THE RIGHT TO QUALITY KNOWLEDGE IN LIBRARY AND INFORMATION SCIENCES: WHAT ROLE CAN THE NATIONAL RESEARCH FOUNDATION RATING SYSTEM PLAY?

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The South African Government has set itself the objective of transforming South Africa into a knowledge society that competes effectively in a global system. Sustainability of a quality-based knowledge system requires a sufficient number of quality and productive people to produce new knowledge, facilitate the regeneration of a cadre of experts and trainers and able to compete effectively on the international scene. Benchmarking performance, in particular the **evaluation and rating system** is one of the key strategies used by the National Research Foundation (NRF) for the achievement of its core objectives that are also part of the national agenda, namely, [quality] Human Resource Development, [quality] Knowledge generation, and [effective] Utilization of research, technology transfer and innovation. The rating system which was started in 1984 was until 2002 used for the rating of persons in the science, engineering and technology (SET) fields only. In 2002 it was extended to rating of scholars in the humanities and social sciences, including library and information sciences/services (LIS). The rating system is voluntary and heavily relies on the internationally accepted peer review system – a review of an applicant's research output and his/her international standing over a specified period time. The South African library and information service/science (LIS) sector must contribute to the country's global competitiveness. Like other sectors it has an obligation to supply quality researchers; quality [research] knowledge, development and innovation to enable the country address national challenges and compete in the global economy. The country and persons who interact with the LIS sector have the right to quality knowledge! Based on the assumption that a rated researcher in LIS is more likely to generate coherent and quality research [new knowledge], provide appropriate research guidance or supervision and training that are based upon his/her research experience, and consequently contribute to the production of high quality human resources, this paper describes the NRF rating process. It identifies and comments on the key aspects of the NRF rating system that can facilitate the achievement of quality LIS researchers, research supervisors/trainers and quality research or new knowledge output. It argues that LIS scholars should benchmark themselves against the rating system for personal growth and productivity. In discussing the NRF rating process the paper identifies factors that affect benchmarking in LIS. It proposes the role that the Library and Information Association of South Africa (LIASA) can play in this benchmarking process.

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Introduction

The South African Government has set itself the objective of transforming South Africa into a knowledge society that competes effectively in the global system. To participate effectively in the global economy depends on the way information technology, knowledge production, human resources and institutions interact (Castells, 2001). Bawa and Mouton have argued that central to globalization and development is knowledge and 'informationalism'. The two further argue that "…the sources of productivity and competitiveness are increasingly dependent on [quality] knowledge and information being applied to productivity" (2002: 304).

A knowledge society requires appropriate numbers of educated and skilled people to create quality new knowledge and to translate the knowledge in innovative ways. The South African government firmly believes that development of the country and its ability to compete in the global economy requires the involvement of its entire people. To this end a number of policies and strategies like the *Human Resource Development [HRD] Strategy for South Africa,* the *National Plan for Higher Education (NPHE)* and the *South Africa's Research and Development [R&D] Strategy*, have highlighted human resource development and the concomitant scarce skills development as critical for wealth creation in the context of globalization. The key mission of the *HRD Strategy* for instance is:

> *To maximize the potential of the people of South Africa, through the acquisition of knowledge and skills, to work productively and competitively in order to achieve a rising quality of life for all, and to set in place an operational plan, together with the necessary institutional arrangements, to achieve this.*

The *NPHE* states that the role of higher education in a knowledge-driven world is threefold:

- Human resource development;
- High-level skills training and
- Production, acquisition and application of knowledge.

In the same vein the *R&D Strategy* emphasizes that maximum effort must be exerted to train the necessary numbers of our people in all fields required for development, running and management of modern economies.

Sustainability of a quality-based knowledge system requires a sufficient number of quality and productive personnel that not only produce new knowledge, but also facilitate the regeneration of a cadre of experts and trainers who can compete effectively on the international scene. Every sector of the South African economy, including the library and information science/services (LIS) sector must contribute to the country's global competitiveness. Quality researchers and research output or new knowledge, including innovations are necessary to deal with the many challenges that the country and indeed the world faces.

There are several ways and systems for benchmarking and assuring quality human resource development, and knowledge generation and development. The South African national system of innovation (NSI) that is, the set of functioning institutions and organizations like the higher education sector, science councils, industry and government, and policies for the achievement of social and economic goals has a variety systems and processes for ensuring quality in knowledge generation, its utilization and human resources development. However, the focus of this paper is the National Research Foundation (NRF) evaluation and rating system. The paper examines the role the NRF rating system plays and can play in assuring quality knowledge production and contribute to international competitiveness in library and information sciences and services. The main assumption of this

paper is that a rated LIS researcher or scientist[1] is more likely to generate coherent and quality LIS research [new knowledge], provide appropriate research guidance or supervision and training based upon his/her research experience, knowledge and contributes to the production of high quality LIS human resources.

In discussing the NRF rating system this paper briefly discusses the concept of quality and quality research or knowledge. It highlights some of the quality assurance systems and processes used in South African higher education sector. The paper presents and comments on the key aspects of the NRF rating system and how it can facilitate the development of quality LIS researchers, research supervisors/trainers, and enhancement of the production of quality research or new knowledge. The paper makes proposes as to how LIS scholars particularly those in higher education institutions should use the NRF rating system for personal benchmarking and growth. It also makes suggestions on the role of the Library and Information Association of South Africa (LIASA) in the rating process.

