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Wits ETD Workshop 2003 - UNESCO Report

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2003-11-01
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ELECTRONIC THESES AND DISSERTATIONS (ETD) WORKSHOP

October 16 & 17, 2003

Venue: Wits Club (West Campus), University of the Witwatersrand, Johannesburg

This project is supported by UNESCO

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PROGRAMME

Day 1		
09:00	Delegates Arrival and Registration	
10:00	Welcome	**Prof Richard N Pienaar, Vice-Principal and Deputy Vice-Chancellor (Academic: Internal)**
10:15	Introduction	*Felix Ubogu*
10:30	Demonstrations: DATAD Upetd	*Mary Materu-Behitsa* *Monica Hammes*
11:00	Database of African Theses and Dissertations (DATAD) Programme	*Mary Materu-Behitsa*
11:15	*Tea*	
11:30	Overview of Worldwide ETD Initiatives	*Felix Ubogu*
11:40	UNESCO Initiative	*Felix Ubogu*
11:50	Starting New ETD Programmes – social, institutional & policy issues; champion	*Mary Materu-Behitsa* *Monica Hammes* *Pateka Matshaya* *Felix Ubogu*
12:30	Infrastructure Requirement (H/W, S/W, HR)	*Arthur Kekana* *Charl Roberts*
13:00	*Lunch*	
14:00	Workflow for ETDs	*Monica Hammes*
14:20	Standards, metadata and the OAI-PMH (NDLTD and adherence to the OAI-PMH Protocol)	*Hussein Suleman*
15:00	**Tea**	

15:30	Standards, metadata and the OAI-PMH (NDLTD and adherence to the OAI-PMH Protocol)	*Hussein Suleman*
16:30	Closure of Day 1	
18:00	Cocktail	*Sponsored by Sabinet Online*
Day 2	*VENUE: ECR Wartenweiler Library*	
08:00	Hands on demonstrations	
09:00	Software options: VT, D-Space, EPrints, Greenstone	*Hussein Suleman*
09:20	Service Providers	*Pierre Malan*
09:35	UNESCO ETD Guide - principles, guidelines, workflow models and best practices	*Monica Hammes* *Hussein Suleman*
10:00	**Tea**	
10:15	Group Discussion on Governance Issues	
12:00	Evaluation	
12:15	Closure	
13:00	Lunch	
13:45	Departure	

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ELECTRONIC THESES AND DISSERTATIONS (ETD) WORKSHOP
16TH – 17TH OCTOBER 2003
HELD AT THE UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

DAY ONE

1. WELCOME

Prof. Richard N. Pienaar (Vice-Principal and Deputy Vice Chancellor Academic Internal)

Prof Pienaar welcomed everyone to Wits. For sometime he has been driving the electronic thesis project and he acknowledged the hard work done by Felix Ubogu and his team. He expressed his hope that the discussions will be fruitful and the deliberations and brainstorming will be successful and that one will be able to move forward with ETD.

Just a few years ago publishing found itself between two ages (print and electronic), and many publishers were striving to cross the divide by embarking on ambitious electronic publication plans. Publishing has now crossed that divide and electronic publishing imposes a new paradigm for authors as well as academic and research institutions. Advances in technology enable substantial innovation in the processes of creating, disseminating and accessing knowledge.

Universities now face a challenge to become active players in the use of ICTS to foster scholarly communication, and to include their research output in the developing global information infrastructure. Higher education institutions in many parts of the world have entered this arena of electronic publishing through their theses and dissertations projects. Many are now building on their experience and taking the next step of developing electronic repositories of knowledge produced by the universities, such as theses, dissertations, research reports, pre-prints, lecture notes and other materials, study guides and university and department reports. Tools such as D-Space and the University of California's e-scholarship repository are helping in showing us possible directions we might take.

It is essential that South African universities become involved in this international initiative so that we can leverage our knowledge assets to the greatest benefit of the country.

