of the publishers, followed by a full stop.

• If you consulted more than one publication by the same author, these are arranged chronologically according to the date of publication.

• If more than one publication by the same author in the same year have been consulted, distinguish between them by the addition of “a”, “b” etc. after the year of publication (see example in the compiled list of sources).

• Details of a source are given in the language of the source itself. If you use a German book, its place of publication should be München, not Munich, for example.

• In the case of a report or article it is customary to include only those references to which one has actually referred (whilst in a dissertation one may include some items to which no direct references were made but which were studied).

• When newspaper reports are referred to, these must be included in the list of references and photocopies of the newspaper cuttings together with the name of the newspaper and date of publication must be included as an annexure to your thesis or dissertation.

• Cross referencing in the list of sources should be made in cases of shortened text references for example SANC, ANC, UL, etc. The reader will look for the word ANC in the list of sources. There it will be indicated that the full reference is African National Congress:
ANC. See African National Congress.

Sound advice pertaining to the management of sources:

- Keep a separate file. Enter complete details of all sources you take in hand, even before reading them and even if you do not refer to them later, into this file. It is easier to delete sources to which you have not referred to, than to search for these sources when you try to compile a list of references at an advanced stage of completion of your dissertation/thesis. Please take this advice seriously.

Example of an excerpt of a compiled list of sources:

- ANC. See African National Congress.
5.3.3 QUOTATIONS

The term “quotation” refers to using or copying the exact words, grammar and writing style from a source. Quotations involve directly copying a phrase or idea from a source. These must be used sparingly and wisely, and should only serve to emphasise another author’s unique point of view or unique and catching way of putting an idea across. Quotations demand pertinent referencing and acknowledgement.

Instead of using a direct quotation one could paraphrase another author’s intention. In this instance merely replacing a number of words by synonyms is not permissible. You are required to interpret and report on the ideas which you obtain from existing sources. In order to achieve this you should reflect on other authors’ ideas, analyse them, and re-interpret them to fit your own research or scientific thinking. This usually involves summarising authors’ contributions in your own words; paraphrasing. Paraphrases should be accompanied by references.

Quotations should only be used to enhance the effect of a statement or to illustrate a concept. When a quotation is unavoidable, the following applies:

- Do not use long quotations. In general, no quotation should exceed five lines.
- Quotations should never be chained to make up paragraphs. Stringing quotations is not permissible and only serves to reflect an author’s inability to interpret text or her/his inability to present the information in her/his own words. Thus, it indicates the author’s lack of control over, and knowledge about, the research topic. Stringing is both pretentious and in a sense opportunistic. It implies superficial eclectic thinking instead of in-depth dialectic argumentation required from, and expected from students at the master’s and doctoral levels of academic development.
- Quotations should be in the original language in which they appeared. The exact spelling and punctuation of the original source must be retained, including spelling and typing errors. Quotations in other languages should be followed by an English translation in brackets to ensure that all readers understand the essence of the quotation.
• If you wish to emphasise part of a quotation you may italicise (or underline) it and add the phrase (“I emphasise” or “I italicised”) at the end of the sentence in brackets.

• Words omitted from a quotation must be indicated by a series of three full stops (“…”).

Words added to a quotation, for the sake of flow, clarity or emphasis must be placed in square brackets:

This [problem] is of significant concern to the nursing profession (Smith 1987:42).

• Whenever a direct quotation is used, it should be placed in inverted commas “…” or in italics followed by a pertinent reference. Inverted commas are however preferred as you might want to use italics to emphasise other aspects or words in the text. Using italics for both might become confusing to the reader.

Smith (1987:42) states: “This problem is of significant concern to the nursing profession”.

OR

“This problem is of significant concern to the nursing profession” (Smith 1987:42).

5.3.4 REFERENCING FROM DIFFERENT SOURCES

Please study this section thoroughly to acquaint yourself with the different sources you may encounter during your studies. Adhere to the requirements of these throughout your study, from the first submission of the research proposal to the final copy of your dissertation/thesis. When referring and listing revisit this section and note exactly how to refer, and how to list a specific source. This is not negotiable. References and listing of sources MUST be done correctly from the onset of your studies and throughout your studies.

Many variables influence the way in which one refers to a source. Some of these include:

• the number of authors

• whether authors actually authored the source or only contributed towards it in part
• whether the source appears under the name of an editor(s)
• whether it is a book, an article, legislation, conference presentation, magazine or newspaper or other publications
• whether it is from the printed media, electronic media, radio, television, CD, CD-ROM, or whatever other format
• the date of publication, reprint and re-editions.

In the layout that follows, the listing techniques for specific sources are given first, followed by the way in which the reference to the source must appear in the text and how to insert cross-references in the list of references. These are indicated by different icons as indicated below.

ICONS

- List of sources
- Text reference
- Cross reference in the list of sources

Note: The year of publication of the sources in this section may appear to be old. However, these sources are included only to indicate how referencing should be done, namely the techniques to follow.

BOOKS

Books with only one author

List of sources

Text reference

Motau (2002:10) explains ...

... may be used in either way (Motau 2002:15).

Books with two authors

The surnames and initials of both authors must be indicated in the list of sources. When referring, both surnames must be supplied throughout the whole document.

List of sources


Text reference

... in the community (Nzimandi & Motswene 2004:103-104).

According to Nzimandi and Motswene (2004:103-104), the ...

Books with three or more authors

When you refer to the source for the first time, all the authors’ surnames must be mentioned. If you refer to it again in the text, you need only mention the first surname, but indicate the fact that other authors are involved by using the abbreviation “et al”.

List of sources

➢ **Text reference**

First time: Keat, Urry and Smith (2002:210) describe ...
Thereafter: Keat et al (2002:230) said ...

You should always list authors in the sequence they are listed on the title page of a book or underneath the title of an article. If the authors are not listed alphabetically this implies that the first author was the major contributor.

**Books with authors plus an editor**

If an author is responsible for the intellectual content of a work but an editor is also involved, the work is entered under the author. **For instance, some books have been written by various authors and an editor has taken responsibility for the final product.** It is necessary to refer to the author of the specific chapter which you consult. The editor is mentioned in the list of sources entry and not in the text reference.

**List of sources**


➢ **Text reference**

Nel (2003:386) explains that ...
If the author is also the editor, it is indicated by adding (ed.) just after the initials of the author. This is only in the list of sources and not in the text reference.
List of sources


In case of more than one editor, use the plural (eds).

Text reference

Booyens (2004:356) refers to ...

Books with no author

Use the title instead of an author’s name. When you do the alphabetical listing you should omit initial articles from the title. The example here is listed under “M”.

List of sources


Text reference

... (Martyrdom 2001:5).

Later editions of a book

If you have consulted a second or later edition of a book, you must indicate it in your list of sources.

Date unknown

When a date is not known, you should use “Sa” (Sine anno), placed in [ ].

List of sources


Text reference

... (Breytenbach [Sa]:16).

DICTIONARIES AND ENCYCLOPAEDIAS

If these are commonly known by their titles, it is listed under the title.

NB: The abbreviation “Sv” stands for the Latin word “sub verbo” which means “under the word”.

List of sources


Cross reference

EB. See Encyclopedia Britannica.


WAT. See Woordeboek van die Afrikaanse Taal.

**Text reference**

... (EB 1964, sv “optics”).
... (WAT 1956, sv “aanbou”).
... (*Collins English Dictionary* 2001:280).

**COMPOSITES, READERS/COMPENDIUMS**

When you refer to a specific article in a reader, you should provide the required information in this way: the author and date, then the title of the article, followed by the word “in”, the title of the anthology (italicised), the word “editor” the editor’s name, place of publication, publisher and page numbers on which the article appears. See punctuation in the example.

**List of sources**


**Text reference**

... (Massimo 2002:32).

**JOURNALS AND ARTICLES**

**Article with authors**

When a journal is referred to, the author is referred to as with a book. Then follows the year and title of the article. The title of the journal (italicised) and the volume (if indicated), followed by the number in brackets followed by a colon. This is followed by the page numbers on which the article appears. Note the punctuation in the example.
List of sources


Text reference

Bezuidenhout (2003:25) says that ...

Article with no author

The title of an article replaces the author. It is listed alphabetically among other authors according to the first word in the title.

List of sources


Text reference

... as already stated (Shortages 2000:7).

Articles with no author and no title

The name of the Journal is used and it is italicised.

List of sources

Text reference

... investigations were done (Curationis 2001:11).

NEWSPAPER REPORTS

If the name of the reporter is known, the article can be referred to as in the case of a journal article. Often the name of the author is not given. The title of the report, or the name of the newspaper is used.

List of sources

Reporter known:

Reporter unknown – name of newspaper:

Reporter unknown – title of the report:

Text reference

Rapakwana (2002:4) reports that ...
According to the Sowetan (2002:9) ...
... (Strikes 2002:19).
STUDY GUIDES, TUTORIAL LETTERS AND MODULES

Study guides

If the author of a study guide is known the study guide is referred to as for a book:

List of sources


Text reference

... (Human 2001:20).

If the author is not known it is cited as a Unisa publication:

List of sources


Cross reference

Unisa. See University of South Africa.

Text reference

... (Unisa 2001:18).

A shorter way to refer is to use the course code:
List of sources


Cross reference

HMA101Y. See University of South Africa

Text reference

... (HMA 101Y Only Study Guide 2001:20).

Please note: You may use any of the abovementioned methods to refer to study guides, but should use the chosen method consistently.

Tutorial letters

List of sources


Cross reference

Unisa. See University of South Africa.

Text reference

... (Unisa CMH101W/101/2007:4).
LAWS, REGULATIONS, GUIDELINES AND OTHER GOVERNMENT PUBLICATIONS

Laws and regulations should also be listed in the list of sources of theses, dissertations and articles. It is referred to in the text as part of the text:

According to the Nursing Act No 50 of 1978, as amended...

The Harvard method of reference allows for a short text reference and detailed information in the list of sources. This is especially useful in dissertations and theses where one refers to the same legislation repeatedly.

The country in which the law has been promulgated, the title, the date and the specific section or paragraph to which you refer must be indicated:

… the Nursing Act (South Africa 1978).

List of sources

Acts

Regulations

Guidelines (previously called directives)
SANC. 2006. Guidelines for a bridging course for enrolled nurses leading to registration as a general nurse or a psychiatric nurse. (Based on R683, 2006). Pretoria: SANC.
Cross reference


Text reference

Acts
... (South Africa 1978:5).

Regulations
... (R683, 1989, Paragraph 3(1)(a)).

Guidelines (previously called directives)
... (SANC 1989. Par 2.2).

Others (for example White Papers):

List of sources


Text reference

The Department of Health proposed ... (South Africa 1997:2).

SERIES

List of sources


➢ Text reference

... (WHO 2000:4).

COMMITTEES, COMMISSIONS, CONFERENCES REPORTS AND CIRCULARS

List of sources


Cross reference


➢ Text reference

The short title is quoted with the date of publication and page number.

... (SA Margo Commission 1987:20).

UNPUBLISHED THESESES, DISSERTATIONS AND PAPERS DELIVERED

List of sources


➢ Text reference

... (Mdondolo 2002:110).
... (Potgieter 2000:3).

OTHER VARIABLES THAT INFLUENCE LISTING AND REFERENCING

Later editions of a book

If you have consulted a second or later edition of a book, you must indicate it in your list of sources.

List of sources


Date unknown

When a date is not known, you should use “Sa” (Sine anno), placed in [  ].

List of sources

Text reference

... (Breytenbach [Sa]:16).

Two or more publications in the same year

If you wish to refer to two publications by the same author, which were both published in the same year, distinguish between them by the addition of a., b., etc. after the year of publication.

List of sources


Cross reference

ANC. See African National Congress.

Text reference

... (ANC 1994a:2).

... (ANC 1994b:12).

Personal letters

List of sources

Preller, JF. 2004. Correspondence. 15 November, Pretoria.
 ➢ **Text reference**

(Preller 2004)

**TV AND RADIO PROGRAMMES AND PERSONAL INTERVIEWS**

A list of sources contains published sources only. You should be careful to use unpublished information as the scientific value may not be sound. If you must use it, it is recognised in **the text only**, by giving full details, for example:

➢ **Text reference**


**ELECTRONIC SOURCES**

**The Internet**

The Internet is becoming an increasingly significant source of references. Because web pages can be updated and changed on a daily basis, the information referred to is considered less reliable than in the case of other printed (fixed) sources. The same information may be available in printed form as well, and you should therefore try to find the original source.

If you do use the Internet copy, you should print a hard copy of the Internet source and include this as an addendum to your document. In this way, factual information related to references cannot be contested later.
- **Author:** Include the author of the particular writing that you have consulted in your reference as you would for a book or a journal article. Preferably use only articles where the author's name is mentioned (to ensure reliability of the information). Otherwise ask the webmaster for the source of the information.