Quality, research/knowledge production, and quality knowledge

The Concise Oxford dictionary (Sykes ed. 1976: 909) defines quality as the "degree of excellence… …possessing a high degree of excellence". A measurement scale, criteria and or standards are required for assessing, establishing or determining the degree of excellence of something. A community or society generates and adopts standards and criteria that are used to determine and or assess the degree of excellence of something. In everyday speak; quality is synonymous to excellence, or assured goodness. Generally as people and indeed professionals we are all concerned and or would like to have products, services and/or goods

[1] In this paper "scientist" is used to mean one who operates in the whole spectrum of systematic knowledge generation across any one or multiple fields including the natural and applied sciences; humanities and social sciences.

of “quality”, because we believe that a “quality product or service” “is worth it” and will deliver what it purports to deliver!

The OECD *Frascati Manual* (2002: 30) defines research [and experimental development – R&D] as:

“…creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications”

The Manual identifies three types of research, namely, basic research, applied research and experimental development. ***Basic research*** is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view. ***Applied research*** is also original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily towards a specific practical aim or objective. ***Experimental development*** is systematic work, drawing on existing knowledge gained from research and/or practical experience, which is directed to producing new materials, products or devices, to installing new processes, systems and services, or to improving substantially those already produced or installed.(OECD 2002 : 30)

A logical extension to research is its effective utilization for improving the quality of life through innovation. The South African *National Science and Technology White Paper* defines innovation as the application in practice of creative new ideas through the introduction of inventions into the market place, as well as the creative generation and articulation of new ideas (South Africa 1996: 15). The *R&D Strategy* (DST: 19) further clarifies the meaning of “market” to mean either economic or social. Thus humanities and social science research,

including LIS research that result into improved products, new approaches to social and information services and ways of doing business are innovations.

The research process described above is one type of knowledge production that is commonly referred to as Mode-1. Mode-1 knowledge production is mainly from disciplinary communities and its outcomes are those intellectual products that are produced and consumed inside traditional research-oriented institutions like higher institutions of learning. Mode 2 knowledge production is the identification and solution of practical problems in the day-to-day life of its practitioners and organizations, rather than being focused on the academic interests of a discipline or community. This mode of knowledge (Mode 2) is characterized by a defining set of attributes. It is concerned with: problem-solving around a particular application and context (Gibbons, *et. al.*: 1994)

Mode 1- knowledge production is typically associated with research degrees like the doctor of philosophy (PhD)[2] that is often seen as a key human resource development indicator and key for the regeneration of a cadre of trainers. The quality of the research process and the research output or knowledge is critical in determining the degree of competitiveness of a system or a country in the knowledge economy. Thus the legitimacy and quality assurance of this knowledge is often determined by a set of standards and criteria over-seen by institutions of higher learning, in addition to other institutions that are mandated to ensure quality and peers who work within the knowledge area, the academic journals that disseminate the knowledge and the career paths that are attached to it.

In the argument presented above Bawa and Mouton have argued that "…the sources of productivity and competitiveness [in today's global economy] are increasingly dependent on [quality research] or knowledge and information being applied to productivity" (2002: 304).

[2] It must be stated though that increasingly Mode 2 of knowledge production is applied in formal education and training programme designed for technikon-type programmes and qualifications that are aimed mainly at skills and occupational preparation.

While every type of knowledge or research is useful in everyday life, only that which is of high quality will make a difference and thus provide competitive advantage. If the knowledge that a country or society "produces" or recycles is standard or common it is unlikely to attract interest or advantage. Thus quality knowledge is research of a degree of excellence. Knowledge of excellence is required to deal with national and international problems and challenges. Quality knowledge will facilitate innovations.

There are various ways of assessing and ascertaining knowledge quality and or excellence. In the academic environment, particularly universities, the promotion process provides a system that in-part ensures quality of an academic or researcher and his/her products. Although there is a lot of debate on the application of rules and criteria in the academic promotion process and granting academic ranks, it is an accepted practice that academics are generally assessed on the basis of research productivity, namely, publication output/or research of peer-reviewed articles or reports; teaching excellence whatever criteria is used, like student pass rate, student reviews and supervision; and community development or involvement, that is, university management and administration, committee involvement and application of knowledge to community problems. Academic rank that is achieved through the promotion process reflects a certain level of academic quality, in terms of research, teaching and community development. It is assumed that persons that have gone through the established promotion process have met certain levels of excellence and recognition!

In South Africa apart from the standard higher education quality assurance processes that are used in higher education institutions (HEIs) HEI like the promotion process, there are statutory systems and processes that are in place. For example, until recently, SERTEC - the Certification Council for Technikon Education Act, 1986 (Amended in 1993) has guided the assessment and quality assurance of education and training (knowledge production and utilization) in Technikons. The South African Qualifications Authority (SAQA) established

under the SAQA Act of 1995 is a more recent instrument that covers the whole education system.[3] The functions SAQA are twofold:

- *To oversee the development of the National Qualifications Framework (NQF), by formulating and publishing policies and criteria for the registration of bodies responsible for establishing education and training standards or qualifications and for the accreditation of bodies responsible for monitoring and auditing achievements in terms of such standards and qualifications;*
- *To oversee the implementation of the NQF by ensuring the registration, accreditation and assignment of functions to the bodies referred to above, as well as the registration of national standards and qualifications on the framework. It must also take steps to ensure that provisions for accreditation are complied with and where appropriate, that registered standards and qualifications are internationally comparable*.

The Standards Setting and Development, and the Quality Assurance and Development functions of SAQA are most relevant to quality assurance of education, training and knowledge production. The Standards Setting and Development function of SAQA oversees the registration and management of National Standards Bodies (NSBs) and Standards Generating Bodies (SGBs). Through the work of NSBs and SGB, standards and qualifications are developed and after public consultation processes these standards are recommended to SAQA for registration on the National Qualifications Framework. The LIS sector falls within the Communication and Language NSB and the Information Studies sub field oversees the LIS SGB.