Electronic submission, archiving, and distribution of all theses and dissertations, like other areas of electronic documentation, are realities that institutions have to grapple with. For many this may be their first effort in electronic publishing. Apart from unlocking one of the precious possessions of institutions of higher learning - their research output - as they embark on scholarly electronic publishing, such a network-accessible archive of theses and dissertations will be of immense benefit to users: research which was previously difficult to access will be available online and these resources will be searchable using various parameters. The contents of such an archive will be embedded within a system of hypertexted cross-references to the full-text of documents inside and, when possible, outside the archive itself.

There are many national and international electronic publishing efforts and experiences. As each situation is different, I hope that the workshop will be the start of establishing locally defined solutions, while benefiting from the international experience and standards.

ETD projects require adequate IT infrastructure, IT capacity, security and authentication of documents. The biggest challenge of all: Will digital documents be accessible to future generations? Tom Griffy, professor of physics and associate dean for graduate studies at the University of Texas is quoted as saying: "When the Dead Sea scrolls were discovered, they were 2,000 years old and we could read them. Yet there are electronic documents less than 20 years old that we can't read. My fear is that it would only be through herculean efforts that future generations of scholars would be able to recover this information, and I don't think they would do it for a dissertation" (Mangan, 1996).

We must take cognisance of the fact that electronic documents require special efforts to guarantee their long-term accessibility, particularly in the face of unknown factors such as future hardware and software environments, and the physical stability of data. Yet we must not be dissuaded by these uncertainties. I am optimistic that as institutions become more and more electronic based, the migration of all institutional or personal data will constitute fewer problems.

These challenges highlight the need for collaboration within the university and between the universities, as well as regionally and internationally. Collaboration will minimise the risk in each institution undertaking an ETD project in isolation from others. It will also address the need for mutual assistance in adhering to international standards in areas such as metadata, and for using the Open Archive Initiative protocols. “This requires the development of shared goals and shared meaning, an infusion of resources by each party, a respect for the contribution of each community’s skills and perspectives, and an attention to process” (Lippincott, 2003).

Here at Wits we are committed to establishing and sustaining an ETD programme and preparations are at an advantaged stage. You will be able to see the steps that we have taken in this regard. We are prepared to consider any role that the academic community might require us to play in a national initiative.

I understand that the need for a national ETD programme has been recognised for some time. In this regard I would like to express appreciation to UNESCO for providing the limited funding that has made this workshop possible.
The project is located within the framework of UNESCO’s efforts to enhance the production, access and archiving of scientific information, particularly theses and dissertations, by using the opportunities offered by ICT. You will hear more about the UNESCO initiative in this area in one of the workshop sessions.

I hope you will deliberate on the various challenges posed and map out a new way forward for the country. I hope that the experiences gained at the workshop will enable more institutions to participate in this initiative and that the country will shortly develop a network of electronic theses and dissertations.

Our thanks also go to SABINET Online for sponsoring this evening's cocktail party.

I wish you a successful workshop.

References

Lippincott, Joan K. (2003). Collaboration and ETDs: Institutional and International Strategies, Sixth International Symposium On Electronic Theses and Dissertations held at the Humboldt-University in Berlin, *Certified Document Server at Humboldt-University* *http://edoc.hu-berlin.de/etd2003/lippincott-joan-k/HTML/index.html*, 21st – 24th May: pp 9-12 2003.

Mangan, Katherine S. (1996). CD-ROM Dissertations: Universities consider whether new format is appropriate way to present research. Available online at: http://etext.lib.virginia.edu/ETD/about/chronicle.html

2. INTRODUCTION - *Felix N. Ubogu (University Librarian Wits University)*

On arrival at the workshop delegates were requested to list their expectations on a flip chart, these are tabled below.

