

# RefShare: A Community of Practice to Enhance Research Collaboration

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## Introduction

The Phytomedicine Programme of the Faculty of Veterinary Science, University of Pretoria is a multidisciplinary and collaborative research programme investigating therapeutically useful compounds present in plants growing in South Africa [1]. The programme investigates problems in the wide area of infections, especially microbial and parasitic infections in the process of training postgraduate students. They co-operate with many specialists in other areas in the application of extracts and isolated compounds to improve the health and productivity of plants, animals and humans. The approach is multidisciplinary and students and collaborators come from diverse fields such as biochemistry, botany, chemistry, microbiology, parasitology, pharmacy, pharmacology, physiology, plant pathology, plant production, veterinary sciences and zoology. The phytomedicine laboratory expertise is in extraction, bioassay and isolation of bioactive compounds from plants.

Their clients are students, scientific collaborators, industry involved in phytomedicine and users or potential users of phytomedicines. In 2007 it was designated as a National Research Foundation Developed Research Niche Area.

This article will focus on Refshare as a tool to support a community of practice and to promote research collaboration in the Phytomedicine Programme. It will also look at the role of the information specialist to promote information services to support research in this discipline. It will illustrate how the information specialist plays a role in facilitating the community of practice, becomes closely aligned with the faculty department, to support education innovation and research excellence.

*As many of the postgraduate students are situated off campus, often outside South Africa, the focus is on electronic information products and services for easier retrieval of information, group interaction, information sharing and collaboration and the digital preservation of intellectual products of the Phytomedicine Programme.*

## Problem Statement

All students of the Phytomedicine Programme, should have access to important documentation. The Phytomedicine Programme, having no permanent administration personnel, was experiencing difficulty keeping track of all activities of the students. A community of practice seemed to be the answer to integrate

all electronic information products and services and at the same time provide management possibilities. An electronic platform or tool to serve this community of practice was needed.

With so many products being available on the market, care must be taken of client needs and product features. Privacy is one of the main concerns of the Phytomedicine Programme, as the research involved patents rights, sensitive information, and unpublished research. This platform or tool was to provide space where bibliographies, research, and monthly reports, as well as published articles and groundbreaking articles could be placed, so that all students and lecturers of the Phytomedicine Programme could share access. Furthermore to provide a platform where they could add information; share ideas, information and progress and to stimulate a research atmosphere. In this way postgraduate students would be able to see who else was working on similar fields of research, thereby leading to collaboration and enhancing their research output.

RefWorks, an online research management, writing and collaboration tool, subscribed to and used by the University of Pretoria since 2006, seemed to be the answer. It is available to all of the postgraduate students and the library provides support and training in the product. This product, however, has a feature called RefShare, especially focusing on collaboration.

## **RefShare**

RefShare is a module within RefWorks that provides users with a quick and easy way to share their databases (or folders) further enhancing collaborative research. Users can share their RefWorks references with both members of their own institution and globally with any researcher having Internet access. The University of Pretoria subscribes to RefWorks. Thus RefShare is free to all university members. RefShare can be used to post class reading lists on a central Web page, provide easy access to information for disparate researchers collaborating on a project, create and share databases of frequently requested reference queries by topic and provide a linkable database of research done by specific faculty members. It is searchable.

RefShare facilitates dissemination of information by having a central Web page for the posting and access of research information. It provides a collaborative research environment using the capabilities of easily accessible data via the Internet. It enables the seamless sharing and exchange of information and allows easy transfer of information between RefWorks databases. It can post centrally frequently needed databases of materials for research queries, class assignments, or research review. RefShare provides easy remote access to research and collaboration globally. Citations can be downloaded or exported and encourages the use of RefWorks. The RefWorks marketing Web page [2] gives the following functions of the product: 'Managing information, writing research papers and creating bibliographies...provides users with a simple-to-use online tool, to capture, organise, store, share and manipulate data generated by multiple information resources.'