SAQA accredits bodies responsible for monitoring and auditing the provision and achievement of NQF registered standards and qualifications. The Quality Assurance and Development function of SAQA is responsible for the development and management of policies relating to the accreditation of Education and Training Quality Assurance bodies (ETQAs), providers and assessors. ETQAs are accredited by the Quality Assurance and Development of SAQA to perform quality assurance functions and to accredit providers to

[3] The bulk of the content on SAQA presented on SAQA has been sourced and adapted from the SAQA web site i.e. Http://www.saqa.org.za/

offer and assess against the standards and qualifications registered on the National Qualifications Framework.

The White paper on Higher Education and the Higher Education Act of 1997 makes provision for the Council on Higher Education (CHE) to establish a permanent sub-committee, the Higher Education Quality Committee (HEQC).[4] The mandate of the HEQC is to:

- Promote assurance in higher education
- Audit quality assurance mechanisms of higher education institutions
- Accredit programmes of higher education

The main responsibility of the HEQC is to audit the effectiveness of the quality assurance policies and systems of all public and private providers of higher education with particular emphasis on the quality assurance arrangements for teaching and learning, research and knowledge-based community service. Audits will take place in the context of an Audit Framework developed by the CHE. An audit manual which will include audit criteria is in preparation.

It is the HEQC's view that the primary responsibility for the quality of the provision of education, learning and research rests with the higher education institutions themselves. Thus the role of the HEQC is to provide external validation of the claims made by higher education institutions in their self-evaluation report. The assumption therefore is that if an institution claims that it has high quality academics and researchers, and produces a high quality of research or knowledge, such an institution must produce evidence of such claims, and the HEQC through its process will do the validation. An external panel of experts will prepare an audit report on the effectiveness of the quality management systems after they have considered the self-report in the light of the evidence gathered during site visits.

[4] Material on the HEQC presented here has mainly been sourced from the CHE website, i.e. http://www.che.org.za/

The accreditation process of the HEQC involves external validation that indicates that programmes leading to registered qualifications achieve set standards, conduct their activities with integrity, deliver outcomes that justify public confidence and demonstrate accountability for the effective use of public and private funds. SAQA has accredited the CHE-HEQC as the primary Education and Training Quality Assurer for all public and private providers of higher education offering programmes at the levels 5 to 8 (5-10 in the proposed Higher Education Qualification Framework). These levels relate to programmes and qualifications offered at the universities of technology, comprehensive institutions and universities. The HEQC looks mainly at the composite institutional and programmes quality and not on individual researchers and academics, although of course the quality of individuals that deliver the programmes and develop the curriculum are assessed as a group in their the ability to provide proper training and knowledge.

The NRF evaluation and rating system[5]

The mission of the National Research Foundation (NRF) is:

…to support and promote research through funding, human resource development and the provision of the necessary research facilities in order to facilitate the creation of knowledge, innovation and development in all fields of science and technology, including indigenous knowledge and thereby to contribute to the improvement of the quality of life of all the people of The Republic [South Africa].

The core objectives of the NRF are:

- Human resource development;
- Knowledge generation (research and development) in prioritised areas;
- Utilization of research results, technology transfer and innovation;
- Provision of state-of-the-art research infrastructure;
- Public understanding and advancement of science and technology

[5] The contents on the rating process presented in this section is based on and adapted from official publications of the NRF and more specifically the Evaluation Centre, i.e., http://www.nrf.ac.za/evaluation/ ; http://www.nrf.ac.za/evaluation/Content/Documents/Documents.htm ; http://www.nrf.ac.za/evaluation/Content/Documents/Rating/EvalBrochureSept03.doc http://Submissions.nrf.ac.za/help/RatingHelp.doc A special thank you to Ms. G. Schirge, Manager Evaluation Centre and her staff for additional information supplied on the evaluation and rating system

Evaluation is one of the core support functions that enable the NRF, as a quality-driven organization, to conduct its business. Peer evaluation and rating of researchers is therefore considered an essential tool in optimizing investment of resources of the NRF. In the evaluation and rating system of the NRF researchers are rated on the basis of the informed opinions of national and international peers about their recent research outputs. Unlike the academic promotion process which may consider an academic's "entire output" and other contributions like teaching and community services, the NRF rating system is dependent on peer assessment of research output normally for a period of seven years! The rating system provides a benchmarking role for the applicant, his/her institution, as well as the NRF and is also a determinant in the duration of NRF support. For instance, currently an NRF-rated researcher can qualify for funding from the NRF for up to five years in certain programmes. To put the rating system into context its short history is presented below.

The history of support for research in universities goes back to 1942 when General Jan Smuts began developing a vision for a national research body in South Africa. In 1945 Parliament passed a bill to establish the Council for Scientific and Industrial Research (CSIR). Fostering research in universities through grants and bursaries was high on the planned strategies of the CSIR such that it was one of the key items on the agenda of the first council meeting. In 1952 CSIR introduced specialised university committees to evaluate applications and allocate funds. One of the strategies used by the CSIR to address scientific challenges was the concept of Cooperative Scientific Programmes (CSP) aimed at promoting goal-orientated research designed to solve problems of critical national importance. In May 1980, the CSIR appointed Dr Reinhard Arndt as Vice-President with executive responsibility for the University Grants Division and the CSP.