MY NAME IS	I WORK AS	MY EXPECTATIONS ARE
Felix Ubogu	Librarian	Have Fun
Barrie Swanepoel	IT Rau	Keep awake
Sibu Thembela	Librarian	Virtual Flight
Henda van de Berg	Information Specialist	Enjoy the day
Pierre Malan		
John Dovey	Library IT Specialist	Get it
Tom Larney	Librarian at Potch	To know more than I did
Jeanne Berger	Rhodes – Technical Services	To find out…?
Irene Vermaak	Rhodes – Systems manager	To get up to date
Roshini Pater	Subject Librarian	To find out.
Renfrew Christie UWC	Father to two daughters	Bliss
Philip Clarke	UPE/SEALS (YEAH!)	Oke
Ansie Watkins	UNISA Technical Services	To learn more
Mary Materu-Behitsa	AAU-DATAD Coordinator	Learn
Dirk Fokker	University Librarian UPE	Get issue coordinated
Pat Matshaga	Deputy Director OFS library	Share knowledge gain ideas
Huldah Raubenheimer	Cataloguer/sys admin	Learn more
Xoliswa Matroko	Education Training Librarian	To learn more
Elsabe Olivier	Information specialist	Get informed
A grobler	UCLT assistant UP	Learn more
Joan Rapp	UCT Library Director	Preparation for implementing ETD
Hussein	UCT CS	Meet people and convince them this all do-able
John Tsebe	University of the North	To create a positive future for ETD in south Africa
Arthur Kekana	ICT Library	Find out what others are doing about ETDs
Lizo Jafta	Professor UNISA	How the system works
Andy Scholts	ICTD University of the North	Learning curve starts here

3. DEMONSTRATIONS:

- *3.1 DATAD – Mary Materu-Behitsa*

Database of African Theses and Dissertations

- http://www.aau.org/dat.ad/database/
- Need to register.
- Developed in house at the Association of African Universities.
- 10,000 records from 8 institutions participating in a pilot project.
- Masters and PhD levels.
- RECORD ID
- Title
- Author
- Degree
- Supervisors
- Physical description
- Language
- Abstract as provided by the author
- To link to full text when available electronically to each institution.
- Each copyright is unique to each university institution.
- Ability to mark and view and print records.
- Full text to be kept on own servers.

- *3.2 Upted - Monica Hammes*

UpeTD University of Pretoria: Electronic Theses and Dissertations

- Divided into two sections access to electronic theses/dissertations and the other for UP post-graduate students
- Basic system from Virginia Tech
- Search with the assistance of various fields
- Search surname
- Author Department Title
- Email
- URN
- Document Title
- Degree
- Supervisor
- Keyword
- Front giving size of file. Contains title page abstract and index. Related to chapters.

- Table of contents
- Link to chapters by clicking on the chapter or on the link of the left hand side.

- Browse collection
- Dept Author A-Z

- Link to other ETD collections

- UP Post-Graduate students section (drop down menus)
- Create:
- Regulations
- Research Methodology
- Literature Management
- Writing: Research Toolbox
- Ethics: Copyright, Plagiarism
- Formatting
- Publish:
- 12 Step programme of how to do it.
- Standards

http://upetd.up.ac.za/publish

- Tutorials for creating PDFiles
- How to submit ETD
- Support
- Author help page:
- Q & A: General, Process
- UNESCO's ETD guide
- Workshops – workshops run by UP
- Contact information

Q & A from this session:

Q: How does the system cope with diagrams in life sciences field?
A: Okay, ETD theses have also been able to include video footage without a problem.

Q: Have you made changes to the Initial search form?
A: We don't mess with what works.

Q: In the form completed by students can you change the availability of a thesis?
A: There are four options: release worldwide, University of Pretoria Campus only, secure work for 1-year and an option for releasing parts only.

Q: In relation to the hyper link on author what happens if someone has an MA and PhD – one author? What about searching on title?
A: Search interface needs work but it does bring up both.

Q: If EDT submission is compulsory for students – what support do you give?
A : Submission is not compulsory this year but will be as from next year. University supplies infrastructure and the library software from Virginia Tech is open source and free.

Q: What percentage of students put the theses on themselves?
A: Currently one department only. However, as from next year students will do it themselves.

Q: Will the Google search engine find the authors on this database?
A: No, but Google will find the title.

Q: Is a separate machine required?
A: The specs will be discussed in a later session. We used a server that existed already, however it is preferable to have a new server.

Q: How much is your hand held by Virginia Tech?
A:. No support was given from Virginia Tech. Implementation was so easy that there was no need for handholding.

