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## Enhancing Collaboration and Interaction in a Post-graduate Research Programme

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The Phytomedicine Programme is a multidisciplinary and collaborative research programme investigating therapeutically useful compounds present in plants growing in South Africa. The programme was started in 1995 and was transferred to the Department of Paraclinical Sciences, Faculty of Veterinary Science, University of Pretoria in 2002. In 2007 it was designated as a National Research Foundation Developed Research Niche Area [1].

The Faculty Plan (2007-2011) of the Faculty of Veterinary Science, University of Pretoria lists Phytomedicine and ethno-veterinary medicine as one of the six research focus themes that will contribute to the realisation of the Faculty's newly formulated vision statement relevant to its research programme.

This article will focus on the role of the embedded information specialist, in the Phytomedicine Programme. The main concern will be to incorporate the educational software, Blackboard, named ClickUP at the University of Pretoria, in the existing community of practice between staff and post-graduate students of the Phytomedicine Programme, developed since 2009. The original research platform was developed on RefShare (RefWorks).

It will also illustrate the importance of collaboration between the information specialist, the department and the researchers in order to enhance important role of the information specialist in applying new developments and tools for education innovation and research excellence and promote and support research in this dynamic subject field.

As many of the post-graduate students are situated off-campus, often outside South Africa, the community of practice focuses on electronic information products and services for easier retrieval of information, for group interaction, information sharing and collaboration as well as the digital preservation of intellectual products of the Phytomedicine Programme [2].

Although RefShare proved to be excellent for digital storage and retrieval of the unique information sources of the Phytomedicine Programme, it failed where group interaction and information sharing were concerned. RefShare does not allow collaborators to edit the database research findings. Students could not add their own research but had to submit their files via email to the information specialist for adding. This resulted in a time-consuming process. It also did not help to promote any interaction or communication between staff and students. Blackboard education software was to be explored and implemented.