In the early 1980s there was a perception among research scientists at universities and museums that the funding available to support research was being 'spread too thinly' – many researchers seemed to have too little funding for their needs; although some seemed to have

too much. The allocation of funds did not seem to be based solely on clearly defined and agreed upon criteria. To place national research funding on a more secure footing, the University Grants Division of CSP co-opted Prof Jack de Wet, retired dean of science at the University of Cape Town, to investigate options for research funding in higher education and to advise the CSIR. As a result of De Wet's recommendations, the Main Research Support Programme and the Cooperative Scientific Programmes were combined to form the CSIR Foundation for Research Development (FRD) in 1984, headed by Arndt. In 1990 the FRD became an independent body with Arndt as its President. It was decided by Arndt and De Wet that the most important criteria researchers would have to comply with to access FRD funding would be the quality of their research and of their research students. The FRD would invest its money in people with a track record of doing good research. This led to a novel concept of peer evaluation and the rating of individual researchers in higher education, based on their recent track records and outputs in research. Their level of support was exponentially linked to this rating. As one would have expected of the then South Africa, whose institutions were based on the apartheid system, most if not all persons who enjoyed the support were persons located at advantaged institutions that in effect had the research culture!

It became evident from the beginning of the rating system that evaluation and rating could only be done by individuals accepted by the applicants and the broader community as peers who are actively involved in the relevant field of research. A large number of leading researchers, many of them outside the country's borders, became involved in adjudicating the quality of the research outputs of South African researchers. As is typical of the academic community, many were pleased to be part of this novel approach to research funding. More than 12 000 local and foreign researchers have participated as reviewers. More than 3 000 applicants have been evaluated; some of them once, others on several occasions.

In April 1999, the FRD and the Centre for Science Development (CSD) were merged into the National Research Foundation (NRF). Dr. Khotso Mokhele became its Chief

Executive Officer and President in July 1999. From 1984 to 2001 the evaluation and rating system applied only to scientists in the natural sciences, engineering and technology. In June 2001 the NRF Board approved the rating of all researchers and a rating system for researchers in the social sciences and humanities was introduced in 2002. The eligibility of medical scientists in the evaluation and rating system was problematic and ambivalent in the past. Medical scientists are supported by the Medical Research Council (MRC) but some medical scientists whose research overlaps with the natural sciences (and with the social sciences) were, and are, supported by the FRD (now NRF). Medical researchers involved only in clinical trials were neither rated nor supported by the FRD. While clinical research is still not supported by the NRF, the NRF accepts applications for evaluation and rating from researchers in the clinical medical research field.

The rating systems, rating categories and their descriptions, and benefits for rated scientists have and continue to change with time and circumstances. While in the early days of the rating system, rated researchers/scientists, many of whom were from the advantaged institutions and population of South Africa were guaranteed research funds, the level of support which was exponentially linked to the rating, changed in recent years. The NRF strategy to bring on board more researchers mainly from disadvantaged backgrounds and institutions meant that the funds available had to be spread over many applicants than had been the case before. Thus a re-look at the funding policy became necessary. The need to support academics and researchers across the whole sector of South Africa also necessitated putting in place a strategy and process to facilitate research development of previously disadvantaged persons for rating. Although the principles governing the rating system have not changed drastically since its establishment, the presentation of the system below is based on the current processes. The NRF Board approved a framework for research support, which has opened access to all researchers irrespective of rating. However, after a finite period of NRF support, researchers will have to be rated in order to be eligible for further support.

Furthermore, in the new funding framework longer-term funding (up to five years for focus areas and ten years for Centres of Excellence) is available to rated researchers only.

Applications for evaluation and rating are submitted electronically on the following web site http://nrfonline.nrf.ac.za/. As stated above the NRF evaluation and rating system is a peer assessment of one's track record of research output over a seven year period. Researchers from all disciplines who are employed on a full-time, part-time or contract basis at higher education institutions, museums and approved research institutions in South Africa, are eligible to apply for evaluation and rating. Information that is required in the application form includes the following:

- Personal details
- Career profile
- Qualifications obtained
- Assessment panel(s) to consider application
- Nominated reviewers
- Application for L category?
- Relevant biographical sketch
- Research outputs of last seven years
- Ten best recent research outputs (last 7 years)
- Ten best research outputs before that
- Description of completed research
- Self-assessment
- Postgraduate students
- Other research-based contributions
- Statement of future research

As indicated above the evaluation and rating of researchers is based primarily on the quality of the research outputs during the past seven years. While research outputs differ from discipline to discipline, they could include: publications in refereed/peer-reviewed journals; books or chapters in books; refereed/peer-reviewed conference proceedings; other significant conference outputs including published abstracts; keynote or plenary addresses; patents; artefacts and products; technical reports and any other measurable outputs. Other measurable outputs include annotated bibliographies, CD-ROMS, development and production of software, electronic publications, plant-breeding rights, research guides, vaccines, web-sites, etc. For all these research outputs appropriate and concise descriptions must be included in the

online application for evaluation. Although in all the cases above, the actual research outputs must not be submitted, they should be made available upon request. The NRF recognized that research outputs differ from discipline to discipline and that research institutions and applicants require greater clarity about research areas, therefore it has with the assistance of Specialist Committees (which are discussed below) generated a document describing the ***Key Research areas and types of research outputs*** of cluster of specialized fields.

The Specialist Committee (which is the basis of the Specialist Panel, discussed below) within which LIS applications are evaluated is the Communication Studies, Media Studies and Information Science. The primary research outputs for this Specialist Panel include peer reviewed:

- Full articles in journals (printed and electronic) – Due weight is given to journals of international standing, and national journals that have international profile in authorship, editorial board and readership
- Chapters in books. (Must be research or theory based)
- Whole books contributing to knowledge or expanding the borders of knowledge. The status of the publishing house is a factor (known for strict editorial and refereeing policies)
- Editorial activity, which shapes a discipline, such as found in edited journal theme issues, book anthologies, comprehensive introduction to theme issues, and in complex debates in review essays. In such cases it must be clear that the editor is not just administratively involved, but is the creative mind (with co-editor if so involved) in conceiving, planning and editing the book or journals theme issue, and if the book or journal has contributed to the expansion of knowledge.