Q: There is concern that there are a number of data files in PDF, how sustainable is PDF?
A: PDF in basic – attach no commitment in sustainability. Moving to Dspace next year. Problem solve as they come.

4. DATABASE OF AFRICAN THESES AND DISSERTATIONS (DATAD) PROGRAMME - MARY MATERU-BEHITSA

http://www.aau.org

Association of African Universities
The Database of African Theses and Dissertations
Mary Materu-Behitsa[1]

1. Background

The Association of African Universities (AAU), with headquarters in Accra, Ghana, is an international non-governmental membership organization set up by the universities of Africa to promote cooperation among themselves and between them and the international academic community, in the service of African development. It was established in November 1967 at a founding conference in Rabat, Morocco, attended by representatives of 34 universities.

Today, membership stands at 171 institutions (including private universities and non-university institutions) drawn from 43 African countries spread throughout all the sub-regions of the continent, and embracing all the major linguistic groupings as well as educational traditions. The official languages are Arabic, English and French.

As the apex continental body promoting cooperation and coordination among African universities, the Association of African Universities serves its members and African higher education generally by providing resources and running programmes that build on the synergy of collective action by its members. The programmes involve research and training; the collection, classification and dissemination of information on higher education and research in Africa; and advocacy and support for the programmes of member institutions. These are more fully set out at the Association's Website: http://www.aau.org.

2. The DATAD project

The project for the development, management and dissemination of a *Database of African Theses and Dissertations* (DATAD) is an AAU initiative aimed at exposing the research output of higher education institutions in Africa to the wider research community. One of the ironies of the African research reality is that, although graduate theses and dissertations completed in African universities contain a wealth of empirical data and important insights, of great value to local and international development, they are rarely indexed in the major databases, nor do they feature much in the international literature. Not surprisingly, the body of research they represent has received little recognition at home or abroad. In other parts of the world, by contrast, graduate theses and dissertations are well preserved and indexed, and scholars and students worldwide

[1]Association of Africa Universities, Accra, Ghana mary@aau.org, http://www.aau.org/datad/

have relatively easy access to them in print or digital form. Efforts made to provide a globally accessible, well-documented source of information on African theses and dissertations have yielded little result in the past. But, thanks to the digital and communication revolution the AAU has, through the DATAD project, begun to come to terms with this problem.

The DATAD project was initiated at a planning meeting organized by PIAC[2] and held in Nairobi, Kenya, in January 1998, to consider measures for contributing to the creation of capacity in African universities for the collection, management and electronic dissemination of theses and dissertations. Participants at this meeting proposed a study to test the feasibility of the idea, and acknowledged the centrality of the AAU in coordinating and providing leadership to the proposed project.

The Report of the Feasibility Study (http://www.piac.org/datad) was approved by the AAU Conference of Rectors, Vice-Chancellors and Presidents (COREVIP) in 1999, after which a three-year pilot phase, involving eleven institutions, was started in February 2000. This phase has now come to an end.

Pioneers

Addis Ababa University (Ethiopia), Eduardo Mondlane University (Mozambique), Makerere University (Uganda), University of Zimbabwe (Zimbabwe), University of Dar es Salaam (Tanzania), Cheikh Anta Diop (Senegal), CODESRIA (Dakar), Yaounde I University (Cameroun), Kenyatta University (Kenya), Ain Shams University (Egypt), and University of Ghana (Ghana).

Apart from its broad objective, which is to provide information on African theses and dissertations, DATAD aims specifically at:

* Contributing to the creation of an environment conducive to research and publication in Africa;
* creating capacity in African universities for the collection, management and dissemination of theses and dissertations electronically;
* providing visibility and improved access to the work of African scholars, both within and outside of the continent;
* Facilitating the development of copyright procedures and regulations for the protection of the intellectual property rights of African university graduates and researchers; and
* Providing support for other AAU programs.

As a capacity building initiative, DATAD supports participating institutions through skills development, infrastructure supply and orientation towards retrospective indexing of existing collections. Participating institutions, for their part, are expected to maintain annual updates as part of their institutional contribution.