- **Date of publication:** Indicate the year in which the site was created. If you struggle to find the date on which the site was created, use the copyright date preceded by a "c" (for example c2000) or look for the date on which the site was last updated. When no year of publication is available, the abbreviation "s.a." can be inserted in square brackets.

- **Title:** Indicate the title of the piece of writing you have consulted as you would with a book.

- **Organisation responsible for the site:** Just as a book has a publisher, the "publisher" of an Internet site is the organisation that maintains the site and takes responsibility for the information on the site.

- **Internet address:** The URL (uniform resource locator) should be provided to make it possible for someone else to find exactly the same page on the site you consulted. Do not use a full stop after the URL, since a full stop has a particular meaning in computer programming language. At a line ending, a URL can be split only after a forward slash, full stop or hyphen. Start with the word "From:" and underline the URL.

- **Date of access:** Indicate in brackets the date on which you have consulted the site.

<table>
<thead>
<tr>
<th>Internet document with known author</th>
</tr>
</thead>
</table>

It is better to refer to the specific web page you have consulted and not to the entire website. No page numbers are needed.
According to Johnston (1991) units are designed …

OR

… as these units are designed (Johnston 1991).


Internet document with unknown author

*Title of document.* Year. Organisation Responsible for Site. From: URL (accessed Day Month Year).

It is better to refer to the specific web page you have consulted and not to the entire website. No page numbers are needed.

Many people with mental health difficulties recover completely or manage with medication, and are able to return to work after a period of treatment and rehabilitation (*Mental health … 2001*).


(In the in-text reference, you may shorten the title of the article to more or less three words, followed by an ellipsis)
Internet document with corporate author

Corporate Author. Year. *Title of document*. From: URL (accessed Day Month Year).

It is better to refer to the specific web page you have consulted and not to the entire website. No page numbers are needed.

According to the World Bank (2005), e-government refers to …

OR

… as stated in its definition of e-government (World Bank 2005).


Internet document with unknown year of publication

Organisation/Surname, Initial(s). [s.a.]. *Title of document*. Organisation Responsible for Site. From: URL (accessed Day Month Year).

It is better to refer to the specific web page you have consulted and not to the entire website. No page numbers are needed.

This landing page gives access to the information portal and the services portal (South Africa Government Online. [s.a.]).

It is advisable that you refer to a specific web page (see the examples above) and NOT to a home page or menu page. However, in cases where it may be justifiable to refer to the entire website, for example when you are discussing different websites, it can be done as follows:

*Title of home page. Year. From: URL (accessed Day Month Year).*

For further reading you may consult the website of the Parliamentary Monitoring Group at www.pmg.org.za.


**E-mail**

- Burger, M. 2005, August 11. *APA guide deadline*  
  [e-mail to M. van der Merwe], [Online].  
  Available e-mail: burgerm@unisa.ac.za.  
  (Burger 2005)

**CD-ROM**

  Available: Microsoft Corporation, USA.

  *(Microsoft Encarta ... 2006)*
• New Grolier multimedia encyclopaedia. 2003. [CD-ROM].
  Available: Creative Technology, USA.

• (New Grolier Multimedia Encyclopedia 2003)

5.5 CONCLUSION
This section on technical writing gave you a practical guide on the ins and outs of technical writing. It also outlined in great detail the way referencing should be done. Please follow it carefully from start to finish of your proposals, reports and dissertation/thesis to maintain consistency and accuracy of your documents.
SECTION 6

THE RESEARCH PROPOSAL

6.1 INTRODUCTION

Compiling a research proposal could be time consuming and a frustrating experience for novice researchers (students) and supervisors/promoters. This practical guide for compiling a research proposal is a guideline based on the University policy for proposal format. The document cannot be seen as a replacement of the recommended research books. Writing a research proposal as explicated in these books should be consulted in addition to this manual. The manual is merely an attempt to make the process of producing an acceptable research proposal, a less time consuming and more enjoyable experience for both students and supervisors/promoters.

6.2 GUIDING PRINCIPLES

A proposal, as the name indicates, is a layout or a written plan of your proposed research project. The following guiding principles must be kept in mind:

**The research field:** In most cases, students are allowed to indicate a broad research topic or the research field on their registration forms. This broad topic/field must be refined under the guidance of the allocated supervisor/promoter, resulting in the formulation of a title for your dissertation/thesis. The title should be short (maximum 15 words) and appealing to readers and should:

- capture the nature of the research problem
- communicate unambiguously the focus of the proposed study.

**The research topic:** Keep the research topic in mind, throughout writing the proposal. Whatever you write, ask yourself how this relates to the research topic. If what you are writing is found not to relate clearly to the research topic, drop it. If what you are writing does relate to the topic, indicate how it relates to the topic. Treat the supervisors and promoters, this once, as naïve. While reading and writing on the research topic consider
the significance of the problem, the research paradigm of choice, the possible research designs that can be used, feasibility of the research and the principles of good research. Overall clearly indicate:

- WHAT you intend to study
- WHY your study is required
- HOW you intend to conduct the research.

**Technical writing:** A research proposal is as much a technical document as is the eventual research report (dissertation or thesis) or the articles resulting from the research report. The proposal should be well structured, concise, clear and comprehensive, and must meet all the criteria and rules set for referencing and listing of sources. Kindly revise the section on scientific writing as well as the section on referencing and listing of resources. Proposals that do not meet the required technical presentation will be returned un-reviewed to students. There is no other way than the single correct way of technical presentation. Many good dissertations and theses have been failed due to poor technical presentation. So, get yourself into the habit of doing this correctly right from the beginning of your research.

Your knowledge must be used to formulate a clear, unique research proposal to convince the reader of the significance of your research for your profession and the feasibility of your proposed research project. Your research proposal should be technically, factually and methodologically of a high standard. Beware of statements that are open to criticism. Refrain from making wild statements based on personal opinions and preconceived ideas. Biased statements and gross generalisations or exaggerations are not acceptable. You should always substantiate your statements by referring to relevant literature, research findings and/or statistics. When you refer to aspects concerning your research methodology, you should ensure that your discussions reflect an understanding of the meanings of the relevant research concepts and principles.
Provide in depth discussions when you refer to existing research or other publications in your field of study. Also ensure that your comments on existing research findings and other publications are accurate. Do not distort any findings or views of other authors to serve your own purposes. It is not acceptable to merely copy statements of different authors to your proposal. You should provide sound arguments in a logical and organised manner and ensure that your discussions contextualise your research problem.

**Reading (Literature review):** Extensive reading must be engaged in even before a research proposal can be attempted. In addition to the research topic or the broader field of research, you must also review literature on the research process and its appendices.

**Incorporating the literature review into the research proposal:** Information obtained from the literature review needs to be incorporated into the research proposal as follows:

- Refine the research topic into a specific title for the proposed study.
- Develop and contextualise the research problem in terms of the literature reviewed.
- Debate (deliberate) the purpose, significance, relevance and feasibility of the proposed study; why the study needs to be done and how it fits into the existing body knowledge.
- Identify a suitable theoretical framework and underlying philosophical foundation (where appropriate) from the literature reviewed.
- Select a suitable research design and develop the detail of the design according to the structure (sub-headings) given below.

**Time:** Writing a research proposal is very time consuming as is any other academic work; it takes a considerable amount of time and calls for a lot of reading about the research and related topics, including research designs used in the past to investigate the research topic or aspects thereof. It is important to read extensively before starting to write the proposal. Aspects of a well-written proposal can be incorporated into your dissertation or thesis. The time taken to produce an acceptable proposal should therefore
not be viewed as a delay in completing your study. Consequently, you may have to write and rewrite the drafts several times before producing the final document. This also means that the proposal may be returned to you for improvements several times.

**Submission of the proposal:** It is strongly advised to **submit your proposal electronically** via e-mail. This will save much effort and costs in the long run. You will find that sections will be revised repeatedly and sometimes paragraphs have to be moved around. Such amendments can be made easily and cost-effectively with electronic submission. This will also enable your supervisor or promoter to provide feedback in electronic format and avoid the difficulties experienced with the postal system. If you cannot access the Internet, a CD-RW or a data stick must accompany your hard (printed) copy. **GENERALLY, NO HANDWRITTEN DOCUMENTS WILL BE REVIEWED BY THE SUPERVISORS/PROMOTERS.**

6.3 **GENERIC FORMAT FOR PROPOSAL**

University of Limpopo Standard Research Proposal / Protocol Format

Postgraduate and staff internal funded research proposals / protocols must adhere to the following lay-out and provide content as specified. **Slight variations from this format will be permitted to accommodate only discipline specific requirements. Format variations required by disciplines must be approved by the School and Faculty.**
1. TITLE
- The title should describe the study as succinctly as possible.
- There should be no abbreviations in the title.
- The title should place the study geographically if necessary. For example, a prevalence study must be placed geographically, but a study evaluating a new laboratory method does not need to be placed geographically.

2. RESEARCH PROBLEM
- The research problem should briefly describe the identified problem / hypothesis / research question(s) / rational and motivation for this particular research.

3. LITERATURE REVIEW
- The literature review is a critical and analytical overview studies relevant to the research topic. The researcher is required to demonstrate sufficient acquaintance with existing literature on the topic to justify the study.
- Sources should be acknowledged in the literature review, using either the Vancouver or Harvard referencing style. The chosen style must be clearly specified and consistently applied throughout the proposal / protocol.

4. PURPOSE OF THE STUDY
- This refers to the aim and objectives of the study. These should be clearly stated, and should coherently flow from the research problem.
- An aim is a general statement of intent, a broad goal that the researcher hopes to achieve with the study.
- There should be one aim, and all the objectives should fit under the “umbrella” of the aim.
- Objectives are specific and precise individual goals set out sequentially, in a step-wise manner, in the order in which these will be tackled according to the research design.
5. RESEARCH QUESTION
[Optional, include only where the discipline specifically requires this in addition and separate from the Research Problem]

6. METHODOLOGY

This refers to a detailed account of the overall research approach / design; research methods and / or experimental techniques; data collection (sampling) and analysis including required statistical tools which will be used to address the research problem.

6.1. Research Design

Studies aimed at establishing relationships are of two research design types: descriptive and experimental (Table 1). In a descriptive study, no attempt is made to change behaviour or conditions - you measure things as they are. In an experimental study you take measurements, try some sort of intervention, then take measurements again to see what happened.

<table>
<thead>
<tr>
<th>Table 1: Types of research design</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive or observational</strong></td>
</tr>
<tr>
<td>• case</td>
</tr>
<tr>
<td>• case series</td>
</tr>
<tr>
<td>• cross-sectional</td>
</tr>
<tr>
<td>• cohort or prospective or longitudinal</td>
</tr>
<tr>
<td>• case-control or retrospective</td>
</tr>
<tr>
<td><strong>Experimental or longitudinal or repeated-measures</strong></td>
</tr>
<tr>
<td>• without a control group</td>
</tr>
<tr>
<td>time series</td>
</tr>
<tr>
<td>crossover</td>
</tr>
<tr>
<td>• with a control group</td>
</tr>
</tbody>
</table>
o The proposal / protocol must clearly specify the specific research design, the rational and motivation for the design, and methods / techniques / procedures which will be used to investigate the research problem and must also include the following, where necessary:

6.2. Sampling

o The study population must be described.

o The sampling procedure must be described, and it must be appropriate for the study. It is not always necessary (or appropriate) to name the sampling procedure, but when it is named, the procedure must fit the name (eg., if random sampling is named as the sampling procedure, the process described must be true random sampling).

o Sample size should be calculated statistical [a statistician must be consulted] if the results are to be generalised to the target population. However, when this is not the case, for example in qualitative descriptive studies, this is not necessary.

6.3. Data Collection

o The data to be collected must address the aim and objectives of the study.

o Describe the type of data that will be collected or measurements which will be made, and the methods and instruments (eg., measurement equipment, laboratory tests to be performed, through observations (eg., video recordings, taking photographs) interviews, or questionnaires) which will be used.

o In the case of questionnaires, no question should be included that does not address the aim and objectives of the study.

o In the case of questionnaires that have been taken directly or adapted from a source, that source should be acknowledged.

o In quantitative socio-behavioural studies using questionnaires, these should always be included as an appendix.

o In the case of laboratory studies, no tests should be included that do not address the aims and objectives of the study.
In quantitative laboratory studies, data collection forms must be included as an appendix.

In qualitative descriptive studies, there is usually no need for data collection forms.

6.4. Data Analysis

- Data analysis must address the aim and objectives of the study.
- Describe the type of analysis which will be performed on the data. Where the data is of a qualitative nature from which generalisations are to be drawn from then the statistical tests which will used must be named (eg. Student-t test or multi-variance test) and described.

6.5. Reliability, Validity & Objectivity

- In certain studies, external measures are taken to ensure reliability, validity, and objectivity. Thus in these studies, the type of methods / approaches eg., pilot studies, triangulation, etc., must be described.
- In laboratory studies, measures to ensure reliability, validity, and objectivity are internal, i.e. they are built into the method and no test should be run without these measures. These measures include the use of controls, and / or calibrators, or standards, or reference strains, etc, or running tests in duplicate or triplicate. Where appropriate, these should be mentioned under laboratory methods, and should not be placed in a separate section.