Secondary outputs include:

- Keynote or plenary addresses at international conferences
- Editing of peer reviewed book series
- Video and other productions with evidence a theoretical framework, and which are made in pursuance of written research. Videos and other forms of electronic or performative presentation on their own will not constitute research in and of itself

Tertiary outputs like:

- Textbooks will qualify under this ranking if they are written for senior students and if they contribute new knowledge, expand existing knowledge, or evidence innovative ideas
- Editorial activity on peer reviewed journals (editing, refereeing, etc)
- Refereed conference proceedings
- Publication in professional (non-refereed journals

Other outputs are:

- Technical reports

- Articles without a system of refereeing
- Non refereed conference proceedings

It goes without saying that it is the responsibility of the applicant to show clearly the refereeing procedure and processes of the research output items that are included in the application.

The definition of research, which accommodates applications both in the social sciences and humanities and in the natural sciences, engineering and technology, is based on that derived from the Research Assessment Exercise in the United Kingdom. It is specifically tailored for internal use at the NRF. It is intended to be flexible and to allow for wider interpretation by applicants and reviewers, as well as to assist institutions with their screening processes. Thus for purposes of the NRF, research is original investigation undertaken to gain knowledge and/or enhance understanding. It specifically includes:

- the creation and development of the intellectual infrastructure of subjects and disciplines (e.g. through dictionaries, scholarly editions, catalogues and contributions to major research databases);
- the invention or generation of ideas, images, performances and artefacts where these manifestly embody new or substantially developed insights;
- building on existing knowledge to produce new or substantially improved materials, devices, products, policies or processes.

It specifically excludes:

- routine testing and analysis of materials, components, instruments and processes, as distinct from the development of new analytical techniques;
- the development of teaching materials and teaching practices that do not embody substantial original enquiry.

It has been pointed above that from the outset of the rating system; it became evident that that evaluation and rating could only be done by individuals accepted by the applicants and the broader community as peers who are actively involved in the relevant field of research. Applicants are therefore required to nominate reviewers that they consider as peers and or persons who are experts in the field. These may be local or international. For the LIS sector in South Africa the cohort of experts locally available and in Africa is obviously small.

This means that applicants have to heavily depend on the international community! It means that applicants must know international experts working in the field and they themselves must publish internationally anyway, in order to be known and recognized. International recognition and standing counts heavily in the rating system and as such international recognized researchers, as is presented below are high rated in the NRF rating system.

Applicants are also required to choose the Specialist Committee that they consider as the most appropriate to consider the rating application. Three to six members, mostly from the academic community, are appointed to the Specialist Committees, based on their research experience and reputation in the research community. The role of the Specialist Committees is to assess the standing of applicants amongst their peers and to assign a rating (see Table 1 below for Definitions of Rating Categories) to applicants on the basis of the statements contained in the reviewers' reports. It the Committees' role to assess the objectivity of these reports in the light of the factual information contained in the submission documents. It is not the role of the Specialist Committees to evaluate the outputs of the applicants. The following Specialist Committees have been constituted:

- Animal and Veterinary Sciences
- Anthropology, Development Studies, Geography, Sociology and Social Work
- Biochemistry
- Chemistry
- Communication, Media Studies, Library and Information Sciences
- Earth Sciences
- Economics, Management, Administration and Accounting
- Education
- Forestry and Agricultural Sciences
- Engineering
- Health Sciences
- Historical Studies
- Law
- Literary Studies, Languages and Linguistics
- Mathematical Sciences
- Microbiology and Plant Pathology
- Performing and Creative Arts, and Design
- Physics
- Plant Sciences
- Political Sciences, Policy Studies and Philosophy
- Psychology

- Religious Studies and Theology

As indicated above the LIS sector falls within the Communication Studies, Media Studies and Information Science specialist committee. This committee includes the following fields:

- Communications
- Communication studies
- Media Studies
- Media theory
- Cultural studies
- Information and Library science
- Development communication and
- International communication

It is recognized that the boundaries of these fields overlap with others. For example, it is recognized that Information Science is an outgrowth of Librarianship and is now also connected to Computer Applications. With respect to Communication studies for example, it is recognized that the field primarily emerged from the disciplines of Behavioural Psychology, Sociology, Rhetoric and Speech Communication. It is also spawned sub fields like Organizational, Business, Marketing, Group, Intercultural and Intergroup Communication.

Applicants are responsible for ensuring that their applications contain sufficient detail to allow for proper assessment, as the information supplied will provide the basis on which reviewers make their judgments. If applicants do not adhere to this request, their applications will be returned, and they will only be eligible to apply for the next closing date. The application must be screened and approved by the applicant's institutional research administration, which in turn submits it to the Evaluation Centre of the NRF, where the application is screened for acceptance and receipt is acknowledged.

The full documentation of the application is then sent by the NRF Evaluation Centre to members of subject-specific Specialist Committees (as in the list presented above) who read the documents and, on the basis of their knowledge and the recommendations from the applicant, identify and a list the names of at least six suitable peer reviewers. This is regarded

as one of the most vital steps in the evaluation process and the Specialist Committees are provided with detailed guidelines on the selection of peer reviewers. In some cases the Specialist Committee may identify a problem with the application. For example, in its judgement, it may be premature or too weak to submit to reviewers. In these cases the matter is referred to the relevant NRF Executive member for a decision and, if upheld, this decision is then communicated to the employing institution involved.