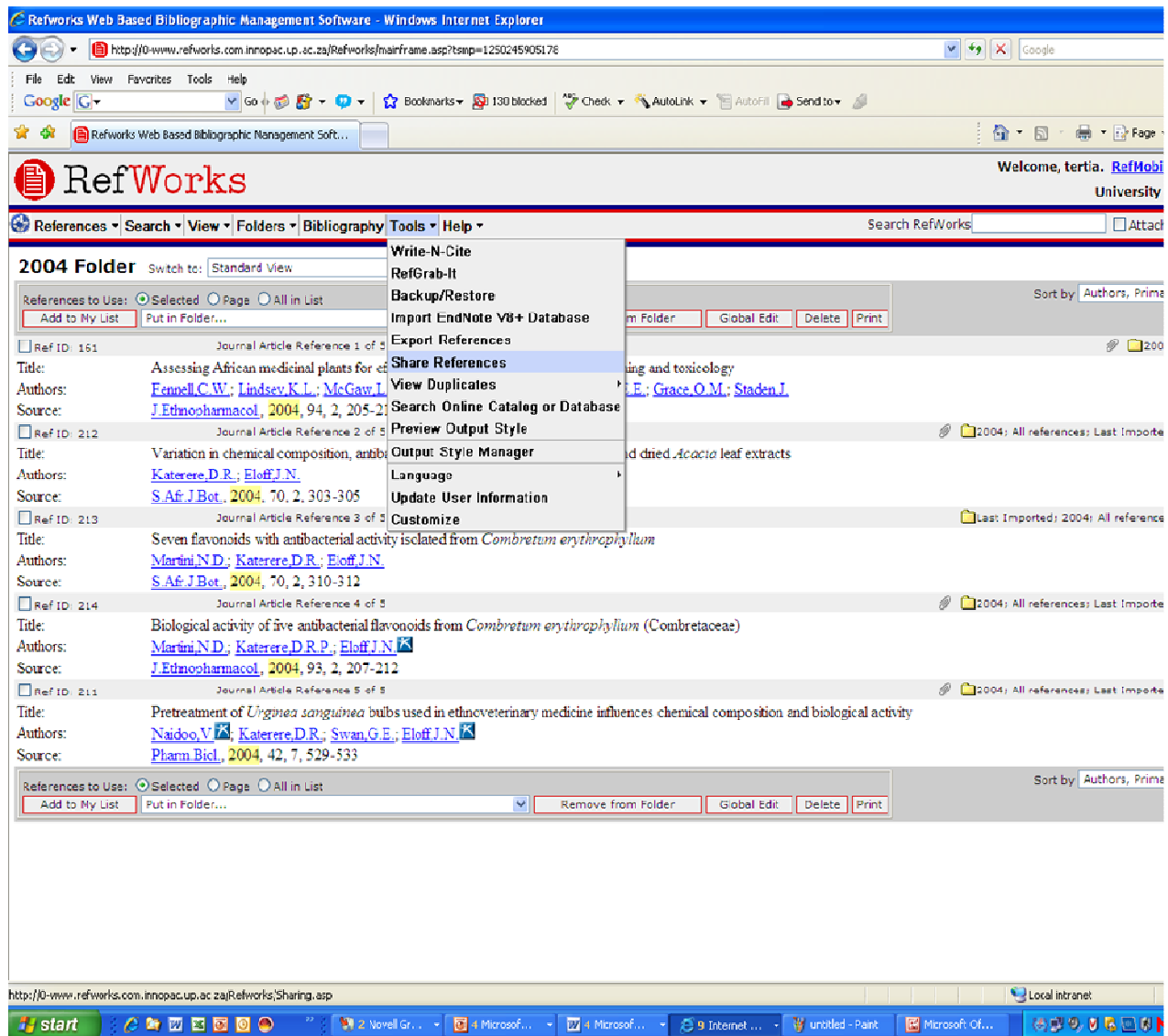


Figure 1: RefWorks

## Collaboration in the Research Environment

### What Is Collaboration?

Collaboration is, according to Merriam-Webster 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 at the intersection of common goals, by sharing knowledge, learning and building consensus [3].

The community of practice of the Phytomedicine Programme was developed to serve more than just one goal.

Firstly it was developed to serve as a collaboration tool between the staff and students of the programme, but also between the information specialist (library) and the staff and students of the Phytomedicine Programme. The staff and students collaborate on an academic level, sharing knowledge, and

enthusiasm. Information specialists do not only deliver 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 support research in each discipline and 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. It also includes knowledge of research methodology, matters of importance to post-graduate students, e.g. plagiarism, copyright issues, citing and reference management.

Secondly, it also aimed to serve as digital preservation and collection development tool for the Phytomedicine Programme's unique information sources e.g. a database of core articles, all previous publications, new pre-published information and regular progress reports.

The third goal was to be a collective administration tool for the programme. The outcome was to enhance support for research and research output.

### **The Benefits and Disadvantages of Research Collaboration**

Advantages include gaining access to a larger sample, availing the team of a mix of skills, and creating support for debate and consultation. 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, build relationships and understanding, decision-making skills also enhance professionalism. It also encourages and motivates collaborators.

The idea is to share knowledge, skills and techniques and thus ensure more effective use of collaborators' talents. Tacit knowledge is transferred through collaboration. All these benefits contribute to encourage enthusiasm among collaborators. It supports the need for a culture of scholarly caring in graduate education, developed through mentoring, encouragement of diversity, and the promotion of high standards.

Disadvantages of collaborative research related to problems of status, conflict, and confusion, to authorship, workload, and proper recognition of authors.

### **Products and Tools to Support Research Collaboration**

ICT (Information and Communication Technology) collaboration tools can be divided into three categories depending on the level of collaboration: communication tools, conferencing tools, and collaborative management (co-ordination) tools. Web 2.0 tools, such as wikis, blogs, podcasts and mobile

learning can be used very successfully in the research environment. They are an excellent means of exchange of valuable information and knowledge among people. Also available are social networking platforms, such as Facebook. Facebook is also a powerful mediator for social interaction. In South Africa Twitter is a new social networking development. Google groups and Yahoo Groups also work very well. All of them are unfortunately open access and in the public domain [2].

Most of the technologies mentioned above could have served as a platform or tool for the community of practice of the Phytomedicine Programme; they are freely available and well known. The problem with these technologies is that they are essentially open Web pages, where anyone registered can publish to it, amend it, change it or see it. Privacy is one of the main concerns of the Phytomedicine Programme, as the research involves patents rights, sensitive information, and unpublished research. Restrictions can be added to the specific technology, but then one should be prepared to pay for the exclusive use.