[2] Project for Information Access and Connectivity

3. Project Implementation

3.1 Identification of the pioneers*: These were strategically selected among the 18 institutions visited during the DATAD Feasibility Study. The main criteria for eligibility included among others:*

- *Regional and linguistic balance*
- Existence of basic ICT infrastructure particularly internet connection
- Leadership commitment
- A graduate program with a good number of theses and dissertations

3.2 Determination of DATAD implementation model

Existing models were explored and evaluated in consideration of the environment within which DATAD was to operate. Options for centralized, decentralized, and mixed models were explored. Bandwidth, IT skills, copyright, capacity building, and sustainability were key considerations in setting up regional and institutional management structures. DATAD has adopted a distributed model, with a combination of centralized and decentralized activities and processes.

Centralized aspects and activities include:

- Record and data formats
- Quality control monitoring
- Distribution / dissemination
- Minimum specifications for hardware and software
- Data integrity for the central server
- Project documentation
- Management and maintenance of the central server

Decentralized aspects and activities are:

- Data entry and editing
- Quality control
- Collection storage and archiving
- Access authorization to full text
- Copyright and IPR control for full text

3.3 Management and administration

A DATAD Advisory Committee was established with the mandate to oversee the implementation process. It meets once every year. Selected institutions were invited and discussions on a memorandum of understanding, stipulating the terms of cooperation and obligations of the involved parties drawn. Set up of institutional management teams consisting of representatives of stakeholders: postgraduate studies division, faculty, IT, library and graduate students. Institutional coordinator and implementing unit within the institution were identified.

3.4 Selection, procurement and delivery of hardware and software

The main consideration for the selection of software for the integrated database was cost, and ability to handle non-roman scripts. Provisions for a controlled and secure searchable Internet access with good report generation features was another necessary requirement. The integrated database has been developed in-house on MySQL running on a Sun Solaris Server.
Each institution was provided with bibliographic software, OCR software, a word processor, and a web posting software. See Appendix for full list of facilities acquired. The other considerations included economies of scale in bulk purchases, ease and efficiency in delivery, accounting, and available budget.

3.5 Training and IT support

The DATAD implementation process aims at capacity building for sustainability of the initiative. To train as many as possible, this was done on-site. The training missions involved sessions for raising awareness to all staff at the implementing unit, and training for specific skills for scanning, data entry, and quality control. Supplementary training was done during annual workshops.

4. Database Content

Determination of the record fields did consider the different user communities and their research needs: students, researchers, administrators, decisions and policy makers, development agencies, civil society groups, etc. DATAD is a research resource (as opposed to a simple bibliographic database) that will facilitate dissemination of research findings, networking of researchers, bibliometric[3] studies.
A **record** has the following **fields**: Author, Title, Degree, Year, Supervisor(s), University (faculty/dept, town, country), Availability statement, Location (of e-copy if available), Copyright statement, Abstract, Keywords, Call number.
All fields are not displayed when searching the database. Specifically, the gender field is not displayed.

5. Workshops

Two workshops were held for the duration of the pilot. They involved at least two people from each participating institution and lasted for two days. The objectives of these workshops were to receive and discuss progress reports from each participating institution. Particular attention was paid to:

Work progress: Data entry progress and problems, additional contributions from institutions, proposals/suggestions to enhance implementation, and technical, administrative, policy related challenges.

[3] Study of life cycle, utility, trend, or pattern as applied to a specific collection or group of documents

Quality control: The workshops were used to re-visit quality control for data. Actual data was reviewed for quality while common mistakes were identified and corrected. .

Copyright: Participants discussed the different copyright statements as provided by each institution pertaining to relevance and flexibility.

Skills enhancement: This provided an opportunity for enhancing skills for scanning, data entry, editing, file transfers and general trouble shooting for the different software.

Workshop recommendations provided useful input for improvement of coordination and implementation. Full reports can be accessed at http://www.aau.org/datad/reports. Relevant recommendations of the concluding workshop were communicated to heads of institutions. Since some are relevant to this discussion, they are appended to provide more detail.