At least six reviewers (peers) evaluate the research outputs of each applicant. Normally half of the reviewers are selected from a list of potential reviewers supplied by the applicant, while the rest are selected independently by the relevant Specialist Committee. The Evaluation Centre sends comprehensive documentation to peer reviewers and asks them to scrutinise this and to provide an appraisal/evaluation on the following:

- The quality of the research-based outputs of the last seven years as well as the impact of the applicant's work in his/her field and how it has impacted on adjacent fields.
- An estimation of the applicant's standing as a researcher in the field in terms of both a South African and an international perspective.

As the identification of the best reviewers is at the heart of the entire process it is inevitable that at least 70% of the appointed reviewers are from prestigious institutions abroad. It is important to note that reviewers are neither informed about the previous evaluation of the applicant nor are they informed about the rating categories as listed in Table 1. Obviously reviewers that are familiar with the NRF rating system, particularly local ones, are aware of these rating categories.

Once a sufficient number of reviewer reports and other documentation are received these are distributed to appropriate Assessment Panels. Assessment Panels are constituted from members of the respective Specialist Committees (and based on the above list), an independent assessor and a chairperson who is either a member of the NRF Executive or a researcher of international repute. A limited number of assessors are appointed annually, normally for a period of three consecutive years. They are selected from the ranks of highly

respected researchers who have served on Specialist Committees in the past, who are therefore familiar with the process and who have earned a reputation during their tenure on these Specialist Committees for their wisdom and objective judgements. Assessors must ensure that the assessment process is fair and independent and that the same criteria are applied consistently by all the Specialist Committees. Assessors are appointed by the NRF Executive member who has been delegated this task by the NRF President.

Decisions on the ratings of applicants are taken by the relevant Assessment Panels or, in some instances, by the Executive Evaluation Committee (EEC). These decisions are based on the Panels' assessment of the reviewers' reports in the light of the applicants' submission. It must be borne in mind that the NRF peer evaluation process is intricate and not mechanistic. Ultimately, the judgment of the members of the Assessment Panels and their wisdom, which has some intangible components, must be relied upon. Hence, interpretation of words such as 'considerable' form an important part of the Assessment Panels' task in their role of assessment of reviewers' reports. The definitions of the NRF rating categories and descriptions of sub-categories are presented in Table 1. These categories and sub-categories are applied to all applications in the evaluation and rating process. The definition of research presented above, as derived from the Research Assessment Exercise in the United Kingdom and used in the NRF rating system should be consulted to clarify the interpretation of research as indicated in the various categories.

TABLE 1
DEFINATIONS OF NRF RATING CATEGORIES

Category	Definition of category	Sub-category	Description
A	Researchers who are unequivocally recognized by their peers as leading international scholars in their field for the high quality and impact of their recent research outputs.	A1	A researcher in this group is recognized by all the reviewers as a leading scholar in his/her field internationally for the high quality and wide impact (i.e. beyond a narrow field of specialization) of his or her recent research outputs.
		A2	A researcher in this group is recognized by the over-riding majority of reviewers as a leading scholar in his or her field internationally for the high quality and impact (either wide or confined) of his or her recent research outputs.
B	Researchers who enjoy considerable international recognition by their peers for the high quality and impact of their recent research outputs.	B1	All reviewers concur that the applicant enjoys considerable international recognition for the high quality and impact of his/her recent research outputs, with some of them indicating that he/she is a leading international scholar in the field.
		B2	All or the overriding majority of reviewers are firmly convinced that the applicant enjoys considerable international recognition for the high quality and impact of his/her recent research outputs.
		B3	Most of the reviewers are convinced that the applicant enjoys considerable international recognition for the high quality and impact of his/her recent research outputs.
C	Established researchers with a sustained recent record of productivity in the field who are recognized by their peers as having: • produced a body of quality work, the core of which has coherence and attests to ongoing engagement with the field • demonstrated the ability to conceptualize problems and apply research methods to investigating them.	C1	While all reviewers concur that the applicant is an established researcher (as described), some of them indicate that he/she already enjoys considerable international recognition for the high quality and impact of his/her recent research outputs.
		C2	All or the overriding majority of reviewers are firmly convinced that the applicant is an established researcher (as described).
		C3	Most of the reviewers concur that the applicant is an established researcher (as described).
P	Young researchers (normally younger than 35 years of age), who have held the doctorate or equivalent qualification for less than five years at the time of application and who, on the basis of exceptional potential demonstrated in their published doctoral work and/or their research outputs in their early postdoctoral careers are considered likely to become future leaders in their field.		Researchers in this group are recognized by all or the over-riding majority of reviewers as having demonstrated the potential of becoming future leaders in their field, on the basis of exceptional research performance and output from their doctoral and/or early postdoctoral research careers.
Y	Young researchers (normally younger than 35 years of age), who have held the doctorate or equivalent qualification for less than five years at the time of application, and who are recognized as having the potential to establish themselves as researchers within	Y1	A researcher in this group is recognized by all reviewers as having the potential (demonstrated by research products) to establish him/herself as a researcher with some of them indicating that he/she has the potential to become a future leader in his/her field. (Applicants on the borderline between P