RefWorks, an online research management, writing and collaboration tool, used by the University of Pretoria since 2006, was selected as platform for the community of practice. It is available to all of the post-graduate students and the library provides support and training in the product. RefWorks has a feature called RefShare, which focuses especially on collaboration.

The RefWorks marketing Web page [4] 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."

A group can create a bibliography of references retrieved from different information searches. RefShare then allows all group members to work collaboratively on the database and add, share or edit information.

## **Community of Practice**

A community of practice is, according to Lave and Wenger, a group of people who share an interest, a craft, and/or a profession. The purpose of a community of practice is to provide a way for practitioners to share tips and best practice, ask questions of their colleagues, and provide support for each other, and to gain knowledge related to their field. It is through the process of sharing information and experiences with the group that the members learn from each other, and have an opportunity to develop themselves personally and professionally [5].

A domain of knowledge creates common ground, inspires members to participate, guides their learning and gives meaning to their actions. A strong community fosters interactions and encourages a willingness to share ideas. While the domain provides the general area of interest for the community, the practice is the specific focus around which the community develops, shares and maintains its core of knowledge.

The added value of a community of practice is its facilitation of development in decreasing the learning curve of new employees and responding more rapidly to customer needs and inquiries. It helps to reduce needless duplication of effort and prevents the "reinvention of the wheel".

A community of practice can exist as long as the members believe they have something to contribute to it, or gain from it, and if there is a high degree of trust amongst the participants. Communities of practice help the individual bridge the gap between knowing what and knowing how [6]. A facilitator or coordinator cultivates the community, monitors and measures action, produces action plans, reports activity, metrics and evaluations. Monitoring success criteria and impact, and managing the community of practice also form part of this role.

## **Communities of Practice and Knowledge Management**

'Knowledge management involves connecting people with people, as well as people with information. It is a management philosophy, which combines good practice in purposeful information management with a culture of organisational learning, in order to improve business performance.' [7]

Wasko and Faraj [8] describe three kinds of knowledge: "knowledge as object", "knowledge embedded within individuals", and "knowledge embedded in a community". Communities of Practice have become associated with finding, sharing, transferring, and archiving knowledge, as well as making explicit "expertise", or tacit knowledge. Tacit knowledge is considered to be those valuable context-based experiences that cannot easily be captured, codified and stored [9].

Because knowledge management is seen "primarily as a problem of capturing, organizing, and retrieving information, evoking notions of databases, documents, query languages, and data mining" [10], the members of the community of practice, collectively and individually, are considered a rich potential source of helpful information in the form of actual experiences; in other words, best practice.



Thus, for knowledge management, a community of practice is one source of content and context that, if codified, documented and archived, can be accessed for later use.

## **Responsibilities of Knowledge Management**

The core responsibilities in Knowledge Management [11] may be summarised as:

- Manage content effectively (lifecycle; systems & technologies)
- Connect people with people
- Facilitate collaboration
- Help organisation to learn
- Help organisation make decisions based on complete, valid and well-interpreted data, information and knowledge

Knowledge management builds a sense of community, creates bonds within the organisation and helps people to keep up to date. It develops professional skills and promotes peer-to-peer mentoring. It helps the organisation to drive strategy and to stay ahead of the competition.

## **Factors of a Successful Community of Practice**

Studies have shown that workers spend a third of their time looking for information and are five times more likely to turn to a co-worker rather than an explicit source of information (eg book, manual, or database) [9]. Time is saved by conferring with members of a community of practice. Tacit knowledge and best practice are shared which can be difficult to store and retrieve outside. This may enable another person to avoid mistakes and alleviate the learning curve.

Management of a community of practice often faces many barriers that inhibit individuals from engaging in knowledge exchange. Some of the reasons for these barriers relate to egotism and even personal enmities, for example in a Community of Practice that has grown too large for its members comfort [8].

Motivation to share knowledge is critical to success in communities of practice. Studies show that members are motivated to become active participants in a community or practice when they view the sharing of knowledge as meant for the public good, moral obligation and as a community interest.

Collaboration is essential to ensuring that communities of practice thrive.

One of the important factors of a successful community of practice is the creation of opportunities for open dialogue. Communities of practice should

create opportunities for participants explicitly to discuss the value and productivity of their participation in the group.

## **RefShare**

RefShare is a module within RefWorks that claims to provide users with a quick and easy way to share their database (or folders) in order to facilitate collaborative research. Users can share their RefWorks references with both members of their own institution and globally with any researcher connected to the Internet. RefWorks/RefShare is free to all members of a subscribing institution.