6. Lessons

The DATAD model

A combination of centralized and decentralized architecture at management and technical levels. This was found most acceptable by institutions and technically feasible given the relatively poor and unreliable ICT infrastructure in most parts of Africa.

Support for infrastructure enhancement and training was essential for all sites. These facilities are vital for timely implementation of activities.
Each institution was provided a bibliographic management tool (Procite). Other software includes Windows 98 (OS), web posting software (Reference Web Poster), a word processor, (Word Perfect), OCR (OmniPage Pro11).

Quality control: It is absolutely necessary to have mechanisms for quality control at the point of data capture. There should be follow-up training workshops and support from a central point is important.

Standardization: The benefits of standardization in information systems development are appreciated. DATAD has tried to standardize record structure, software, and provided minimum hardware requirements. This is further detailed in the DATAD methodology Manual (http://www.aau.org/datad/reports/datadmanual.pdf). Vocabulary control, and the use of a thesaurus for the purpose were raised on several occasions but have not been adequately addressed. Currently, the database uses keywords as provided by institutions. Most of these are derived from LC Classification Schemes and Sears Subject Headings. This is an area that needs further attention.

Full text access: Most institutions are wary of responding to requests for full text, partly due to absence of clear policies on copyright and access provisions. The whole area of copyright and intellectual property rights as pertains to theses and dissertations is not well understood. There is need to provide more opportunities and avenues for creating awareness, development of guides, and disseminating best practice.

Preservation: Long-term preservation of research output is important to ensure long-term availability of these works. Institutions are urged to ensure completeness of their theses and dissertation collections, continue maintenance of a print archival copy of the same, and implementation of sound preservation policy for print and electronic copies of all vital research output from the institution.

Sustainability: Stakeholder involvement in the planning and implementation is vital for sustainability of any initiative particularly if they are externally initiated and funded.

Future developments
Phase two of the DATAD initiative will focus on management of DATAD intellectual assets and a business model to be adopted to provide ongoing funding for DATAD. The two are critical to the effort's integrity and long-term financial well-being.

Management of copyright and intellectual property: to create a general copyright and intellectual property rights guide as pertains to theses and dissertations stewardship of the intellectual assets (i.e., data, electronic documents, and associated metadata) developed under DATAD and administration of the rights for usage of those assets.

Development of a viable business-plan for DATAD: organizational infrastructure and management that would support DATAD policies and activities; optimal organizational structure to address governance and a funding model and fiscal management that would ensure accountability and benefits to the contributing universities, and the long term availability of the DATAD resources to the larger community.

Others activities
Invitation of a few new institutions and maintenance of old sites, particularly
To draw from their experience, and address the new challenges they are likely to Encounter as they interact with the wider community in response to increased publicity of their collections. They will also participate in workshops especially to provide input to the process for the development of the DATAD business plan and copyright guide.

Workshops and Meetings will provide input to the development of the copyright guide, the business plan, and to get feedback on the impact of DATAD at institutional level, especially after launching the online database. A second meeting planned for October 2004 will involve fewer people. Strategic representatives of university administrators

and professionals will be invited specifically to review the business plan and copyright documents and provides feedback for their finalization.

Production of the DATAD database on CD-ROM

In Africa particularly, CD-ROM databases are still effective way of fulfilling the Information needs of scholars, as they are convenient at institutions that do not Have full Internet connectivity or have erratic and low bandwidth connections. The plan is to maintain the online database as well as develop capacity to provide the database on CD-ROM.

The DATAD initiative has gained acceptance and momentum within institutions. It has laid a sound ground for institutions to embark on ETD and e-publishing in general

Appendix 1: Content of letter sent to heads of institutions

RE: CONCLUSION OF DATAD PILOT PHASE

In 2000, the Association of African Universities invited your institution and others to participate in the DATAD pilot project whose main objective is to improve management and access to African scholarly work with specific focus on theses and dissertations.