6.6. Bias

- If the researcher has taken steps to minimise bias, this should be mentioned, but not necessarily as a separate section (eg: if sampling bias has been minimised by using random sampling, this can be mentioned under sampling).
- If the study is not subject to bias, there is obviously no need for bias to be mentioned.
- If bias is present but is unavoidable (such as the bias present in all studies that use volunteers, as volunteers are different from those who do not volunteer), the researcher must mention this.
7. ETHICAL CONSIDERATIONS
[only for research involving human or animal subjects which require ethical clearance]

- The clearance applications forms must be attached.
- It must be clearly stated that a clearance certificate from the MREC or TREC will be obtained before commencing with the study.
- When human participants are used, a consent form must be included.
- When human participants are used, and the study is an experimental one using medication (allopathic, homeopathic, naturopathic, traditional) / vaccines / etc, a consent form and a patient information leaflet must be included.
- The protocol must explain the process of obtaining informed consent.
- In non-experimental studies using human participants, an edited version of the consent form is acceptable.
- In experimental studies using human participants, both the consent form and the patient information leaflet must comply with all the elements of informed consent outlined in the Helsinki Declaration.
- Patient information leaflets and consent forms must be free from grammatical errors and spelling mistakes, and must be written in a language that is able to be clearly understood by the prospective research participants. Nothing should be included that may be insensitive to all known cultural and religious beliefs.
- In experimental studies where animals will be subjected to undue stress, injury, harm or killing, approval from the Animal Research Ethics Committee must first be obtained.
- In studies using animals, full justification must be given for using animals as opposed to cell lines or humans. Lack of expertise or equipment is not an acceptable justification for this.
8. SIGNIFICANCE OF PROPOSED RESEARCH

Include amongst others explanations of how important the research problem is in the context of current global, regional and national challenges. To what extent will the proposed research advance relevant knowledge and / or benefit humans and / or nature? Is the proposed research clearly and adequately justified in terms of its potential to address community needs, contribute to policy development and / or intervention strategies, or derivation of new systems or products, whatever is applicable to the study.

9. REFERENCES

- Either the Harvard or Vancouver referencing styles is acceptable.
- All references must consistently adhere to the chosen style.

Additional information on content of the research proposal

Introduction

Your introduction should be short, precise and clear. It should not be more than a few paragraphs. The introduction must provide a brief overview of the content of the proposal identifying pertinent research and key concepts.

The research problem

Source of the research problem

Sketch the current situation that prompted your interest in the proposed research. The following questions need to be addressed:

- What stimulated your interest in your research topic?
  - Did you observe a clinical problem that gave rise to your interest?
  - Did you read about previously conducted research into aspects of the research topic and wish to do a follow-up study; or wish to extend a study; or repeat the study in the area you are working?
  - Did you encounter a theory that you intend to test?
- What questions came to mind while making the observations, reading the report of the previous research, or encountering the theory?
**Background to the problem**

At this point you should sketch the background to the problem. In this section the research problem is contextualised; it must be placed in perspective within your specific clinical area or within the context of your country. Present arguments pertaining to the situation (and research) currently in your country (e.g. Uganda), your region (e.g. Sub-Saharan Africa) and the world (e.g. a comparison of the trends in developing and developed countries).

You have to read widely in order to present sound arguments. Make the research and research problem as pertinent as possible. This refers to the relevance of your discussions to the research topic. Include contradictory and opposing ideas relating to the research problem and point out how the research will add to the existing knowledge on the research topic. Support your discussions with evidence from formal theory and/or empirical literature (previous research results). Cite relevant statistics where appropriate. The latter may also be utilised to ground and contextualise a qualitative research project.

**Statement of the research problem**

Pertinently state what the research problem is. No beating about the bush. You had ample opportunity for this during the explication of the background to the study. The problem statement must be congruent with the research title, the source and the background to the research problem. The problem statement should flow logically and spontaneously from the background to the research problem. The explication of the research problem should culminate into a problem statement.

Please consult different research text to acquaint yourself with the characteristics of a research problem and problem statement. A problem statement may be formulated in either a declarative or an interrogative form. A declarative problem statement is formulated in the form of a statement of purpose. An interrogative problem statement is stated in the form of a central research or theoretical question.
Whatever form the problem statement takes on, ensure that it incorporates the key research variables, the research population and that it suggests the possibility of empirical testing (if the proposed paradigm is quantitative). In the case of a qualitative study the phenomenon under investigation must be clearly crystallised by the problem statement. Related variables should be critically considered for their applicability and function in the problem statement (and topic). Such variables should not detract attention from the essence of the phenomenon under scrutiny.

**Aim of the study**

The aim of research at the academic level is first and foremost to contribute to the existing body of knowledge in a specific discipline. This is what distinguishes scholarly research from other research projects. Secondly, research is aimed at improving a particular area of life, including any professional practice.

**Research purpose**

Note that there is a difference between the research purpose and the significance of the research. Please consult your textbooks on how to formulate a research purpose. Indicate what the purpose of your study is. Keep your research title, research problem and your problem statement in mind when formulating the research purpose. The research purpose must be derived from and is more specific than the problem statement.

**Research objectives or questions or hypotheses**

In this section, the research purpose is subdivided into specific objectives or questions, and hypotheses. These specific objectives or questions should explain how your research purpose would be achieved. You may choose to formulate either research objectives or questions. There is no need to include both in the proposal.

You have to formulate a research hypothesis or hypotheses if you intend to statistically determine the relationship between variables or to measure the differences between two or more groups of participants. Please note the words relationship or correlation do NOT necessarily indicate a causal relationship between independent and dependent variables.
The latter, strictly speaking, can only be determined under controlled (experimental) conditions which can be maintained by applying a true experimental design (something achieved by few postgraduate students in social science research fields).

**Significance of the study**

Keeping your previous discussions in mind, clearly indicate the anticipated contributions of your proposed study. Please note that this is not the same as the research purpose or objectives/research questions of the study. This contribution should be described in terms of the knowledge which would be generated, what the research results could possibly lead to (such as guidelines and policy statements) and the beneficiaries of the outcomes of the study. For a doctoral study, you must indicate the original or decided contribution your study will make to the existing body of knowledge of your specific discipline.

**Definitions of key concepts**

Key concepts embedded in the research title, problem statement, objectives, questions or hypotheses must be defined in terms of the research (or theory and philosophy underlying the research) to communicate the *exact* meaning of these concepts to the reader. You have to provide conceptual definitions of these concepts, irrespective of whether your study is quantitative or qualitative. These are definitions that communicate the meaning of the concepts. Note that the conceptual definition in qualitative research represents the researcher’s “pre-scientific” notion of the phenomenon and that such a basic definition is indispensable in maintaining “bracketing.”

In quantitative research operational definitions are also formulated for the research variables, in addition to the conceptual definitions. These definitions specify how the variables will be observed and measured. These definitions facilitate data collection on the concept(s) to be studied.
The following is a useful guide for formulating conceptual definitions:

- Consult several dictionaries and authoritative textbooks on the key concepts.
- Include a general dictionary definition as well as synonymous word from a thesaurus.
- Include a definition relevant to your study discipline which you obtained from an authoritative textbook.
- Combine these and formulate a working definition which specifically applies to your study.

Consult research publications on how to formulate operational definitions, i.e. definitions specific to your research.

**Foundations of the study**

**Meta-theoretical assumptions**

If you intend to conduct *qualitative* research, you must formulate basic assumptions on which your research is founded. Assumptions are basic principles that are assumed to be true, without proof or verification. The following must be kept in mind about these assumptions:

- In qualitative research assumptions take the place of formal theory in quantitative research.
- Assumptions must not pre-empt theory.
- Assumptions merely set the stage for both the phenomenon under investigation and the research process to “happen”.
- Assumptions are derived from the philosophical foundation of the qualitative research design you intend using.
- The assumptions must be stated on the methodological, ontological and epistemological levels.
- Assumptions at these different levels must be congruent and in line with the underlying philosophical base.
• Assumptions are not readily available and given at the onset of the research and creative formulation often comes later during the research and familiarity with the research method and the phenomenon as such.
• Some assumptions might appear trivial; however, their foundational essentiality cannot be questioned.
• Ultimately, assumptions indicate the researcher’s depth of understanding of the unity of research actions and the lived world (phenomenon) under investigation.

Theoretical framework
As stated before, in quantitative research you can consider using formal theory, a model or a conceptual framework depicting the research object that would serve as general guideline for the study. Alternatively you may come up with a conceptual framework derived from the literature review consulted. The latter is a lone standing structure permissible in a master’s dissertation. However, for doctoral studies a theory must also be used. So, in this section an indication of, and summary of, the chosen theory/model/conceptual framework must be provided and your choice substantiated in line with the overall proposal: research topic, problem, purpose, hypotheses and the like.

A clearly explicated theory, model or conceptual framework will assist you in:
• determining and maintaining the focus of your study.
• structuring your study, the whole dissertation or thesis for that matter; literature review; data collection instruments; presentation of data; discussion of the findings; and the formulation of recommendations. Putting it differently, the structure, sub-headings or components of the guiding theoretical framework, whether or not derived from the literature review on the topic as such, should be used, or at least very closely followed, during the structuring of the data collection instruments and the rest of the dissertation or thesis.

It is strongly suggested that you discuss the theoretical or conceptual framework for your proposed study with your supervisor. It may even be viable to test formal theory or the theory you have come up with.
The term theoretical framework is more appropriate for research underpinned by one identified formal theory. Conceptual models refer to use of a formal diagrammatical representation of concepts or theories to guide the study. The term conceptual framework is used when concepts from various theories or/and research findings are used to guide the study. The conceptual framework is usually the eclectic or dialectic reconstruction of the result of the literature review.

**Research design**

**Research paradigm**

In this section you should indicate whether your proposed research is going to be a quantitative or a qualitative study. The selection of a research paradigm (quantitative or qualitative) and design depends largely on the research problem and purpose.

You should explain your research paradigm, namely qualitative or quantitative research. The following is a useful structure for discussing your research paradigm:

- Indicate your chosen paradigm.
- Give reasons for your choice.
- Describe the main characteristics of the paradigm and indicate why your proposed study would comply with these characteristics.

**Research design**

You should read extensively about research design from *several* textbooks before selecting the one most appropriate to your study. The paradigm within which you work will give an initial indication of the research design that you will use, however, designs should also be skilfully and creatively adapted and changed to fit your research problem. It is especially in qualitative research where an *emergent* design is called for.

First you should decide on which research paradigm (quantitative or qualitative) would be most appropriate to your research problem and purpose. A suitable research design should then be selected. Some of the main research designs according to paradigm are:

- **Quantitative:**
• experimental – true experimental (controlled clinical trial) or quasi-experimental
• non-experimental – correlational (model-testing, predictive (case-control), descriptive); descriptive (classical descriptive or comparative descriptive).

Qualitative:
• phenomenology
• grounded theory
• ethnography
• generic qualitative research
• historical research
• concept analysis
• participative action research
• case study

In addition, meta-analysis, and methodological research can be conducted. The dimensions of your research must be identified and the implications hereof indicated in the research proposal. Some of the dimensions are:
• qualitative vs. quantitative
• empirical vs. non-empirical
• longitudinal (cohort) vs. cross sectional

Naturally, one can follow different combined methodologies across paradigms. Nonetheless, before you select a design you should read extensively about research as the more traditional designs listed above are further sub-divided in the research literature. The following is a useful structure for discussing your research design:
• Indicate your chosen design.
• Clearly define the design. Integrate the work of at least three authors.
• Give reasons for your choice.
• Describe the main characteristics of the selected design.
• Indicate how the chosen design will assist in attaining the set objectives of the study, answer the research questions and/or support or refute the stated hypotheses.

Research methods
Sample selection
Give a clear indication and description of the data sources you are going to utilise. These include people, documents, events and institutions; whatever that is going to present you with the information (data) you need. The following issues should each be defined from the point of view of at least three authors, and should be explicated in terms of your proposed research:
  • population universal
  • target population
  • sample frame
  • accessible population

Once you have clearly explicated these, decide on the sampling method and technique that you are going to use as well as the inclusion and exclusion criteria you are going to apply. Please distinguish between sampling methods and techniques appropriate to:
  • quantitative versus qualitative research
  • random (probability) versus non-random (non-probability) sampling
  • generalising versus transferring findings

You have to explain sampling by integrating the work of at least three different authors on all aspects of sampling as indicated above as well as by:

  • specifying and describing the chosen approach (probability or non-probability) and technique (cluster random sampling; purposive sampling)
  • substantiating the reasons for your choices in terms of your proposed research
  • describing and explicating the main characteristics of the chosen approach and technique
• discussing the strengths and limitations hereof, especially in the case of non-probability sampling, and how you intend to overcome the limitations

**Data collection**

Explain which data collection approach, method(s) and instrument(s) you intend to use. Your choice must be in accordance with the research paradigm. This is mainly a choice between structured or unstructured data collection.