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.

Benefits of RefShare include facilitating the dissemination of information by providing a central Web page for the posting and access of research information. It provides a collaborative research environment by providing easily accessible data via the Internet. It permits the seamless sharing and exchange of information and allows easy transfer of information between RefWorks databases. It makes it possible to post frequently needed databases of materials centrally 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.

## **Phytomedicine Special Collections**

The Phytomedicine Programme collated a variety of resources on RefShare for the specific use of the Programme's staff and students:

- A collection of core articles or groundbreaking articles in the field of phytomedicine, mandatory reading for all post-graduate students in preparation for their research at the Phytomedicine Programme.
- A bibliographic list of the published research output of staff and students at the Phytomedicine Programme, displaying linked full-text articles.
- Masters and Doctoral students' research information, research protocols.
- Presentations at conferences and workshops presented by students and staff members of the Phytomedicine Programme.
- Research procedures to be used for certain techniques. Guidelines for safety will also be available.



- PowerPoint presentations of important lectures or presentations relevant to students' courses.
- Regular Progress Reports of post-graduate students, to the lecturers for progress monitoring purposes.
- e-Theses of all previous post-graduate students of the Phytomedicine Programme. Full text, linked via UPeTD, (University of Pretoria's electronic theses).
- A unique Web page designed to focus on important African ethno-veterinary plants with links and content provided to support the research programme [12].



**Figure 2: Professor Kobus Eloff and Phytomedicine Programme students**

### **Benefits of RefShare for the Community of Practice**

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 provides a one-stop platform that was easily

accessed. This access also helped to foster a sense of community between the post-graduate students.

A further benefit was the unspoken encouragement of exporting and using citation styles within RefWorks, preparing students to use the correct referencing tools. Testimony of the success of RefShare can be seen in the following extracts from emails from a post-graduate student and the head of the Phytomedicine Programme.

One of the post doctoral students remarks:

*.. 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. [2]*

Prof Kobus Eloff, 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. [2]*

## **Limitations of RefShare**

RefShare does not allow collaborators to edit the database research findings. Students could not add their own research but had to submit their files via email to the information specialist for adding. This resulted in a time and trust issue.

Students were also supposed to submit regularly reports on their progress. Also, during the project it became clear that although responses were generally positive, the students all fear a lack of privacy and open access. They were reluctant to put their unpublished information in public domain although they were constantly reassured that only participating post-graduate students and staff of the Phytomedicine Programme can access the folders.

Most disadvantages noted were related to the reluctant use of new technology rather than its functionality. This indicates that some changes in training of new students are necessary in order to avoid such a situation.

The lack of communication and interaction were the main disadvantage in respect of furthering the aims of the community of practice. Although RefShare does have an email facility, but it cannot be used among all participants of the community of practice. System emails can only be sent to invite participants to share one's folders.

## **Blackboard**

Blackboard is an education software programme. The Blackboard Learning System is a virtual learning environment and course management system, developed by Blackboard Inc. Features include course management, a customisable open architecture, and a scalable design that allows for integration with student information systems and authentication protocols. Its main purpose is to add online elements to courses traditionally delivered face-

to-face, and to develop completely online courses with few or no face-to-face meetings [13].

Blackboard course management software enables faculty and students to communicate and collaborate through real-time chats, threaded discussions, class e-mail, and online file exchanges. Since courses are password-protected, staff can limit access to materials to only registered students on the course.

In addition, Blackboard offers course management options such as a gradebook where students can check their own individual grades, an assignment manager tool for students to submit assignments electronically to the instructor, online test and survey tools, and course statistics so that staff can evaluate and measure student progress. The built-in groups tools available in Blackboard make it possible for students to engage easily in online discussion, share files, chat, and email one another.

### **Communication Functions of Blackboard**

The communication functionality offered by Blackboard is more extensive than that of RefShare for the Programme's purposes:

- Lecturers may post announcements for students to read. These can be found under the announcement tab, or can be made to pop up when a student accesses Blackboard.
- The chat function allows those students who are online to chat in real time with other students in their class section.
- The discussions feature allows students and lecturing staff to create a discussion thread and reply to ones already created.
- Blackboard mail allows students and teachers to send mail to one another. This feature supports mass emailing to students on a course.
- Blackboard has two separate messaging systems: an internal messaging system called "Messages", and an external messaging system called "Email". The email and messages functions in Blackboard are separate.