Phase one
The three-year pilot phase, which focused on retrospective abstracting and indexing of theses and dissertations involved eleven institutions, namely, Addis Ababa University (Ethiopia), Eduardo Mondlane University (Mozambique), Makerere University (Uganda), University of Zimbabwe (Zimbabwe), University of Dar es Salaam (Tanzania), Cheikh Anta Diop (Senegal), CODESRIA (Dakar), Yaounde I University (Cameroun), Kenyatta University (Kenya), Ain Shams University (Egypt), and University of Ghana (Ghana). The main DATAD database, which is constituted of records received from the institutions, was launched in Accra Ghana, on 30th April 2003. The launching database had 12,000 records (received prior to March 2003).

The main activities and achievements during the pilot are briefly summarized below:

- AAU set up a DATAD Advisory Committee.
- Each institution constituted a management team to oversee implementation of DATAD activities.
- Each site was provided with two computers (with CD read/writers), one scanner, one printer, and a set of software.
- Training on the DATAD methodology was done on-site and supplemented with two training sessions during the DATAD workshops in Addis Ababa (June2002) and Accra (April 2003) respectively.
- Records were received from each institution and integrated into the main database that was launched in Accra on 30th April 2003.
- Your institution has registered and been given free access to the database. The online database web reference is *http://www.aau.org/datad/database*.

All sites effectively used these facilities, and in many cases were supplemented by additional equipment and supplies from own resources. AAU appreciates the tremendous support offered throughout the process. The DATAD management teams established at each institution were instrumental in guiding policy decisions that related to identifying the implementing unit within the organization, policy decisions on copyright, public access, and sustainability.

The pilot phase will end in August 2003 but DATAD continues. To this end, AAU would like to bring to your attention the following specific recommendations made

during the concluding workshop held in Accra, in April 2003 for your consideration and action.

1. DATAD activities should be integrated into the institution/unit's plans and budget as a regular activity. The DATAD project equipment given to the institution should be used to continue support DATAD activities.

2. Require graduating students to provide abstracts (if this is not done) and keywords and input their thesis/dissertation record (according to the DATAD format) in a Procite database. The staff in-charge (in the DATAD implementing unit) will then verify the records for authenticity and accuracy before uploading into the main database and sending to AAU.

3. While AAU will continue efforts to solicit funds to subsidize coordination costs and contribute towards institutional capacity building for new institutions, DATAD pilot institutions should be helped to become national DATAD LEAD institutions. They will serve as national coordination and training centers while the AAU-DATAD coordinating unit will serve as the continental coordination center.

4. Several cost-recovery options were proposed as a means for the sustainability of DATAD at institutional level. These include introduction of a thesis processing fees, submission of electronic copies, and charging for document delivery.

5. The relative advantage and ease of full text access when institutions own copyright of theses and dissertations on behalf of students was noted. At the same time, publishing from thesis and dissertations within a specified time was found to encourage and motivate timely access to full text, and protection of copyright and intellectual property. Institutions are thus encouraged to explore owning copyright on behalf of the student and introduction or re-emphasizing policies and incentives encouraging individual students (or in collaboration with supervisors) to publish papers based on their work (within a specified time). This would have their intellectual property more fully recognized and protected. Further, AAU will work with member institutions to develop a general guide on copyright and intellectual property.

6. Long-term preservation of research output was recognized as an important step to ensure long-term availability of these works. Institutions are urged to ensure completeness of their theses and dissertation collections, continue maintenance of a print archival copy of the same, and implementation of sound preservation policy for print and electronic copies of all vital research output from the institution.

7. Institutions are to consider instituting submission of electronic (in addition to the print) copy by students as a graduation requirement.

The DATAD management team will definitely become instrumental in coordinating and overseeing discussion and implementation of the specific issues raised above and other pertinent issues by the relevant organs within the institution as they directly impact on the development of DATAD.

Phase Two

Phase Two of the DATAD program will constitute an 18-month transitional period starting September 2003. The main activities of this phase will include: development of a business plan; copyright and intellectual property guide; production and distribution of the database on CD-ROM; maintenance of the online database and DATAD sites and taking on board two new institutions. The process for the development of the business plan will actively involve members from the pilot institutions.

AAU is determined to make DATAD a permanent and reliable resource for research and higher education information in Africa. We take this opportunity to express our appreciation for your continued trust and commitment to your Association and the development of higher education in Africa.