## **The Changing Research Environment**

Researchers are no longer anchored to their faculty or institution. Due to modern infrastructure they can now collaborate beyond all borders. MacDonald and Uribe [3] mention the following regarding the changing research environment:

*Information and communication technologies (ICT) are transforming the way academic researchers work. The new forms of research enabled by the latest technologies bring about collaboration among researchers in different locations, institutions and even disciplines.*

Ury, Meldrem and Johnson [4] state that 'Electronic library services and myriad online resources are shifting the roles and workloads of academic reference librarians.'

We are seeing an increasing emphasis on the changing electronic environment that libraries face today. The expanding electronic information environment opens new opportunities for teaching partnerships or collaboration within the university environment. It necessitates the use of a different approach to develop new pedagogical methods and team teaching for the electronic age. This involves information professionals partnering with departmental staff. No longer can the information specialist render the traditional services of the library. They need to go out to their clients, find out what their needs are. They need to be aware that most researchers think the Internet can solve all their information needs and that the library is no longer needed. The changing situation compels libraries to enhance their services to ensure their future usefulness .

## **Collaboration in the Research Environment**

Collaboration is, according to Merriam-Webster [5] to work jointly with others or together especially in an intellectual endeavour. It is a recursive process where two or more people or organisations work together in an intersection of common goals, by sharing knowledge, learning and building consensus.

In this project, two examples of collaboration are present. Collaboration between the postgraduate students and academic staff of the Phytomedicine Programme takes place on an academic level, where knowledge, and enthusiasm are shared. Secondly there is collaboration between the latter group and the information specialist of the Jotello F. Soga Library. This collaboration is not only the traditional library function, to assist students and staff with information literacy training, specialised information searches, access to relevant information resources (journals, books, reference sources, audiovisual sources, and e-resources), but also to promote customised information services, to support research excellence in each discipline and to support education innovation. This includes the development of a group of Web products geared to the needs of its student and researcher/lecturer market. It also includes knowledge of research methodology, matters of importance to postgraduate students, e.g. plagiarism, copyright issues, citation and reference management.

## **The Benefits of Research Collaboration**

Research collaboration saves time, generates wiser more durable decisions, richer understanding of values through shared information. It fosters action and promotes change, solves collective problems or resources, builds relationships and understanding. It also encourages and motivates collaborators [6]. The idea is to share knowledge, skills and techniques and thus ensure more effective use of their talents. Tacit knowledge is transferred through collaboration. All these benefits contribute to encourage enthusiasm between collaborators.

## **Role of the Information Specialist**

Robertson, in her paper on services for postgraduate students at IFLA (International Federation of Library Associations) said, 'For too long, librarians have designed services and programs on their understanding of what is needed rather than working with academics and students in determining their information and skill needs.' [7] At the Jotello F Soga Library of the Faculty of Veterinary Science, University of Pretoria, the past years have seen a change in the role of the information specialist. Electronic resources and the e-environment changed the way we render our services. We became collaborators, working together with faculty members to enhance our services to all our students, lecturers and researchers.

The Jotello F Soga Library has 3 information specialists (each supporting specific departments) to assist students and staff with information literacy training, and specialised information searches. These information specialists are also responsible for the acquisition of relevant information resources (journals, books, reference sources, audiovisual sources, and e-resources) for the library. They also undertake to add value, to promote information services to support research in each discipline and to support education innovation and research excellence. This includes the development of a group of Web products geared to the needs of its student and researcher/lecturer market. These e-information products (Web portals, digitised collections and self-generated electronic publications) are also relevant for the rest of Africa, especially in the SADC (Southern African Development Community) region where the Faculty plays a leading role in veterinary education and research. According to Rapple:

*not only will librarians help faculty and students do research, they will also help faculty develop new pedagogical methods for the electronic age. Many will become much more active in curriculum design, in devising and evaluating assignments, in team teaching, and in teaching for-credit courses. They will become true partners and fellow educators with faculty.* [8]

The information specialist for the Department of Paraclinical Sciences became involved with the Phytomedicine section's information needs as this postgraduate programme developed. Information support included building an appropriate information sources collection, designing a Website to enable easier retrieval of information for postgraduate students from various countries in Africa. While consulting with the head of the Phytomedicine Programme, it became apparent that there was a need for 'community of practice' between the diverse postgraduate students and researchers. A research tool was needed that would provide a platform where a database of core articles, all previous publications, new pre-published information and regular progress reports could be housed. The traditional way of photocopied articles in files and other outdated practices did not serve to promote collaboration between students or enhance the research atmosphere within the Programme.