	a five-year period after evaluation, based on their performance and productivity as researchers during their doctoral studies and/or early postdoctoral careers.	Y2	and Y should be rated at this level.) A researcher in this group is recognized by all or the over-riding majority of reviewers as having the potential to establish him/herself as a researcher (demonstrated by recent research products).
L	Persons (normally younger than 55 years) who were previously established as researchers or who previously demonstrated potential through their own research products, and who are considered capable of fully establishing or re-establishing themselves as researchers within a five-year period after evaluation. Candidates should be South African citizens or foreign nationals who have been resident in South Africa for five years during which time they have been unable for practical reasons to recognise their potential as researchers. Candidates who are eligible in this category include • black researchers • female researchers • those employed in a higher education institution that lacked a research environment • those who were previously established as researchers and have returned to a research environment.		This category was introduced to draw an increased number of researchers with potential from disadvantaged backgrounds as well as women into research. It also caters for persons previously established as researchers who have returned to a research environment after periods in industry or elsewhere. Applicants must demonstrate that they could not realise the potential or sustain their research ability by virtue of a lack of a research environment, or time spent in industry, or on maternity leave, or raising a family. For candidates to qualify for this category the employing institution must have demonstrated its financial commitment towards a development strategy for the staff member concerned.

The NRF recognizes that feedback is a critical important aspect of the rating like any other peer review process. Thus Specialist Committees identify feed back from reviewers' report. The NRF Evaluation Centre provides these selected comments, along with the outcome of the evaluation in instances where an applicant has indicated that he/she would like to receive feed back. Only comments of reviewers that have given permission to use their comments are communicated to the applicant. While the NRF engages in discussion about all aspects of the evaluation process, it does not enter into any discussion on the content of feedback supplied. It is the view of the NRF that the most important feedback from the evaluation process is the rating itself. It represents the overall opinion of the reviewers regarding the standing of the applicant as a researcher, based on the research outputs over the last seven years. For example, if a researcher is placed in category B, it means that the reviewers regard the applicant as a researcher who enjoys considerable international

recognition by his/her peers for the high quality and impact of the research outputs that have been produced in the last seven years.

The NRF rating system provides for appeals against the evaluation outcome. The appropriate authority at the employing institution can lodge a written appeal on behalf of the applicant if it considers the result of a particular evaluation outcome to be markedly out of line with the institution's own assessment of the applicant.

As stated above more than 12 000 local and foreign researchers have participated as reviewers and more than 3 000 applicants have been evaluated; some of them once, others on several occasions, since the rating system was established. The rating of individuals is for a finite period, i.e. five years and thus a person's rating can lapse; the system provides for re-evaluation and of course one's rating can either improve or go downwards. The critical point however is that every rated scientist is recognised by his/her peers nationally and internationally as either an established researcher (A, B, and C) or a promising scientist (P, Y, L) capable of becoming established researcher in a given period. In South Africa there is currently close to 14 500 persons in science councils, museums and institutions of higher learning whose key activity is new knowledge (research) production, transfer and or utilization and or transfer and thus eligible for rating. There is close to five hundred (500) LIS personnel in higher institutions of learning and science councils who are in the same category. However, as Table 2 below shows, only 1606 of these had applied for rating (as new applications and or re-evaluation) or retained their rating in the 2003-2004 cycle as at August 2004. One hundred and thirty six (136) of these had a "Rating Unsuccessful" (RU). Thus only 1470 persons have attained valid rating in South Africa.

There are several reasons that may result in one obtaining a "Rating Unsuccessful", in spite of the fact that his/her institution may have supported the application. Most common and obvious of these is the fact that an applicant has in the view of his peers, not produced an acceptable quantity and or quality of research outputs as is expected in a given field. Although

of course like any peer review process, for example, the publishing and the associated referee process, one often feels dejected when a manuscript is not accepted, attainment of an RU simply means a person has not reached the level and quality of output required in the field. The NRF in liaison with the Specialist Panel provides feed back to assist the applicant (and his institution) plan for his/her research development. In some cases poorly generated applications, lacking appropriate motivation and presentation of key research contributions does contribute heavily to attaining a "Rating Unsuccessful". It is possible however, or persons with RU to reapply in the following year and or calls that follow and indeed attain a rating.

In spite of the standard problems that any peer review system has, it is obvious that the NRF rating does provide personal and professional benchmarking with respect to researchers. The LIS sector like any other filed in South African can greatly benefit from it. It must be emphasised however, that the rating system deals with one aspect of excellence in knowledge generation and use, that is, a person's ability to independently conceptualise problems and apply research methods to investigate them, and produce a body of quality work, the core of which has coherence and attests to ongoing engagement in the filed. Thus persons in LIS who are rated are more than likely able to produce a body of knowledge which is of quality and can address key issues in the field. The NRF rating does not address the teaching and community involvement per se of such rated persons and other knowledge workers. However, it is logical to further assume that persons who produce quality new knowledge are more than likely able to use such know to teach others and facilitate human resources development. It is this author's strong conviction having been closely associated and exposed to the rating system and having been an academic for several years that persons who are established researchers in LIS or any other field, as per NRF rating are more likely to use their experience in teaching and supervising others to become researchers and or produce new knowledge.