### **Content Functions of Blackboard**

Likewise, as far as lecturers are concerned, there is a variety of ways of adding course content:

- Course content feature allows lecturers to post articles, assignments, videos etc.
- Lecturers can use the calendar function to post due dates for assignments and tests.

- The learning modules feature is often used for strictly online classes. It allows lecturers to post different lessons for students to access.
- The assessments tab allows lecturers to post quizzes and exams and allows students to access them anywhere where there is an Internet connection.
- The assignments feature allows for assignments to be posted and for students to be able to submit assignments or reports online.
- Lecturers may post grades on Blackboard via the Grade Book for students to view individually.
- Videos and other media may be posted on the Media Library. This function can be used by the librarian to add value by adding recommended sources to the prescribed information sources.

## The Role of the Information Specialist

Robertson, in her paper on services for post-graduate students at IFLA 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” [14].

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 [2].

The different departments of the Faculty are served by three 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. The information specialists 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 Web products geared to the needs of its students, researchers and lecturers.

According to Rapple [15] ‘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’.



The community of practice for the Phytomedicine Programme is a very good example of a project where the embedded librarian becomes a partner in the curriculum.

### **The Need for Communication and Interaction**

The community of practice of the Phytomedicine Programme needed better communication and interaction between the diverse, often widespread collaborators. Lecturers of the Programme needed better control over the progress of the students' research. Feedback to the post-graduate students and general management within the Programme can be improved by better interaction.

We hope that the sharing of knowledge, tacit knowledge, skills and techniques, will be an enticement to fuel the post-graduate students' enthusiasm for their research. It should also lead to better management of the different aspects of research within the Programme.

### **Methodology**

In January 2012 a new clickUP (Blackboard) module was requested and created for the Phytomedicine Programme. A discussion forum was created. Lecturers, post graduate students and the information specialist were enrolled as members of the group to ensure communication among everybody involved in the community of practice. Students are required to post a regular summary of their own progress on the discussion board.

Group progress can now be monitored, lecturers can also check in on group-discussion boards to review the discussion contributions which allows them to 'feel the pulse' of the level and frequency of postings. Group members can be emailed to check in and ensure that progress with work is being made. Group work as well as individual contributions can also be assessed and feedback posted on the discussion board.

A letter from the head of the Department, Prof Eloff, explaining the purpose, goal and potential of the project was posted on clickUP. A document was submitted to clickUP describing each shared folder on RefShare. A link to RefWorks and to each folder was created providing direct access to the Phytomedicine Programme's information sources on RefShare.

Post-graduate 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. Students were given the opportunity to ask questions.



A number of new post-graduate students enrolled this year in the Phytomedicine Programme. They will get involved in the community of practice from the very beginning of their studies. It will provide the information specialist with the valuable opportunity to measure the functionality and potential of the combined features of RefShare and Blackboard. This has not been possible until now since most of the students were already at such an advanced stage of their studies by the time the project was under way. Their studies progressed to a stage where most of the benefits of the project could no longer hold any great interest for them. This project is an ongoing process and results will only be clear at the end of the current students' study programme, 2012-2014.

## Research Findings

The lecturers involved in the clickUP (Blackboard) project were very keen to develop this new module. They had previous experience using Blackboard with undergraduate students. Using clickUP for post-graduate students and as a communication platform for our community of practice, provides new challenges.

A senior lecturer and deputy leader of the Phytomedicine Programme has the following to say about the new module:

*The implementation of the Blackboard system will allow students to communicate more effectively with each other and with their supervisors on various aspects relating to their research projects. Notices can be posted on the system to be accessible to all members of the group. We have regular lectures and presentations of progress reports, which can be uploaded onto Blackboard. Many MSc and PhD students have graduated from our group, and posting links to their online thesis submissions would be very useful. Additionally, students and staff will have access to important review articles, project protocols and written progress reports. Procedures for commonly used techniques as well as rules and regulations can be made available to all students.*

*Discussion forums are possible, and this will be of great help especially to those students who conduct their research part-time. It will also be possible to have social aspects covered by a separate forum to encourage greater interaction among students. The synchronous chat option may also prove useful to those students away from campus who have questions, and the ability*

*to archive these discussions will allow students at a later stage to access the information shared.*

*The possibility of creating particular interest groups for students involved in related research projects could be investigated when using Blackboard. Having smaller focus groups could provide the chance for each student to be able to contribute more meaningfully to the discussions that are more focused and not as general. It is anticipated that using Blackboard, interaction between students and staff members will be enhanced. Conducting practical research will be facilitated through the availability of aids such as standard operating procedures and reference texts.*

Blackboard is an environment which offers our students the ability to communicate ideas and share experience with fellow post-graduate students through chat and discussion forums. Vibrant electronic communications can dissolve the feeling of isolation and provide members with more opportunities to meet their fellow colleagues for work and play.