This new development highlights benefits that collaboration might represent to the postgraduate students in the Phytomedicine Programme. We hope that the sharing of knowledge, tacit knowledge, skills and techniques, will be an enticement to fuel their enthusiasm for their research. It should also lead to better management of the different aspects of research within the Programme.

## **Special Needs of the Phytomedicine Programme**

Collections that need to be accessed include:

- A collection of core articles or groundbreaking articles in the field of phytomedicine. These articles are mandatory reading for all postgraduate students in preparation for their research at the Phytomedicine Programme. All students are able to access these articles. Articles may be copied and printed for individual use, or exported to students' RefWorks folders.

- A bibliographic list of the published research output of staff and students at the Phytomedicine Programme. All full-text articles were linked. All students are able to access the full text. Articles may be copied and printed for own use, or exported to students' RefWorks folders.
- Masters and Doctoral students' research information. This includes research protocols and non-published information on which they are still working. Access to this information is controlled, as some information is confidential, or there are patent rights involved.
- Presentations at conferences and workshops presented by students and staff members of the Phytomedicine Programme.
- Research procedures to be used for certain techniques are also made available, which includes safety guidelines.
- PowerPoint presentations of important lectures or presentations will also be provided.
- Regular Progress Reports. All postgraduate students will have to file regular progress reports. A template will be made available.
- An email facility is available on RefShare so that students and staff will be able to share ideas and communicate with colleagues on work-related issues.
- E-theses of all previous postgraduate students of the Phytomedicine Programme. Full text linked via UPeTD (University of Pretoria's electronic theses).

The above provides a one-stop electronic or virtual resource center that can be accessed by all of the collaborators.

## Methodology

A unique Web page was designed to focus on important African ethnoveterinary plants with links and content provided to support the research programme. This Web page was included as a reference in the 'groundbreaking articles folder' on RefShare, for all students to be able to access [9].

In collaboration with the head of the Phytomedicine Programme, it was decided to include in the Webpage the plants on Lists A and B of the Centurion Declaration of the Association for African Medicinal Plants Standards (AAMPS). These 51 plants form part of the most important medicinal plants of Africa. The Web site includes: description of the plant, parts used, medicinal uses, preparation and dosage, active ingredients, pharmacological effects and the distribution of the plant and a bibliography. It is planned later to include the pharmacopoeia of each plant.

Refshare folders were constructed for the groundbreaking articles, and the published articles of the Phytomedicine Programme. The full-text articles in PDF format were then added. Folders were also opened for the annual progress reports, postgraduate research and procedures and proposals. E-mails were sent to all the postgraduate students, researchers and lecturers of the Phytomedicine Programme, inviting them to join RefShare. A letter from the head of the Phytomedicine Programme, explaining the purpose, goal and potential of the project was attached to the invitation email. It was compulsory for all students to participate.

Postgraduate students have a meeting once a week with staff and students of the Phytomedicine Programme. During one of these sessions, the Information Specialist was also invited to brief students on the aims and benefits of the project. One of the features that the students value was that RefShare not only allows users to view the contents of a folder, but they can also export specific records or create bibliographies in a specific citation style.

## Data Collection

RefShare allows you to see how many hits your shared folder or database has had over time. This provided the information specialist with a quantitative tool to measure the access of students to the databases. Figure 1 gives an illustration of the use of the different folders on the RefShare project. The initial use in March 2010 was high, as students were encouraged to register on this platform. We expect that the use may increase in future as students become more aware of the benefits and value of the product.