Table 2

Summary of valid ratings per discipline **7 August 2004**

Application year	2003
Discipline	(All)

Count of surname								
Panel	A	B	C	L	P	RU	Y	Total
Accounting, Business Administration and Management Sciences		1	12	1		10	2	26
Animal and Veterinary Sciences	6	41	99	4	2	4	20	176
Anthropology, Geography, Sociology and Social Work		6	17		1	5	2	31
Biochemistry	1	12	29	2	2	2	16	64
Chemistry	2	27	50	11	2	9	13	114
Communication, Media Studies, Library and Information Sciences		2	9	1		2	1	15
Earth Sciences	3	33	46	2	1	1	11	97
Economics, Agricultural Economics and Development Studies		2	17			3	3	25
Economics, Management, Administration and Accounting		1	5			2	3	11
Education		6	29	5	1	18	4	63
Engineering	6	28	87	4	1	7	13	146
Forestry and Agricultural Sciences		4	31	2	1	3	10	51
Health Sciences	4	17	68	3	1	15	17	125
Historical Studies	1	7	16			6		30
Languages and Linguistics	1	8	13	3		4	1	30
Law	1	13	33	2	2		3	54
Literary Studies	3	9	27	2	1	3		45
Mathematical Sciences	5	39	69	8		6	20	147
Microbiology and Plant Pathology	5	17	24	2			10	58
Performing and Creative Arts, and Design		8	12			6	1	27
Physics	6	38	40	3	2		10	99
Plant Sciences	3	28	35	2		2	3	73
Political Sciences, Policy Studies and Philosophy		6	16		1	6	2	31
Psychology		6	21			8	3	38
Religious Studies and Theology	1	5	10			13		29
						1		1
Total	48	364	815	57	18	136	168	1606

Table 2 above shows that of the 1470 rated researchers, 15 (1.02%) are in the Communication, Media Studies, Library and Information Sciences fields, of these nine (9) are library and information science researchers or operate in areas that for the purpose of this paper are regarded as LIS researchers. It must be pointed out however, that rating of LIS researchers and others in the humanities and social science related fields only began in 2002/2003 and have only done one cycle. It must also be noted that the population of potential LIS applicants is less than 500 people. However, one hopes that as the Department of Education emphasize research and production of research students (i.e. research masters and doctorates) and of course research outputs for subsidies purposes and in order to deal with more complex problems in LIS in the country, people who generate the knowledge will subject themselves to this benchmarking system. This will in part assure potential students and indeed consumers of the research that they are receiving quality research which they have the right to. Although there is currently no standard usage of the NRF rating in institutions, it is a known fact that most universities and technikons and (universities of technology) acknowledge their rated scientists by listing them in annual reports. Some institutions use the NRF rating as one of the key criteria of the promotion process. Yet others provide monetary rewards on a sliding scale for rated researchers. This acknowledgement shows that institutions also value the NRF ratings.

The Role of LIASA in the NRF rating system

What role can the Library and Information Association of South Africa (LIASA) play in ensuring quality research and researchers with respect to the NRF rating? It has been argued above that communities or society generate and adopt standards and criteria that are used to determine and or assess the degree of excellence of something. It has also been stated that since its inception in 1984 the NRF rating system has changed based on the needs and requirements of those that have been rated. Further professional associations like LIASA are

expected to among others tings ensure and promote the generation of quality knowledge and professionalism among its members. LIASA does this in some way, for example, through the publication of the professional journal that is peer reviewed and listed on the Department of Education list of journals for subsidy, and LIASA is firmly involved in the work of the Information Studies SGB. However, there has been little thus far involvement in the NRF rating system.

To illustrate one way un which LIASA can contribute and influence the NRF rating process it is useful to look at the case of the Society of Law Teachers of Southern Africa (SLTSA). SLTSA at its Congress in July 2003 expressed concern about various issues surrounding the NRF rating system. These issues were presented to the National Research Foundation for consideration. Some of the key issues were that:

- The ***current rating system lacks credibility*** among researchers of South African Law;
- The total number of classifications available to an established researcher is eight (see table of ratings). The first six categories (A1…and C1) all require, in varying degrees some indication that the researcher "enjoys considerable international recognition for his/her high quality recent research outputs" ***only two categories (C2 and C3) are available to established researchers who are not recognised as having "considerable international recognition" in some form***. The SLTSA considers C3 rating as a "mere pass". The only category available to established researchers who do not publish internationally or who do, but not sufficiently to warrant a tag of "considerable international recognition", the society argued, is category C2. Such researchers fall in the category irrespective of their research status: no ***differentiation is made in respect of national leaders whose research has made wide impact on national issues***

The Society made proposals for dealing with these issues in that international leadership remain as key criterion for A-rated researchers; the notion of national leadership and national impact be geographically confined to SA. These proposals were submitted to the NRF and debated at the workshop of Convenors of Assessment Panels and members of the Executive Evaluation Committee. And although the suggestions were not wholly adopted, the association's contributions have been acknowledged and further consideration of the review of the rating is taking place.

Professional associations like LIASA have an obligation to make sure that standards are upheld within the profession. The Information Studies SGB of SAQA is one area of meaningful involvement by LIASA. However, it is important that LIASA assess and examine NRF rating processes, procedures and criteria and if in agreement, endorse them and encourage members to benchmark themselves against the system. If LIASA identifies aspects of the rating system that it is not in agreement with it should raise these issues, debate them and provide guidance on what it views as most appropriate ways of developing quality researchers and producing quality knowledge. Skills and work done in every aspect of LIS is dependent on the knowledge generated through research!

As part of capacity building through continuing education LIASA can support to prospective researchers and rating applicants on completing applications for rating. As indicated above some of the applicants do not attain ratings simply because of poorly completed and motivated applications.

LIASA can also assist the process by providing advice on what it as a profession considers being internationally accepted norms of assessing LIS researchers. More specifically make input into the list of key research outputs.

- Similar to the work LIASA is doing with respect to SAQA's SGB, it could also provide advice to the NRF on the most appropriate persons who should serve on Specialist Committees based of course on their research reputation. It could also emotion in providing advise on potential reviewers and experts in various aspects of LIS in South Africa. By recognizing and supporting the NRF rating process, LIASA will in effect in part ensure that the LISA community has access to quality knowledge.

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