Indicate the following with regard to the chosen approach (structured or unstructured):

- definition of the chosen approach from the point of view of at least three authors.
- main characteristics of the chosen approach
- advantages and disadvantages of the chosen approach
- the way in which the advantages of the approach will aid in attaining the set objectives of the research, answering the research question or support or refute the set hypotheses
- the way in which the disadvantages of the approach will be counteracted during the research

The reader must be informed about the data collection method(s) (e.g. interviews; observations) you intend to use. Indicate and explicate the following, keeping in mind the technical and standard requirements:

- definition of the chosen method
- main characteristics of the chosen method
- advantages and disadvantages of the chosen method
- the way in which the advantages will aid in attaining the research objectives, answer the research questions or support or refute the set hypotheses
- the way in which disadvantages will be counteracted during the research

Information is also required about the data collection instrument that you intend to use. Explicate the following:

- definition of the chosen instrument
• main characteristics of the chosen instrument
• advantages and disadvantages of the chosen instrument
• the way in which the advantages will aid in attaining the research objectives, answer the research questions or support or refute the set hypotheses
• the way in which the disadvantages be counteracted during the research

Data analysis
In the case of quantitative research, indicate which statistics you intend to use to analyse the data. If your research involves extensive statistics, consult the statistician at the Research Office before writing this section. Both descriptive and inferential statistics need to be referred to. You probably will not be able to name specific procedures. However, you need to give an indication of the basic statistics involved, based on whether you use of research objectives, questions and/or hypotheses as well as the type of design you propose to use.

If your proposed research is qualitative in nature, indicate which qualitative data analysis steps you would follow. In either case state the reasons for using the specific analyses pertinently.

Design validity
If your proposed research is quantitative in nature, you should give an indication of how you plan to enhance:

• external validity (especially important in descriptive and other non-hypothesis testing research)
• internal validity (especially important in hypothesis-testing research which is aimed at measuring the relationships between independent and dependent variables – of utmost importance in true experimental research to establish causal relationships)

If your proposed research is qualitative in nature, you should explain how you would enhance the trustworthiness of your research. This includes aspects such as credibility, transferability and dependability.
Ethical considerations

Indicate the ethical considerations for your proposed study under the following subheadings:

- protecting the rights of the participants
- protecting the rights of the institution
- scientific integrity of the research (scientific honesty on the part of the researcher – that is you yourself)

In addition, the research topic itself often poses special ethical considerations as is the case in abortion and HIV/AIDS for instance. The ethics relating to these sometimes need to be explicated pertinently under a specific heading.

The following framework is suggested to set your mind going on the initial, the possible and general ethical implications of your proposed research. With regard to the framework that follows, define the four “basic” ethical principles of autonomy, justice, benevolence and non-maleficence and related ethical concepts. Place these against the three (or four) points under which you are to discuss the ethics relating to your research as indicated in the grid below. Then, contemplate the contents that might fill each of the cells in this grid/framework.

<table>
<thead>
<tr>
<th>BASIC ETHICAL PRINCIPLES</th>
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<tr>
<td>Autonomy</td>
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<tr>
<td>Participants</td>
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<td>Institutions</td>
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<tr>
<td>Researcher</td>
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<td>Ethics pertinent to the research topic</td>
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</table>
Please note that this grid is merely intended to get your mind going. There might be numerous ethical implications relating to your research readily defined in handbooks on research. All sources must be scrutinised for these.

**Scope and limitations of the study**

It may be difficult to identify possible limitations before you have actually conducted your research. It is however important that you consider that there may be possible limitations that you need to overcome by sound planning. From the start consider the implications of the population, sampling and sample in this regard. In addition consider the ethical issues involved, and the disadvantages of the research instrument(s), approach and design you intend to use.
6.4 THE TITLE PAGE

RESEARCH PROPOSAL

SELECTED HEAVY METALS CONCENTRATIONS ON SELECTED SAMPLES OF NABOOM SPRUIT, TOBIAS SPRUIT AND THE NYL FLOODPLAIN, SOUTH AFRICA

by

RACHEBE CHARLES QWELE
( Student Number )

RESEARCH / MINI-DISSERTATION / DISSERTATION / THESIS

Submitted in fulfilment of the requirements for the degree of

MASTER OF EDUCATION

in

CURRICULUM STUDIES

in the

FACULTY OF HUMANITIES

(School of Education)

at the

UNIVERSITY OF LIMPOPO

SUPERVISOR: Prof. TJ Lephele

CO-SUPERVISOR: Prof. P Steyn
6.5 TABLE OF CONTENTS

1. TITLE AND INTRODUCTION 1
   Recent research
   Key concepts

2. RESEARCH PROBLEM 2
   Source and background of the problem
   Statement of the research problem etc*

3. LITERATURE REVIEW

4. PURPOSE OF THE STUDY
   Research aim, objectives and/or hypothesis

5. RESEARCH QUESTION/S (optional)

6. RESEARCH METHODOLOGY

6.1 Research Design
6.2 Sampling
6.3 Data collection
6.4 Data analysis
6.5 Reliability, Validity and Objectivity
6.6 Bias

7. ETHICAL CONSIDERATIONS

8. SIGNIFICANCE OF PROPOSED RESEARCH

9. REFERENCES

Annexure 1: Time frame 15
Annexure 2: Budget Etc**

* Indicate the page number for each heading and sub-heading
** Indicate the page number for each annexure

6.6 LENGTH OF PROPOSAL

Proposals should be short and to the point. As a guideline, it should be between 10-12 pages in length.
6.7 HOW TO CONVERT PROPOSAL TO CHAPTER ONE

Minor adjustments are required to convert your proposal into chapter one. Proposals are written in the future tense and chapter one in the past tense. Therefore the first thing that you need to do is to change your tense to the past tense. Proposals are often restricted to a particular length (eg. 10-15 pages). Generally chapter one of a doctoral thesis is about 10% of the total length, which equals 20-25 pages. This means that the content of the proposal needs to be lengthened to include more literature or more detailed explanation of the methodology. Any deviations from the accepted proposal (for whatever reasons) will have to be adjusted and included into chapter one.

6.8 MAPPING YOUR JOURNEY – RESEARCH METHODOLOGY

The research methodology section of your proposal is absolutely crucial in mapping out the process that your research will follow. Therefore you must carefully consider how you would like to gather data, from whom and the instruments that you will use. In addition, once the data is gathered, what will you do with it? Data analysis must be carefully planned at the proposal stage. Once you draw this ‘map’ properly in your proposal, it then becomes a matter of following it throughout your research.

6.9 REVIEW AND SUBMISSION PROCESS

- The student assisted by his/her supervisor draft a proposal / protocol according to the University of Limpopo Standard Research Proposal / Protocol Format. Leave out sections which are not applicable to your discipline. It is advisable that once the draft is ready, the student is afforded the opportunity to make an oral presentation of the proposal / protocol to all staff and other post-graduate students at a departmental seminar. This may assist in clarifying discipline specific terminology, concepts and methodology.

- While the responsibility for the accuracy of the text rests with the student, it is still the responsibility of the supervisor and the head of department (HoD) to ensure minimum standards are uphold. The checklist needs to be checked by the supervisor and the HoD before signing the proposal / protocol off to the Director of the School for presentation to the School Research Committee (SRC). The text
must be checked carefully for minor errors. Failure to check carefully may result in the proposal / protocol being referred back for corrections.

- The Secretary of the SRC (which is normally an Administration Officer (AO) or the Principal Administration Officer (PAO) in the School Director’s Office) receives the proposal / protocol and the checklist, files a copy in the student’s file (which contains the registration details of the student), sends copies to members of the SRC. The Director of the School, Chairperson of SRC, convenes the SRC meeting.

- The SRC reviews the proposal / protocol, checks aspects in the checklist. The Chairperson writes a report to the supervisor about the Committee’s findings (errors, changes, recommendations, acceptance or rejection of the proposal) where applicable accompanied by the corrected proposal / protocol. A copy of the corrected proposal / protocol and report are filed by the SRC Secretary and copies are sent immediately after the meeting to the HoD for the attention of the supervisor.

  There will be repeated interactions among the supervisor, the HoD and the Chairperson of the SRC until the Chairperson is satisfied that all corrections and recommendations of the Committee have reasonably been complied with. It is the responsibility of the HoD to ensure that the supervisor complies with the recommendations of the SRC.

- Once the HoD and the Chairperson of the SRC are satisfied that the recommendations of the SRC have been complied with, the corrected proposal / protocol accompanied by the completed and signed Reg0.4 and Reg0.5 is sent to the Director who conducts the relevant checks. Once the Director is satisfied he/she recommends and signs the Reg0.4 and Reg0.5 forms.

- The corrected proposal / protocol, the signed Reg0.4 and Reg0.5, and the checklist are copied and filed in the School and the originals are sent to the Executive Dean.

- Procedures 4-6 are repeated by the Faculty Research / Higher Degree Committee and the Executive Dean.
- The Executive Dean’s approved proposal / protocol, the signed Reg0.4 and Reg0.5 and the checklist are filed in the Dean’s Office and the original documents are forward to the Secretary of the FHDC.
- FHDC conducts the relevant checks. Makes a recommendation and the Chairperson immediately completes the **Higher Degree Committee Decision on Master’s and Doctoral Research Proposals / Protocols** form which is send to the Executive Dean so that he / she can cascade it down to the appropriate levels.
- Should a resubmission be required, all recommendations of the FHDC must be complied with by the next FHDC meeting.
- The final approved original proposal /protocol with all relevant documents are filed by the Faculty Registrar’s Office and copies are sent by this office to the Executive Dean, the Director of the School, the HoD and the supervisor for filing. The supervisor must provide his/her student with a copy of the final approved proposal / protocol.

***REMEMBER TO SUBMIT YOUR PROPOSAL AND DOCUMENTS FOR ETHICAL CLEARANCE AS WELL***

**6.10 CONCLUSION**

This section has outlined the first phase of your study, writing the research proposal. Your proposal needs to be perfected and accepted before you can proceed with your study. Therefore, it is in your best interest if you work carefully and meticulously as you write the proposal.
RECOMMENDATIONS REGARDING TITLE OF DISSERTATION/THESIS & SUPERVISOR

NAME OF STUDENT..................................................................................................
STUDENT NO....................................................................................................
QUALIFICATIONS...................................................................................................

DEGREE & DISCIPLINE..........................................................................................
FACULTY.............................................................................................................
SCHOOL..................................................................................................................
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PROPOSED TITLE.................................................................................................
BRIEF OUTLINE OF STUDY..................................................................................
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SUPERVISOR CO-SUPERVISOR

NAME ....................................................................................................................
HIGHEST QUALIFICATION....................................................................................
PRESENT POST....................................................................................................
INSTITUTION.........................................................................................................

__________________________________________  __________________
Head of Department Date

__________________________________________  __________________
Director of the School Date

__________________________________________  __________________
Executive Dean Date

Decision of HDC Date:......................... Ref:..............................
Decision of ECS Date:......................... Ref:..............................
Decision of Senate Date:......................... Ref:..............................
UNIVERSITY OF LIMPOPO

REGISTRATION FOR MASTER’S AND DOCTORAL DEGREES

**CONTEMPLATED DEGREE:** ........................................................................

**FACULTY:** ............................................................................................

**SCHOOL:** ...............................................................................................

**FIELD OF STUDY:** ................................................................................

**NAME & SURNAME:** ..............................................................................

**STUDENT NO.** ..........................................................................................

**PARTICULARS REGARDING HONOURS AND / OR MASTERS DEGREES ALREADY OBTAINED**

**NAME OF HONOURS AND / OR MASTER’S DEGREE AND UNIVERSITY** ...........................................................................................................................

**SYMBOL OR PERCENTAGE OBTAINED** .................................................

**DURATION OF STUDY** ..............................................................

**SUBJECT IN WHICH DEGREE WAS OBTAINED** ..................................................

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**Recommendation by Head of Department**

Accepted/Not accepted

**Remarks:** ........................................................................................................

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**Recommendation by Director of School**

Accepted/Not accepted

**Remarks:** ........................................................................................................

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**Recommendation by the Executive Dean**

Accepted/Not accepted

**Remarks:** ........................................................................................................

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SECTION 7
WRITING THE DISSERTATION/THESIS

7.1 INTRODUCTION
This section provides some information about the writing of your dissertation/thesis. Take note that the expectations regarding you and your computer, the literature review, communication with the University and technical writing apply to the dissertation/thesis also. The section on how to write a research proposal is also relevant because the approved research proposal will be incorporated into the dissertation/thesis.

Note that master’s students write dissertations and have supervisors who give guidance to them. Doctoral students write theses (singular: thesis) and have promoters to guide them. For the sake of simplicity these notes will refer only to “dissertations” and “supervisors”.