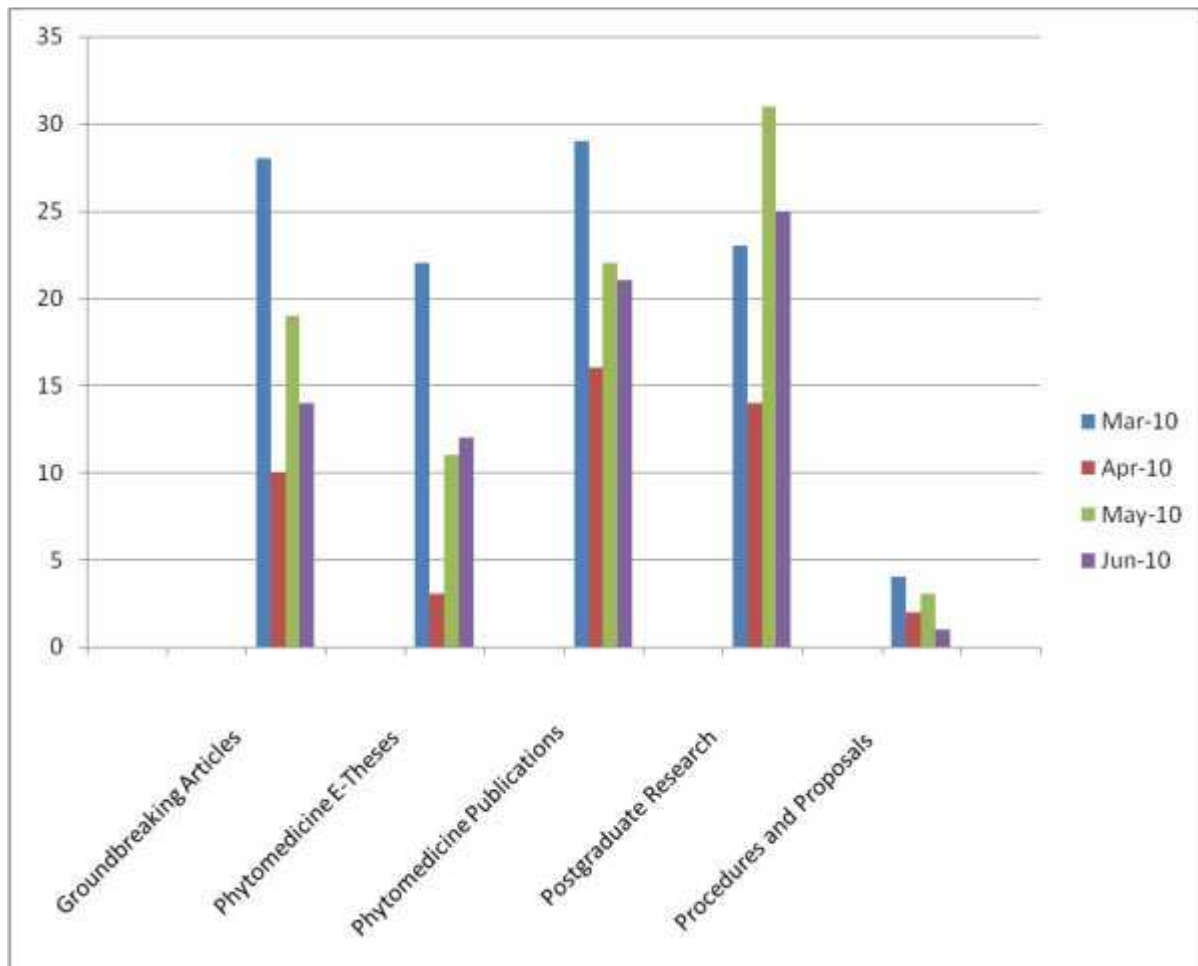


Figure 1: Total hits to different folders on RefShare for the period March 2010 to June 2010

## Limitations

RefShare does not allow collaborators to edit the database research findings or folders. Students could not add their own research but had to submit their files via email to the information specialist for adding. Consequently this created a problem in terms of waiting time. Moreover, during the project it became clear that although responses were generally positive, the students all feared a lack of privacy. They were reluctant to put their unpublished information in the public domain although they were constantly reassured that only participating postgraduate students and staff of the Phytomedicine Programme could access the folders.