A variety of information on courses and seminars, conferences, research days, tips, useful links and activities can be posted for our students to inform and enhance their post-graduate experience. We would like to encourage students to use the clickUP (Blackboard) site not just to download material, but to develop their own post-graduate community.

A student remarks, 'Blackboard is great because it gives you flexibility and that suited me perfectly. It also gave me good guidance for what to read, through the modules and reading lists.'

## **Conclusion**

Improved collaboration and communication between the Phytomedicine Programme's staff, post-graduate 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. The combination of RefWorks (RefShare) and Blackboard promises to be a valuable tool to enhance this collaboration.

Easy retrieval of information, group interaction, information sharing and collaboration as well as the digital preservation of intellectual products of the Phytomedicine Programme are assured through the use of by RefShare.

Although implementing clickUP (Blackboard) to the community of practice of the Phytomedicine Programme is still a brand new development, the focus is on positive results in order to facilitate communication and interaction towards increased innovation and research excellence.

## References

1. University of Pretoria. Department of Paraclinical Sciences, Faculty of Veterinary Science. Phytomedicine Programme  
<http://web.up.ac.za/default.asp?ipkCategoryID=3593&subid=3593&ipklookid=13&parentid>
2. Tertia Coetsee. "RefShare: A Community of Practice to Enhance Research Collaboration". January 2011, *Ariadne* Issue 66  
<http://www.ariadne.ac.uk/issue66/coetsee/>
3. Collaboration 2010 *Merriam-Webster* <http://0-www.merriam-webster.com.innopac.up.ac.za/>
4. CSA: RefWorks [http://www.csa.com/e\\_products/refworks.php](http://www.csa.com/e_products/refworks.php)
5. J Lave, & E Wenger *Situated learning : legitimate peripheral participation*. 1991, Cambridge: Cambridge University Press.  
<http://books.google.com/?idCAVIOrW3vYAC> (First published in 1990 as Institute for Research on Learning report 90-0013).
6. P Duguid, The art of knowing: social and tacit dimensions of knowledge and the limits of the community of practice. 2005, *The Information Society*, 109–118. <http://www.mendeley.com/research/the-art-of-knowing-social-and-tacit-dimensions-of-knowledge-and-the-limits-of-the-community-of-practice/>
7. S Corral, Knowledge management: are we in the knowledge management business? December 1998, *Ariadne*, Issue 18  
<http://www.ariadne.ac.uk/issue18/knowledge-mgt/>
8. M Wasko, & S Faraj, It is what one does : why people participate and help others in electronic communities of practice. 2000, *Journal of Strategic Information Systems*, 9 (2-3): 155–173.
9. T H Davenport, & L Prusak, *Working knowledge. How organizations manage what they know*, 2000, 2<sup>nd</sup> ed. Cambridge, MA: Harvard Business School Press.
10. J C Thomas, W A Kellogg, & T Erickson, 2001. The knowledge management puzzle: Human and social factors in knowledge management. *IBM Systems Journal*, 40(4): 863–884.
11. K Dalkir, *Knowledge management in theory and practice*. 2005, London: Elsevier.
12. Department of Library Services - Veterinary Science Library  
<http://www.library.up.ac.za/vet/phytomedicine/>
13. Blackboard <http://www.blackboard.com/>

14. S Robertson, Designing and delivering information services to postgraduate students: Experiences of one librarian at the University of Melbourne. 2003, World Library and Information Congress: 69th IFLA General Conference and Council 1-9 August 2003, Berlin  
<http://archive.ifla.org/IV/ifla69/papers/105e-Robertson.pdf>
15. B A, Rapple, The librarian as teacher in the networked environment. 1997, *College Teaching*, 45(3): 114-116.

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