In addition, the main expectation of master’s students is that they should prove that they are able to do research independently. Doctoral candidates also need to prove that they can conduct research independently and that their research made a unique and original contribution to their discipline or field of study. “Independent” implies that the student should have conducted the research with guidance from the supervisor(s), but that the student remains ultimately responsible for the research and for writing the dissertation. You will start writing your dissertation, chapter by chapter, once your proposal has been accepted.

Always proofread the printed version of your dissertation chapters and correct any grammatical and spelling errors. Also check the printed version against the corrections/improvements indicated by your supervisors. There is nothing more disheartening to a supervisor than to re-read the same errors time and time again, and to read a document which is full of spelling and grammatical errors. Should you disagree with your supervisors’ comments, do NOT simply ignore their comments. Rather discuss the issues with them.
7.2 CONTINUITY OF CHAPTERS
You will only make progress through continued and concerted effort. The only way to progress is to develop a **time schedule and to adhere to this schedule.** Ideally one should spend at least two hours per day, or at least twelve hours per week on any continued writing task such as a dissertation. If your professional and household responsibilities prevent you from doing this every day, then spend one hour on a particular day but make up the lost time on a subsequent day.

If you struggle to make progress with the dissertation, or with a specific chapter, it might be because you cannot focus sufficiently on the dissertation. Then try to get some vacation or study leave and focus only on the dissertation for a specific period of time.

Most successful authors will admit to rewriting manuscripts numerous times. Do not get disheartened by repeatedly rewriting your manuscript, as each version will be an improvement on the previous ones. **Never ignore the supervisor’s comments or suggestions for improving** your work. Students often delete sentences or even paragraphs simply because they are required to make some changes or to add to their discussions. Such suggestions are aimed at helping to develop sound arguments and add depth to your discussions. Students who simply delete the text which require revision often find that they regress instead of progress with their dissertation.

7.3 CONTENT OF DISSERTATION / THESIS
In order to familiarise yourself with the layout of the dissertation, please consult the many dissertations available in the library.

Remember that dissertations are printed only on the one side of a leaf of paper. The numbering of pages should be done as indicated below:
<table>
<thead>
<tr>
<th>Page contents</th>
<th>Count</th>
<th>Type of numbering</th>
<th>Number indicated</th>
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<tbody>
<tr>
<td>Title page</td>
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<td>Dedication</td>
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<td>Roman (ii)</td>
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<td>Declaration</td>
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<td>Roman (iii)</td>
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<td>Acknowledgements</td>
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<td>Roman (iv)</td>
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<td>Abstract</td>
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<td>Table of contents</td>
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<tr>
<td>Appendices/Annexures</td>
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<td>Appendices are not re-numbered for insertion in the dissertation. These keep their original number. For instance a two page letter asking for permission to conduct the research at a specific institution will retain the original page numbering no matter how many different documents are contained in the appendices.</td>
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</table>
7.3.1 TITLE PAGE

(COMPLETED RESEARCH)

SELECTED HEAVY METALS CONCENTRATIONS ON SELECTED SAMPLES OF NABOOM SPRUIT, TOBIAS SPRUIT AND THE NYL FLOODPLAIN, SOUTH AFRICA

by

RAMPHELE CHARLES PHIWE
(Students Number)

RESEARCH / MINI-DISSERTATION / DISSERTATION / THESIS

Submitted in fulfilment of the requirements for the degree of

MASTER OF EDUCATION

in

CURRICULUM STUDIES

in the

FACULTY OF HUMANITIES

(School of Education)

at the

UNIVERSITY OF LIMPOPO

SUPERVISOR: Prof. MK Hlophe

CO-SUPERVISOR: Prof. B Curion

2013
Please note that the format of the title page of the dissertation may change from time to time depending on changes occurring within the University structure. In this regard please consult your supervisor who will have the latest Senate approved version.

7.3.2 DEDICATION

If you wish, the title page may be followed by a page on which you may indicate to whom the dissertation is dedicated. This needs to be a very straightforward and unpretentious. The format that a dedication takes may be something such as: “To …..” or “In memory of …”

7.3.3 DECLARATION

Following the title page, usually, is the “declaration”. Please read this declaration NOW. This declaration is directly related to the ethics underlying referencing and listing; plagiarism for that matter. Should any part, no matter how minute, of your dissertation at any moment in time be found to contradict this declaration:

- you will not be allowed to submit the dissertation
- examiners will turn the dissertation down
- the qualification conferred upon you may be retracted.

Signing this declaration is a weighty decision and the final indication of your commitment to, and your pledge to technical integrity.
DECLARATION

I declare that INTEGRATED PRIMARY HEALTH CARE: THE ROLE OF THE REGISTERED NURSE (title of your dissertation) is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

.......................... ..........................
Full names             Date

7.3.4 ACKNOWLEDGEMENTS
The declaration is followed by the “acknowledgements” section. In this section you have the opportunity to acknowledge and thank those persons and institutions you deem worth of acknowledging or whom you consider having contributed towards the successful completion of the dissertation. The sequence of persons and institutions acknowledged is totally up to you.
Acknowledgements

I want to thank the following persons for their respective contributions to this dissertation:

- My husband, ........, for his unconditional love, support and encouragement.
- My two children, ..........., for their support and understanding.
- A special thank you to my supervisor, ..........., for her guidance, support and encouragement.
- My joint supervisor, ..................., for her support and guidance.
- My colleagues in ............... for their willingness to participate in this study.
- Nurse managers in the ............... sub-district, the Mopani district and the Limpopo Provincial Office, for taking time off their busy schedules to participate in the study.
- The Limpopo Province: Department of Health, for giving me permission to conduct the study.
- Mr ............. for editing the manuscript.

7.3.5 ABSTRACT

The abstract to your dissertation is one of the most taxing exercises during the writing of a dissertation. An overview of all the main events contained in the dissertation must be highlighted in the abstract. This will be written and rewritten several times, every time condensing what you have to convey. Note that the abstract also includes a list of keywords pertaining to your dissertation.

The abstract for a masters dissertation MUST NOT exceed 150 words and for a doctoral thesis it MUST NOT exceed 350 words. The extremely strict rules in this regard are necessitated by the fact that the abstract of your dissertation will be taken up in an international research database. You can do an automatic “word count” on MSWORD. To do this, click on:

- tools
- word count
Example

ABSTRACT

The purpose of this study was to describe and compare the perceptions of the registered nurses and the nurse managers regarding the role of the registered nurse in integrated primary health care. Quantitative, descriptive research was conducted to determine if there were any discrepancies between role perceptions and role expectations. Data collection was done using structured questionnaires. Two groups of respondents participated in the study. The registered nurse group (n=40) provided direct clinical care in integrated primary health care settings. The second group was composed of nurse managers (n=20) managing integrated primary health care services. The study has highlighted the areas of potential effective role performance and areas of potential role conflict in integrated primary health care. The findings revealed that there are some areas where there is lack of congruence between the perceptions of registered nurses and nurse managers regarding the functions that registered nurses perform. These differences may result in confusion and role conflict among registered nurses, which can ultimately impede the attainment of integrated primary health care goals. However, many areas of congruence, which support effective service delivery, were identified.

KEY CONCEPTS

Comprehensive primary health care; Holistic care; Function; Integrated primary health care; Nurse manager; Perception; Primary health care; Registered nurse; Role.

The abstract page is followed by the table of contents, list of tables and list of figures. The table of contents must precisely reflect the contents of the dissertation. The paragraph numbering, subheading contents, letter type, case and the like must all be exactly the same in both the table of content and the text.
7.4 CHAPTER OUTLINE

7.4.1 CHAPTER ONE (INTRODUCTION & BACKGROUND / ORIENTATION TO THE STUDY)

As is the case with most all introductions to reports, chapter 1 of your dissertation will be revised and refined until the whole dissertation is completed. Remember chapter one gives both an overview and serves as an introduction to the study. Aspects such as the background to the study will only appear in the introduction. The rest of its contents will reappear in more detail later in the text.

1. INTRODUCTION
   Recent research
   Key concepts

2. RESEARCH PROBLEM
   Source and background of the problem
   Statement of the research problem

3. LITERATURE REVIEW

4. PURPOSE OF THE STUDY
   Research aim, objectives and/or hypothesis

5. RESEARCH QUESTIONS (optional)

6. RESEARCH METHODOLOGY
   6.1 Research Design
   6.2 Sampling
   6.3 Data collection
   6.4 Data analysis
   6.5 Reliability, Validity and Objectivity
   6.6 Bias

7. ETHICAL CONSIDERATIONS

8. SIGNIFICANCE OF PROPOSED RESEARCH

9. CONCLUSION
7.4.2 CHAPTER TWO (LITERATURE REVIEW)

Refer to section 8

7.4.3 CHAPTER THREE (RESEARCH METHODOLOGY)

It is the researcher’s ethical duty to report accurately about the research methodology and design followed, any problems encountered, and possible confounding variables which intervened during the study. The research methodology and design adopted should be justified based on the literature review. The construction of the research instruments (questionnaire, interview schedule, checklist etc.) should be justified. Statisticians’ inputs should be specified. The pretesting of the instruments, in order to establish their validity and reliability, must be discussed.

<table>
<thead>
<tr>
<th>3.1</th>
<th>INTRODUCTION</th>
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<td>3.2</td>
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<td>3.3.2.1</td>
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<td>INTERNAL AND EXTERNAL VALIDITY OF THE STUDY</td>
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</table>
It is essential to specify the research population and sample, and the sampling procedure adopted. Give reasons for using a particular sampling procedure. It is essential to read extensively on how sample size is determined especially in your discipline and in particular for the study you want to carry out.

**7.4.4 CHAPTER FOUR (DISCUSSION / PRESENTATION / INTERPRETATION OF FINDINGS)**

The exact procedures for analysing the data, and the computer programs used, must be specified. The research findings must be related to similar and/or different findings reported in the literature review.

It is essential that the discussion of the research findings should not only relate to the literature review, but should also indicate correlations or contrasts in findings obtained in response to different questions.

Any unexpected findings should be recorded as such, and possible explanations should be provided, if possible.

<table>
<thead>
<tr>
<th>4.1</th>
<th>INTRODUCTION</th>
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<tbody>
<tr>
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<td>OVERVIEW OF RESEARCH FINDINGS</td>
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<td>4.5</td>
<td>CONCLUSION</td>
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**7.4.5 CHAPTER FIVE (SUMMARY, RECOMMENDATIONS, CONCLUSION)**

It is customary to report the conclusions of the research in relation to the research questions asked, and specifically the problem statement. Thereafter indicate the limitations of the research, limiting the generalizability of the research findings. This applies to quantitative research. Usually the research is only conducted in one province of
your country and the findings can thus not necessarily be generalizable to the entire country. The recommendations should then include that future studies should be conducted in different provinces, that problems encountered could be overcome in specific ways, or that the research populations for future research be defined differently.

| 5.1 | INTRODUCTION |
| 5.2 | RESEARCH DESIGN AND METHOD |
| 5.3 | SUMMARY AND INTERPRETATION OF THE RESEARCH FINDINGS |
| 5.4 | CONCLUSIONS |
| 5.5 | RECOMMENDATIONS |
| 5.6 | CONTRIBUTIONS OF THE STUDY |
| 5.7 | LIMITATIONS OF THE STUDY |
| 5.8 | CONCLUDING REMARKS |

7.5 **LIST OF REFERENCES**

Refer to section 5

7.6 **ANNEXURES**

**Example**

<table>
<thead>
<tr>
<th>ANNEXURES</th>
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<tbody>
<tr>
<td>Annexure A</td>
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<tr>
<td>Approval from the university</td>
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<td>Annexure B</td>
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<tr>
<td>Letter seeking consent from the Department of Education: Limpopo Province</td>
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<td>Annexure C</td>
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<tr>
<td>Letter of approval: Department of Education: Limpopo Province</td>
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<td>Annexure D</td>
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<tr>
<td>Assessment of data collection instrument</td>
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<td>Annexure E</td>
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<tr>
<td>Questionnaire (for qualified teachers)</td>
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</table>
7.7 TECHNICAL EDITING / LANGUAGE EDITING
All technical requirements are stipulated in this manual; please adhere to the requirements strictly.

Language editing must be done on the final document before submitting for assessment. Your supervisor should be able to recommend a suitable language editor or assist you in this regard. A database of language editors may be obtained from the Research Office of the University.

7.8 SUBMISSION FOR ASSESSMENT
The University policy states that the final submission dates of examination copies of a dissertation/thesis are 30 October for the following April/May graduation ceremonies and 31 May for the spring graduation ceremonies. All students must strictly adhere to these dates. After submission, the postgraduate office will communicate with your supervisor and you as the assessment process takes place.