Most of the current enrolled students were already at a progressed stage of their studies by the time the project developed. Their studies progressed to a stage where most of the benefits of the project no longer

held any interest for them. Another limitation is that although the project started in 2009, results will only be clear at the end of the current students study programme, 2010-2011.

## Research Findings

It was agreed that it was an enormous advantage for students to have electronic access to bibliographies, published research and articles and core articles in phytomedicine. It provided a one-stop platform that was easily accessed. This access also helped to foster a sense of community between the postgraduate students. Frequent progress reports also served as a motivational tool; students could see the progress their fellow students made. Most disadvantages noted were related to the reluctant use of new technology rather than its functionality. This indicates that some changes in the training of new students are necessary in order to avoid such a situation. This is a matter which must be addressed. It is planned to include training on the RefShare project for future students of the Phytomedicine Programme's general orientation and database training sessions. In that way we hope to gain the students' trust and co-operation.

One of the post-doctoral students remarked:

*the Phytomedicine Refshare database is a user-friendly platform by which a number of valuable resources have been made available to students in the Phytomedicine Programme. Many of the students rely solely on online databases to conduct literature searches, and this interface with the library staff has enabled them to become familiar with other resources available to them through the library. Especially helpful is the Refshare resource whereby links to online previous thesis publications submitted by past students have been added, as the hard copies are not always easily available and the research has often not yet been published in scientific journals. Also, having journal articles of interest readily available, particularly those that are not published online, will save time when students do not have to search for these articles individually. The submission and uploading of progress reports will also be made easy by using the Refshare platform. I believe that constant reminders to the students about the Refshare database will encourage them to become accustomed to the idea of using the database, and also to remind them to upload details of their own research so that collaborations can be fostered and other students can gain from consolidated knowledge.*

The head of the Phytomedicine Programme supports these comments and adds:

*to me another great advantage is that we can place power point lectures that are given to students on this source. A problem with a research focused program is that students are at different stages of completion of their studies. If all started at the same time one could present a series of lectures that would be relevant to all at that stage of their study. Frequently students do not appreciate the importance of lectures to their studies and they do not take notes. What happens now is that these presentations are available to the students at the stage when it is required.*

*An advantage is also that very important publications from leading scientists in the world are now available and we can expect that students will use this to get background knowledge. We are very pleased that the Phytomedicine Programme has been selected as an example to demonstrate the use of this technology to our students. The dedicated staff of our library deserve more than gratitude for their active support and initiative.*

Positive outcomes included: A much deeper understanding of the literature of their field and where it is indexed. Knowledge of their research interests, current and former will help build stronger relationships between the librarian and the Phytomedicine Programme's staff and students. This will also create an opportunity for alert services introducing individuals to new materials in their specific area. When librarians possess technical skills that can be shared with faculty, staff and students, such as knowledge of RefWorks, it reflects well on the library. This project increased awareness and usage of RefWorks while also affording librarians a student-centered perspective on teaching and using this tool. Students learned

useful skills in addition to developing a sense of community with the library. Students like using it; it is useful to their research, it is easy to use, and it saves them time. Thus it can also enhance student throughput, which can earn more subsidy for the University.

## Conclusion

Collaboration between the Phytomedicine Programme's staff, postgraduate students and the information specialist of the Jotello F Soga Library has been discussed. It is clear that the information specialist and the library play an important role in enhancing research output of the Phytomedicine programme. RefWorks (RefShare) proved to be a valuable tool to enhance this collaboration. Easy retrieval of information, group interaction, information sharing and collaboration together with the digital preservation of intellectual products of the Phytomedicine Programme are all made possible by RefShare.

Although the project still has a few difficulties to overcome, the focus is on positive results in order to facilitate education innovation and research excellence.

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