If the due date of 30 October is not met, you will need to re-register for the following academic year.
SECTION 8
LITERATURE REVIEW

8.1 INTRODUCTION
A literature review is required to enable you to write a good research proposal, dissertation or thesis. A preliminary literature review will enable you to develop a feasible research problem and research methodology, and write the research proposal. Once your research proposal has been accepted and incorporated into chapter one of your dissertation or thesis, your supervisor will request that you conduct an in-depth literature review on the research topic and write a literature review chapter. In addition you will be required to update and extend the literature review once you have analysed the collected data. This will enable you to link the research findings with existing knowledge.

8.2 COLLECTING RELEVANT LITERATURE
You will be required to consult sources on your research topic and the research methodologies.

It is highly recommended that you should visit a library and study the contents of some journals deemed relevant to your research topic. Start with the latest copies and go backwards. Make copies of articles relevant to your research topic and study these prior to embarking on writing your research proposal, dissertation or thesis. Also obtain the latest available editions of research publications. These publications will assist you in developing the methodology for your research.

Students often ask questions about the number of references required. This depends on the topic and the amount of literature available but as a rough guide the following could serve as indications:

- Research proposal: at least 10 references about the topic of research and 5 references about research methodology.
- Dissertation: At least 50 references about the research topic AND at least 10 references about research in general.
- Thesis: At least 100 references about the research topic AND at least 10 references about research in general.

8.3 TYPES OF SOURCES
It is difficult to provide a generic list of sources pertaining to a particular research topic because each student’s topic is unique. Your supervisor (together with yourself) can request the subject librarian to compile a bibliography on your research topic. You need to provide the subject librarian with the key terms pertaining to your research.

The following sources are useful research publications. They will enable you to write your research proposal, dissertation/theses. The list does not claim to be complete. Students are welcome to consult any additional sources.

8.3.1 BOOKS


8.3.2 JOURNALS

Regular and careful consultation of journals is essential for postgraduate students. Take particular note of the latest trends and events concerning professional and ethical issues in your field of study. Most journals are available online and are easy to access. In addition, the University subscribes to many of these journals (consult subject librarian). Become familiar with the local and international journals in your field; your supervisor will also be able to assist you in this regard.

If you discover an article which appears to be uniquely suitable to your envisaged research, it is definitely worthwhile to obtain as many of this article’s references as possible.

8.3.3 WEBSITES

Researchers are encouraged to visit Web sites but do NOT expect to find ready-made complete data bases. Provide the correct references to Web sites - as indicated in the reference section of this manual. Always include the date when data was retrieved from any Web site - because they are updated regularly and data may differ according to retrieval dates.

Useful Web sites which provide links to other Internet sites are:

- http://www.mrc.ac.za (SA Medical Research Council)
- http://www.sangonet.org.za (NGO’s in South Africa)
- http://www.sangoco.org.za (NGO Coalition of SA)
- http://www.hsrc.ac.za (Human Sciences Research Council)
- http://www.sanbi.ac.za (SA Bioinformatics Institute)
- http://www.healthlink.org.za (Health Systems Trust)
- http://www.sahealthinfo.org/ (Health information)
- http://www.who.int/en/ (WHO)

8.4 RELEVANCE OF LITERATURE

Assessing web sites and web based information

As is the case with all sources consulted for a scientific paper, Internet sites also need to be evaluated for their scientific and academic standing and standard. In this regard you need to acquaint yourself with various aspects:

Authority

Consider questions relating to:

- clarity as to who wrote the material
- indications of the author's authority to write on a specific topic
- the credibility of the person or institution responsible for the contents of the page
- whether a link to a page describing the purpose of the sponsoring organisation is available
- whether the legitimacy of the page's sponsor(s) can be verified
- the availability of phone numbers or postal addresses to contact should you require more information. Simply an email address is not sufficient.
- the status as to being peer reviewed
- copyright and the name of the copyright holder.

Accuracy

With regard to the accuracy of information on web pages, question the following aspects:

- whether sources for factual information are clearly listed so that they can be verified.
- the standard of grammar, spelling, and typographic issues. Be on the alert as these types of errors can produce inaccurate information.
- the person with whom the ultimate responsibility for the accuracy of the content of the material resides.
• the labelling and readability of charts and graphs containing statistical data.

**Objectivity**

With regard to objectivity, establish whether the:

• information is provided as a public service. Such information might not be exactly scientific.

• the web page is free of advertising. Information might be presented in a way that promotes a certain product or service. One should be alerted by advertisements appearing with information on a web page. Again, this might not be scientific information at all.

**Currency**

As a general rule regarding sources of information, one needs to establish the currency of the information with regard to:

• the dates indicating when the page:
  o was written
  o was first placed on the Web
  o was last revised

• other indications that the material is kept current

• the date when data being reported on were gathered

• the different editions of the web page and what is the number of the present edition.

**Coverage**

With regard to coverage, one should ascertain:

• that the page has been completed; that it is not under construction

• whether a printed equivalent to the web page is available and if so, whether the entire document is available on the web or only sections of it.
8.5  CONSTRUCTING THE LITERATURE REVIEW

8.5.1  INTRODUCTION

The purpose of research is to contribute to the existing body of knowledge and to improve the life world of people. The existing body of knowledge figures in a number of ways including the:

- theoretical (theories, concepts, models, frameworks, etc.)
- empirical (research reports, statistics, published reports, etc.)
- legal (laws, policies, guidelines, legislation, recommendations, conventions, regulations, etc.)
- media (newspapers, pamphlets, public statements, etc.).

A research project’s contribution toward the existing body of knowledge may be in the form of:

- validating existing knowledge
- rejecting existing knowledge
- filling in gaps existing in the current knowledge base
- generating new knowledge to be added to the existing body of knowledge.

It is essential for researchers to be cognisant of the scope of coverage and extent to which a topic chosen for research is covered in the existing body of knowledge. An effective way of establishing the scope and extent of existing knowledge is through conducting an in-depth literature review. The literature review is equally appropriate to identify any gaps in the existing pool of knowledge on a specific topic.

The status of master’s and even doctoral students at the onset of their studies, and what is actually expected of them, is depicted by figure 1.
For the most part, the initial proposals students submit reflect “unsubstantiated certainty.” This is mainly reflected by the few, and sometimes total, absence of references to substantiate what is said. From a scientific point of view, “certainty” without substantiation or evidence is not valid. Though such certainty may be based on experience and is essential for a “problem based orientation towards research, on its own, it does not meet with the research criteria of validity, generalizability and probability. What students need to do is to cultivate a feeling of unease and uncertainty with regard to the research topic; an uncertainty and unease that cultivates inquisitiveness and motivation to know more. This position is often prompted by the critique supervisors and promoters offer as feedback on the initial unsubstantiated research proposal. Once a position of unease and uncertainty is reached, one can move towards reflection via a literature review. Such reflection leads to the identification of knowledge gaps, whether pertaining to one’s own level of knowledge or to the research topic. Knowledge gaps are then addressed by a search for evidence in both the literature review and the actual research which finally cancels out the initial unsubstantiated position with evidence based certainty or scholarly confidence.

By the time that you start with empirical research in your academic career, it is assumed that you have successfully completed an advanced module in research methodology. The “unsubstantiated certainty” is thus not easily tolerated. For this reason too, this manual is not intended to explain the process of conducting a literature review, but to clarify some of the questions students have, and to illuminate some of the difficulties they encounter in conducting a literature review; in weaning themselves from unsubstantiated certainty.
8.5.2 STARTING THE LITERATURE REVIEW

It is strongly suggested that an extensive review of theoretical and empirical literature related to the topic be undertaken before writing the research proposal. An in-depth literature review enables the researcher to develop and refine a research problem relating to the chosen research topic; to select a suitable theoretical framework and research design for the study; and to develop an appropriate research method. It is therefore essential to consult sources relevant to both the research topic and the implied research methods.

The literature review could assist you in:

- building the necessary colloquial and scientific (academic) vocabulary
- improving on your grammar and tenses
- acquainting you with aspects of scientific writing

Generally, the literature review will also:

- sensitise you to the phenomenon being researched, which in turn assists one in designing data gathering instruments and in analysing data
- stimulate your thinking
- provide you with a wealth of ideas and perspectives
- put your proposed study into the context of what is already known about the topic, avoiding unnecessary repetition of research
- assist you in refining your topic
- assist you in selecting an appropriate research design
- assist you in developing an appropriate research method.

8.5.3 THEORETICAL / CONCEPTUAL FRAMEWORK

The literature review should cover the main concepts related to your research topic, specifically the research variables. The issue at this point is about the concepts that are related to the research topic and not so much about their relevance. Related concepts can be identified by:


- identifying key concepts from the research topic
- expanding these by utilising the basic principles of concept analysis namely:
  - Use thesauruses to find synonyms of the identified key concepts.
  - Scrutinise existing formal theory that describes the identified concepts and note the relative specific definitions of these concepts.
  - Look up alternative academic discipline specific definitions for these concepts (such as in psychology, sociology, philosophy, medicine, anthropology and the like).
  - Delve into the concept/word’s etymology (origin of words).
  - Based on your clinical experience, envisage how these concepts might be presented in the literature.
  - Select sources and information related to the concepts and aspects of your topic.
  - From the initial sources read and identify the names of authors decidedly associated with the topic and concepts as experts.

Access these sources and use the principles of “snowballing” with regard to both concepts and authors (experts) to extend the literature review.

8.5.4 RELATING LITERATURE TO TOPIC

A literature review in preparation of master’s or doctoral studies focuses on two major themes, each of which (depending on the type of research planned) could result in a specific literature review. These focus points are:

- the research topic and associated concepts
- aspects related to the principles and methods of research, including the methodologies (research designs and methods) used in previous research

It should be clear that though the research topic appears to take precedence over methodology because the literature review is primarily planned around and guided by the research topic, in master’s and doctoral studies, methodology is equally important; a
whole chapter is after all devoted to methodology (research design and methods) and the philosophical underpinnings of the research.

It is strongly suggested that when you start off with the literature review, to open a document into which you enter all issues relating to the research designs and methods which other researchers have used in investigating different aspects of the topic and phenomenon relevant to your study. This will greatly assist you in deciding on the paradigm, design and methods to use in your research. In the case of quantitative research it will most certainly assist you in coming to grips with some of the statistical calculations to be conducted.

To happily marry the two major themes of your literature review pertaining to the research topic, theoretical literature (publications related to your research topic) should be supported by empirical literature (research studies, statistics or published reports related to your research topic). To reiterate, you must consult both theoretical and empirical literature and cover all the key concepts and aspects of your proposed study. Consult the latest sources that are available. Journal articles on the topic that you study are important sources in obtaining the latest information and trends.

Two final issues on the two major themes to be covered by the literature review:

- Always contextualise the results of empirical studies related to the topic of your research; always indicate in which country or area the findings were obtained.
- Always give a balanced view; give both supporting and contradicting evidence and argue about these.

### 8.5.5 RECENT LITERATURE

The question about the currency of literature to be review is perhaps one of the most pressing and most diverse. Literature on research methods and designs should definitely not be older than five years. General consensus is that the most current edition of such sources should be consulted and referred to. However, this is debatable. In the realm of qualitative research, and especially with regard to methodology and studies at the doctoral level, students are often advised to return to “classic” sources. It is possible that
certain “classics” exist in the field in which you are going to conduct research. Note, however, that not just any “old” source is a “classic.” “Classic” is a special status among sources earned by virtue of the source’s authority on a specific topic. True “classics” in any field of research are relatively scarce.

In addition to the above, the research turnover in a specific field also influences the “currency” of sources. In the fields of medicine and technology, new knowledge is generated and technologies are developed constantly which render sources older than three years out-dated. In some instances the supervisor may request that the sources consulted must be less than one year old. Again some caution is in order; not all aspects of a given phenomenon enjoy equal interest from researchers which leaves certain areas relatively “current” though older.

Nonetheless, you should include current, preferably the most recent, sources in your dissertation, thesis or article. The general impression left by a list of reference not containing current sources is the:

- contents and sources of a study are copied from an existing study. In this regard you are referred to the section on plagiarism.
- general disinterest and laziness on the part of the researcher.

Currency of literature is also influenced by the context of the research in terms of time and geographical area. Naturally a more retrospective and even historically based project will demand chronologically older sources. On the other hand, certain phenomena might not have been researched in certain geographical areas in years; perhaps even not at all.

Overall, poor listing and referencing inevitably lead to poor feedback of which the ultimate objection could be that the study is turned down. Many good research studies have been turned down (failed) due to poor referencing and listing (of which dated sources are part) and questionable research ethics.
A literature review is not a once-off event. You have to continue reading and updating information and sources up to the point that the dissertation or thesis is finalised. It is usually easier in a quantitative study to end the literature review than it is in a qualitative study. The reason for this is that during the latter type of study, the literature review takes on a form of data gathering during the later stages of the research. This often leads to new findings and a further refinement of the reconstruction of the phenomenon under investigation, kindling a new interest in the researcher towards the research topic.

8.6 CONCLUSION

In this section you were provided with guidelines on how to conduct and report on a literature review. Please remember that the literature review should be regarded to be an integral part of a research proposal or dissertation/thesis. It is necessary to consult sources about your research topic and research methodology. A literature review is not a once-off event. It is a continuous process which enables a researcher to develop sound arguments and make substantiated statements based on the latest developments in your field of research.
SECTION 9
TURNING YOUR DISSERTATION / THESIS INTO PUBLICATION

9.1 INTRODUCTION
Publishing an article, based on your research, in an appropriate journal would enable you to share your research results with interested parties. Writing such an article is much more taxing and time consuming than one would anticipate it to be. Thus, this section provides some information about the writing of an article based on your dissertation/thesis.

9.2 PUBLISHING WITH YOUR SUPERVISOR
Postgraduate students are required to cede the copyright of their dissertations/theses to the University of Limpopo. This implies that the University of Limpopo’s name should appear next to the authors’ names AND that the supervisor(s) should be co-author(s). The first, second and third authors of each article need to be negotiated by the supervisors and the student concerned.

9.3 CHOOSING THE RIGHT JOURNAL
You may recommend to which specific journal you wish the article to be submitted to. A good way of making this decision is to check which journals’ articles appear recurrently in the bibliography of the dissertation. The decision as to any specific journal is to be negotiated between the student and the supervisor. Remember that you would need to follow the guidelines for submission to the journal in the preparation of your article.

9.4 WRITING AN ARTICLE

9.4.1 ABSTRACT
The abstract summarizes the article (research). It is similar to the abstract you included in your dissertation. Journals usually ask you to limit your abstract to a specified number of words. A well written abstract gives any reviewer a clear idea about the nature of your
research and the findings that were made. It is advisable to prepare the abstract before you write the article (after the research is completed) and then fine tune it according to the unfolding of the article.

9.4.2 INTRODUCTION
The introduction should tell the readers what to expect from the article, what it is about and why it is important to read this article. The title is usually clarified in this section. The introduction should not exceed one typed page.

9.4.3 LITERATURE REVIEW
Following the introduction an overview is given about the research problem, research purpose and the specific research questions/objectives and hypotheses (if appropriate) which guided the study. The literature review, which you conducted while writing the dissertation must be updated and used to sketch the research problem and background to the problem. The gaps in the current knowledge base should be identified. You should indicate how you addressed the gap with your study and convince the reader of the significance of your research.

9.4.4 METHOD USED
Referring to quantitative research, the following aspects ought to be covered:

- research paradigm and design
- issues related to the population and sample selection (sampling approach and technique which you applied; sample size and characteristics)
- data collection (approach, method, instrument; data collection process)
  You ought to explain how the instrument was pre-tested and comment about its reliability and validity. Also provide the reliability coefficients obtained.
- data analysis (statistical tests performed)
- design validity (how you enhanced internal or external validity)
- ethical considerations (how you ensured the ethical integrity of your study)
At some point the definitions of the research variables should be provided, especially the operational definitions. This will enable the reader to establish how the variables were observed and measured.

Referring to qualitative research, the following aspects ought to be covered:

- research paradigm and design
- issues related to the population and sample selection (sampling approach, and technique which you applied; sample size and characteristics)
- data collection (approach, method, instrument; data collection process which you followed)
- data analysis procedure followed
- trustworthiness issues
- ethical considerations (how you ensured the ethical integrity of your study)

9.4.5 FINDINGS

In this section the research findings must be presented and interpreted. For quantitative research, it is necessary to present tables and graphs to enable the reader to view the findings at a glance. Conclude this section by indicating the research conclusion which you arrived at on the grounds of your research findings, considering your problem statement and specific research questions/objectives and hypothesis (if appropriate).

For qualitative research, it is necessary to present conceptual frameworks or models which enable the reader to grasp the structure of the findings. Conclude this section by indicating the research conclusion which you arrived at on the grounds of your research findings, considering your problem statement and specific research questions/objectives.

Usually the article also has a concluding paragraph where the following ought to be covered:

- practical implications of the research results
- recommendations for clinical practice, education and further research
- limitations of your study
brief summary of the contents of the article

9.5 EDITING AND SUBMISSIONS
Once you have submitted your article, be patient at this stage, because your supervisor will probably need to rewrite the article a few more times to get it into the format demanded of a specific journal. The supervisor will inform you when he/she has submitted your article to any specific journal, and if substantial changes were made to your article. You will be supplied with a hard copy of the revised article.

9.6 PUBLICATION PROCESS
Most journals take up to three months to acknowledge receipt of an article, and another 3-6 months to have the article reviewed by two or more referees. Thereafter the authors will receive a letter requesting improvements to be made and then the whole process repeats itself. It is not unusual for accredited research journals to take up to two years to publish any submitted article. So be patient - if your article is finally published, with the help of your supervisors, it will be worth the effort and waiting.
ANNEXURES
Code of Conduct for Research
Record of regular meetings with supervisor
Work Plan
Official scheduled meetings for the year
Record of courses/workshops/conferences …
Departmental seminars attended or presented at
Report at the end of the first year
Report by supervisor and co-supervisor on student progress
Work plan for final year
Proposal Process
Checklist – Proposal

UNIVERSITY OF LIMPOPO

RESEARCH DEVELOPMENT AND ADMINISTRATION

CODE OF CONDUCT FOR RESEARCH

(RDA-CCR1-2010/03)
POLICY PARTICULARS

Date of Approval by Senate Research and Publication Committee: 10/02/2010

Date of Approval by Senate (S2010/81-98): 12/03/2010

Date of Approval by Senate 26/03/2010

Revision History:

Revision Period: Every three years

Revision internally or externally: Internally

Level Applicable: All researchers (staff and students)

Responsibility

- Implementation and Monitoring: Executive Deans, DRDA, DVCs, Senate
- Review and Revision: Senate Research and Publication Committee
ACRONYMS AND GLOSSARY

**DRDA**, Division for Research Development and Administration.

**MRC**, Medical Research Council.

**MREC**, Medunsa Research Ethics Committee.

**SREC**, Senate Research Ethics Committee.

**TREC**, Turfloop Research Ethics Committee.

The term “Animal” in this code refers to all animals having power of sense perception or sensation (SANS10386:200X).

A **related body** is any person or body with which the researcher has an affiliation or a financial involvement.

An **indirect financial interest** is a financial interest or benefit derived by researcher’s relatives, personal or business associates, or research students.

A **financial involvement** includes a direct or indirect financial interest, provision of benefits (such as travel and accommodation) and provision of materials or facilities.

**Collaboration** includes partnerships and linkages among individuals or between institutions or organisations.
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1. Principles

1.1. Statement of Guiding Principles

This Code of Conduct for Research (‘The Code’) prescribes standards of responsible and ethical conduct expected of all those conducting research under the auspices of the University of Limpopo (‘The University’), irrespective of whether they are employees, students or visiting researchers and irrespective of the source of their funding or the field in which they conduct their research or the site where the research is conducted, based on the following guiding principles:

(a) Research is original investigation undertaken in order to gain knowledge and understanding and must be made available to peers and where possible converted into simplified form for wider public dissemination.

(b) Researchers should, in all aspects of their research –
   i. demonstrate integrity and professionalism;
   ii. observe fairness and equity;
   iii. demonstrate intellectual honesty;
   iv. effectively and transparently manage research funds, conflict of interests or potential conflict of interests;
   v. ensure the safety and wellbeing of those associated with the research;
   vi. ensure the wellbeing and avoid abuse of human subjects involved during and in the research;
   vii. ensure the wellbeing and avoid abuse of animals used in the research;
   viii. ensure that all occupational health and safety regulations are adhered to and
   ix. ensure that their research does not cause unnecessary harm to the physical, biological and spatial environment.
(c) Research methods and results should be open to scrutiny, debate and must be of acceptable ethical standards.

(d) SREC’s procedures must conform to the Code.

1.2. Observance of the Code

All researchers must familiarize and commit themselves to the Code and ensure that its provisions are observed. The researcher is ultimately responsible for applying for ethics approval for a specific project.

1.3. Breach of Code

Failure to comply with the provisions of the Code constitutes ground for corrective action.

2. Specific Requirements

2.1. Research involving humans

International and national research ethics codes, norms and guidelines, including South African legislation (Health Act No 61.2003), require that all health related research conducted on human subjects must be reviewed and approved (i.e. found acceptable according to both local and international norms for ethical research) by a local institutional board or committee, otherwise known as a Research Ethics Committee.

Research involving human participants or subjects must comply with the following principles:

- be relevant to the needs and interests of the community in which the research is conducted;

- have a valid and approved methodology (the proposal / protocol);

- ensure research participants or subjects are well informed of the purpose of the research and how the research results will be disseminated and have consented to participate, where applicable;
• ensure research participants’ or subjects’ rights to privacy and confidentiality are protected;
• ensure the fair selection of research participants or subjects;
• be preceded by a thorough risk benefit analysis and
• thorough care must be taken that research in communities is effectively coordinated.

2.1.1. Health related research

All health related research involving:

i. interaction with human participants;

ii. the use of potentially identifiable personal records, information or tissue specimens, and/or

iii. human progenitor or stem cells

requires the approval of MREC/TREC before the research commences.

2.1.2. Non-health related research

International and national guidelines for ethics approval of non-health related research e.g. social science research involving human participants are less prescriptive, however, all non-health related research involving human subjects or the capturing and use of any personal information should comply with the regulations and procedures prescribed by SREC.

2.2. Research involving animals

(a) The use of animals in research and teaching can only be justified if the benefits to both humans and animals outweigh the potential harm to the animal subject.
(b) “Justification for causing psychological or physical distress, illness or pain to animals should not be based on any explicit or implicit assumption that non-human animals experience these conditions in qualitatively different ways to humans.” (MRC Guidelines).

(c) All animal research conducted under the auspices of the University should uphold the “Three R” principles for humane animal research, namely:

i. **Replacement** of so-called “sentient” animals wherever possible, with “non-sentient” research models or systems in order to eliminate the use of animals that can experience unpleasant sensations.

ii. **Reduction** of the numbers of animals in experiments by design strategies that facilitate use of the smallest number that will allow valid information to be obtained from the study.

iii. **Refinement** of animal sourcing, animal care practices and experimental procedures to eliminate physical and psychological distress within limitation imposed by the objectives of the research.

(d) All research and teaching programmes involving animals must be approved by SREC **before teaching or research commences**, so that a formal evaluation of the potential harm/benefit analysis can be undertaken.

(e) SREC is also responsible for overseeing and monitoring the care and use of all laboratory and other animals kept for teaching and research purposes at, or under the auspices of the University.

### 2.3. Research involving the Environment, Genetically Modified Organisms (GMO) and Pathogenic Organisms

(a) Care should be taken to ensure that all research is carried out with the necessary respect for the impact that it could have on the physical, biological and spatial environment.

(b) All researchers undertaking research with hazardous materials which could potentially cause harm to humans, animals or the environment must familiarise themselves with appropriate safety, containment and disposal
procedures of the University.

(c) All research involving genetically modified organisms or research that poses a risk to the natural environment or the researcher and supporting staff, must be submitted to SREC for review and approval. This includes the following:

i. research involving organisms that are pathogenic to humans and/or animals of Risk Group 2 or Bio-safety Level 2 and above;

ii. research involving radioactive materials and

iii. research which may potentially cause harm to the natural environment.

(d) Bio-hazardous research involving humans or animals will be reviewed and approved by SREC.

2.4. Financial Aspects and Conflict of Interest

2.4.1. Financial aspects

All research endeavours cost money and require sound financial management.

(a) All researchers who have acquired research funds, irrespective of the source from which these funds were obtained, shall uphold the highest standards of financial integrity and transparency when dealing with all financial, budgetary and contractual aspects of research.

(b) All research funds, irrespective of the source from which these were obtained, are administered by DRDA (Research Policy S2008/319-325). All researchers must ensure that such funds are declared and recorded in DRDA.

(c) For accountability, all claims and expenditure resulting from research funds, irrespective of the source from which these were obtained, must be recommended by the Executive Dean and approved by the Director of Research.

(d) Funds from contract research will be subjected to the University’s Contract Research Policy.
(e) All research funds are subjected to internal and external auditing by the University and may also be subjected to auditing by an external funding agency or donor.

(NB: DRDA has expertise and procedures in place to assist researchers with the contractual and financial aspects of research.)

2.4.2. **Conflict of Interest**

2.4.2.1 (a) A researcher has a conflict of interest in any circumstances where he/she has a real, perceived or potential opportunity to prefer their own interests, or those of any other person or organization, to the interests of the University. Examples of conflicts of interest in research include, but are not limited to, situations where the:

i. research is sponsored by a related body;

ii. researcher or a related body may benefit, directly or indirectly, from any inappropriate dissemination of research results (including any delay in or restriction upon publication of such results);

iii. researcher or related body may benefit, directly or indirectly, from the use of University resources;

iv. researcher conducts a clinical trial which is sponsored by any person or organization with a significant interest in the results of the trial;

v. private benefits or significant personal or professional advantage are dependent on research outcomes.

(It is important to recognize that real or perceived opportunities to give preference to personal interests arise from competing obligations and can be other than financial.)
2.4.2.2. (a) The responsibility for managing a conflict of interest rests, in the first instance, with the researcher.

(b) A researcher must make a full disclosure of a conflict of interest or of circumstances that might give rise to perceived or potential conflict of interest as soon as reasonably practicable to their immediate line-manager before undertaking the research.

(c) For the conduct of clinical trials, full disclosure must include the nature of the sponsorship and the relationships between the sponsor, trial subjects and the clinical investigator.

(d) **Disclosure shall be handled as follows** –

i. the officer in receipt of the disclosure must discuss the matter with the staff member concerned to determine procedure for the management or elimination of the conflict of interest. The procedure must be documented, the researcher advised in writing and a copy of the agreement held in the department’s records and a copy filed in the DRDA Office;

ii. a researcher must comply with the directive of the line-manager and

iii. unless involved directly, it is the responsibility of the immediate line-manager to ensure there is no conflict of interest in the research, which involves their staff members.

2.5. **Research Data and Records**

A researcher must comply with the University’s ‘Policy on the Management of Research Data and Records’ and related policies which may be promulgated from time to time.
2.6. Research Collaboration, Authorship and Publications

2.6.1. Research collaboration

(a) The University supports and encourages research collaboration. Researchers have a responsibility to ensure that a clear understanding of respective roles and responsibilities are developed at the beginning of the research collaboration and a duty to adequately fulfil their respective research obligations. Research collaborators should establish as early as possible, how authorship and the allocation of Intellectual Property are to be divided between them. All aspects of the collaboration between parties should be documented and filed in the department and copies in the DRDA.

(b) Agreements which legally bind the University in any form, including financially, the use of other resources and holds the Institution liable in the event of a dispute must be submitted to the DRDA for the signature by the Vice-Chancellor and Principal.

(c) Where disputes between co-researchers arise, these should be resolved amicably and in a respectful and collegial manner. Where a dispute cannot be resolved by the parties themselves, the parties should seek the intervention of the line-managers. The University has a duty to investigate disputes between research collaborators and to help facilitate the resolution of these.

2.6.2. Authorship

(a) For a person to be recorded as an author of a publication requires that he or she is directly involved in the research and in the creation of the publication and in the latter regard, by:

i. conceiving it, analysing and interpreting the data on which it is based; and

ii. writing or revising the intellectual content.

(b) The right to authorship is not tied to position or profession. Anonymous or honorary authorship is unacceptable. Authorship should honestly reflect the
contribution to the work being published. Participation solely in the acquisition of funding is not sufficient for a person to be attributed as an author of a publication.

(c) Any part of an article critical to its main conclusion must be the responsibility of at least one author.

(d) An author’s role in a research output must be sufficient for that person to take public responsibility for at least that part of the output in that person’s area of expertise.

(e) No person who is an author, consistent with this definition, may be excluded as an author without their permission in writing.

(f) When there is more than one author of a research output, one co-author (by agreement amongst the authors) should be nominated as the main author (the person who carried out the study and did most of the work) for the purposes of administration and correspondence, and the authors should reach agreement on the order in which authors shall be listed.

(g) It is the accepted norm that where the research was conducted by a student as part of his/her study, the student’s name shall appear as the first author and his/her supervisor’s name shall be the last (if there are several authors).

(h) Other persons who contributed to the work who are not authors should be named under ‘Acknowledgements’ (where the publisher provides for this, and in a manner consistent with the norms of the research field or discipline). An author must ensure that the work of research assistants and technical staff is recognized in a publication derived from the research to which they have made a contribution.

(i) A researcher must comply with authorship criteria appropriate to their discipline, and / or according to the requirements of the publication their work is to be published in.
2.6.3. Publications

1. Publication of a full or mini dissertation or thesis is regulated by the University’s General Rules, G43 and G61.

2. Publication of more than one paper based on the same set(s) or subset(s) of data is not acceptable, except where each subsequent paper fully cross-references and acknowledges the earlier paper or papers as the case may be. It may constitute fraud where the same data published in one paper is again used and published under a different title in another paper.

3. An author who submits substantially similar work to more than one publisher must disclose this to the publishers at the time of submission.

4. A publication must include information on the sources of financial support for the research and must include a disclosure of any potential conflicts of interest. Financial sponsorship that carries an embargo on such naming of a sponsor should be avoided.

5. The author(s) is responsible for ensuring that a publication involving human subjects does not violate any ethical codes, if uncertain the draft manuscript must first be approved by SREC before submitted for publication.

6. Confidentiality provisions to protect intellectual property rights may be agreed on between the University, the researcher and a sponsor of the research. Where such agreements limit free publication and discussion, limitations and restrictions must be explicitly stated and honoured.

2.7. Supervision of Students Undertaking Research

Supervision of research students must be carried out as set out in the ‘Code of Practice on the Admission, Supervision and Examination of Research Students, Appeals Procedures for Research Degrees’ and other related policies, procedures and rules of the University.
3. Additional Requirements

(a) Any special standards of work performance and ethical conduct imposed by law or by the University in relation to particular categories of research are deemed to be included in this Code. These include where research procedures are of a kind requiring approval by SREC or by an occupational health and safety or other validly constituted regulatory bodies. Research shall not proceed without such prior approvals. It is the responsibility of the researcher, once approval is granted, to adhere to all regulatory prescriptions.

(b) Researchers should endeavour to safeguard the interests of all parties in relation to intellectual property in accordance with the Intellectual Property Policy of the University and other guidelines as may be promulgated from time to time.

(c) A researcher should be provided with access to materials and all applicable policies, procedures, codes and rules by the relevant officers.

(d) All researchers (and the supervisor on behalf of the students under his/her supervision) must make a declaration as part of their annual reporting requirements that they have complied with the provisions of this Code and relevant requirements in the ‘Code of Practice on the Admission, Supervision and Examination of Research Students - Appeals Procedures for Research Degrees’.

4. Research Misconduct

(a) A researcher is expected to maintain the highest standards of honesty and integrity. A researcher must at all times function within existing research paradigms and ethically acceptable methodological frameworks. Research misconduct is constituted by a failure to comply with the principles or specific provisions of this Code and related research policies, guidelines and includes but is not limited to conduct in, or in connection with, research that is (i) dishonest, reckless or negligent and (ii) seriously deviates from accepted standards within the academic and scholarly community for proposing, conducting or reporting research, including but not limited to the following, will be regarded as serious offences:

i. plagiarism; the use of other person’s ideas, processes, results or words
without giving appropriate credit. Upon the demonstration that a researcher has represented another person's work as their own, it shall be presumed that the researcher did so knowingly; the researcher shall bear the burden of rebutting the presumption with evidence satisfying the person or body hearing the case that no such knowledge existed.

ii. **Fabrication**; making up data and results and recording or reporting these as obtained through a research process;

iii. **Falsification**; manipulating research materials, equipment or processes or changing or omitting results, such that the research is not accurately represented in the research record;

iv. **Misleading ascription of authorship to a publication** including the listing of authors without their permission, attributing work to people who have not in fact contributed to the publication, the lack of appropriate acknowledgement of work primarily produced by a research student/trainee or associate;

v. **Failure to disclose conflicts of interest** or cases where a conflict of interest might reasonably be perceived to exist;

vi. **Failure to seek approval for contract research**;

vii. **Failure to inform and lodge a copy of the proposal with DRDA** of any research proposal which was submitted to any external funding agency and funds derived from such research;

viii. **Failure to comply with the University’s Intellectual Property Policy**;

ix. **Failure to follow internal proposal or protocol approval processes**;

x. **Violation of ethical norms and regulations** for research involving human or animals subjects;

xi. **Violation of health and safety norms, practices and regulations** for research involving environmental hazards; and

xii. **Misuse or fraudulent use of research funds**.
(b) The University undertakes to thoroughly investigate all allegations of research misconduct and act appropriately according to the outcomes of such investigations.

i. Complaints regarding the conduct of any researcher should preferably be made in writing and referred to the Executive Dean.

ii. Standard University disciplinary procedures (Personal Policy and Procedures Manual for staff and the Student Code of Conduct – Student Disciplinary Procedures for students) will be followed.

REFERENCES


Guidelines on Ethics for Medical Research: Use of Animals in Research and Training, 2004, Book 3, South African MRC.

Guidelines on Ethics for Medical Research: Use Of Biohazards and Radiation, 2002, South African MRC.


South African National Standard: The Care and Use of Experimental Animals Standards SA. SANS 10386:200X.


University of Limpopo. Interim Guidelines for Contract Work.

University of Limpopo. Personal Policy and Procedures.


RECORD OF REGULAR MEETINGS WITH SUPERVISOR
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Discussion Summary

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Work Plan
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OFFICIAL SCHEDULED MEETINGS FOR THE YEAR
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RECORD OF COURSES/WORKSHOPS/CONFERENCES ATTENDED FOR A YEAR………………………………………
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<table>
<thead>
<tr>
<th>Name Courses, workshops, etc.</th>
<th>Date of Attendance</th>
<th>Signature of Presenter</th>
<th>Confirmation by Supervisor</th>
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</table>
DEPARTMENTAL SEMINARS ATTENDED OR PRESENTED AT
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<table>
<thead>
<tr>
<th>Type of Seminar (oral paper, progress report, proposal presentation)</th>
<th>Date</th>
<th>Signature of Supervisor</th>
<th>Signature of the HoD</th>
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REPORT AT THE END OF THE FIRST YEAR

Report by student

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Signature of Student .................................. Date Submitted ..............

Comments by the Supervisor

(on satisfaction with progress of student, remedial intervention and recommendation for continuation or discontinuation)

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Signature of Supervisor ................................. Date .................

Comments by the HoD

(on the satisfaction of supervision)

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Signature of HoD ................................. Date .............

Comments by the Director of the School

........................................................................................................................................

Signature of HoD ................................. Date .............

Comments by the Dean

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Signature of Dean ................................. Date .............

(All parties may attach an additional page to this report; copies of the report must be filed by the various parties)
REPORT BY SUPERVISOR AND CO-SUPERVISOR ON STUDENT PROGRESS

Report by Supervisor

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Signature of Supervisor …………………… Date Submitted……………………

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Co-Supervisor

(on satisfaction with progress of student, remedial intervention and recommendation for continuation or discontinuation)

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Signature of Co-Supervisor …………………… Date ……………

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Declaration by the Student

I have discussed my progress with my supervisor. I have read and agree with the reports made above

Signature of Student……………………………….. Date……………………

(All parties may attach an additional page to this report, copies of the report must be filed by the various parties; this report must be attached to the student’s report)
## WORKPLAN FOR FINAL YEAR

<table>
<thead>
<tr>
<th>Planned Date</th>
<th>Actual Date</th>
<th>Date marked drafts returned to the student</th>
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<tbody>
<tr>
<td>Completion of actual research work</td>
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<td>Submission of dissertation / thesis outline</td>
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<td>Final Draft to the Supervisor</td>
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<td>Submission for Examination</td>
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<tr>
<td>Oral Examination (where applicable)</td>
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</table>
PROPOSAL PROCESS AT UL

- Student first registers and is allocated a supervisor.
- Student prepares the proposal and data collection instruments with guidance from the supervisor.
- Student presents proposal to staff in the Department where registered (usually a PowerPoint Presentation).
- Student presents proposal to staff of the School where registered (PowerPoint Presentation).
- Supervisor forwards corrected and refined written proposal to the School Research Committee for corrections.
- Supervisor forwards corrected proposal together with relevant documents to the Chairperson of the School Research Committee.
- School Research Committee chair forwards the proposal and all documents to the Director of the School.
- Director of the School forwards documents to the Office of the Dean.
- Proposal serves at the Faculty Higher Degrees Committee.

*At each stage of the above process, the proposal may be sent to the back to the student for corrections.* This process usually takes 3-6 months. Depending on the quality of the proposal, this process may be longer.

**Documents** to be submitted together with a proposal that leaves the School:

- Corrected proposal with approved cover page, content page and references.
- Checklist
- Completed Reg04 and Reg05 forms
- TREC application form
- Abbreviated CVs of supervisor / co-supervisor
- Covering letters from the relevant line managers
- Data collection instruments
- Relevant permission letters and consent forms.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<tbody>
<tr>
<td>1.</td>
<td>Procedure approval form completed correctly</td>
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<tr>
<td>2.</td>
<td>Reports from IRB, ethics, and clinical trial sponsors submitted</td>
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<td>3.</td>
<td>Informed consent forms completed for each participant</td>
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<td>4.</td>
<td>Participant recruitment plans and timelines submitted</td>
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<td>5.</td>
<td>Study protocol and amendments approved by IRB</td>
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<td>6.</td>
<td>Study data management plan approved by IRB</td>
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**Note:** These items are from the University of Limpopo Postgraduate Manual 2014.