AAU would be glad to be given feedback on actions taken so that the experience can be shared with other members.

Appendix 2: Sample DATAD Record

Record ID	DATAD/02413/UG
Title	Akyem Abuakwa C. 1874-1943: a study of the impact of missionary activities and colonial rule on a traditional state
Author	Addo-Fening, Robert
Degree	PhD, 1980
Supervisor(s)	A. Adu Boahen
University	University of Ghana, Department of History, Accra, Ghana
Physical description	537p. Tables
Language	English
Abstract	This thesis is a study of the nature and extent of the pressures - social, economic and political - that the Basel Missionaries and British colonial Administrators brought to bear on Akyem Abuakwa society during the period 1874-1943.The study also examines the State-responses to these pressures and the extent to which they were conditioned by her pre-European historical experience, her ethos, the strengths weaknesses of her institutional arrangements, the quality of her political leadership and her resources. The general conclusions that emerge from this study are that missionary activities and colonial policies brought a great deal of material progress to Akyem Abuakwa society: the quality of life was improved by the spread of western-style education, by the adoption new skills, by improved medical care and by infrastructure developments; changes in the customary penal system made the administration of justice more humane; while the evolution of a modern-style bureaucracy at the courts of the chiefs and the adoption of certain administrative routines enabled the complicated and diverse functions of modern government to be effectively discharged. These positive results-were, however, off-set by negative and harmful results: the spiritual foundations of Akyem Abuakwa were seriously undermined by widespread and willful violation of time-honored customary taboos by missionary converts in the name of religious freedom as well as by the introduction of a dichotomy between religion and politics; the cohesion and solidarity of Abuakwa society suffered great damage by the creation of salems whose Christian inhabitants held aloof from the life of the wider community; existing social conflicts were sharpened while new, more serious and harmful ones were introduced by the concept of territorial jurisdiction as embodied in the N.J.0., by the distortion of the character and role of chieftaincy, and by the destruction of the religious conformity of the state; the weakening of extended family ties, the growing emphasis on

individualism and the failure of Christianity to deal adequately with the trauma of rapid social and economic change created problems of security which express themselves in alcoholism and neurosis; above all the exploitation of Abuakwa immense resources - human and natural - for the greater benefit of her alien rulers resulted in the under-development of the State.

Keywords African history/Missionary activities/Politics and government/Ghana/Akyem Abuakwa

Call Number DT511.Ad2

Availability University of Ghana, Balme Library, P. O. Box LG24, Legon, Accra, Ghana. E-mail: rihall@libr.ug.edu.gh

Copyright

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b. All who consult a thesis must not copy or quote from it without the consent of the author and of this University
c. Any copying or quotation permitted should be duly acknowledged

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OVERVIEW OF WORLDWIDE ETD INITIATIVES – FELIX UBOGU

Felix N. Ubogu, University Librarian University Of The Witwatersrand

Keywords Electronic theses; Dissertations; Africa; South Africa; ETD

Introduction

Writing on the highlights of the ETD 2003 Symposium, Hagen et al were of the opinion that the Electronic Theses and Dissertations (ETD) movement is truly becoming a global phenomenon. I fully agree with this statement. The ETD movement has become an essential driver in the strategy to make scholarly information electronically available. The number of institutions that are members of this movement has gradually increased over the years. Participation in the initiative traverses different professional groups and entrepreneurial organisations. While many are engaged in the activities that support the electronic submission of theses and dissertations, a smaller number of others are paying attention to mining the huge store of traditional print theses and dissertation by converting them to electronic format for improved access to a previously difficult to search and access body of knowledge (Eldredge, 2003).

The Journey: 1987-2002

The early initiatives were undertaken by various project groups, notably the European Initiative in Library and Information Aerospace - EURILIA, the world-renowned UMI (formerly University Microfilm International), and Virginia Polytechnic Institute and State University (Virginia Tech) amongst others. These projects have a multiplicity of aims and objectives, which include enhancing teaching, research, and the dissemination of information. Cost reduction for students, researchers and libraries is also identified as one of the advantages of ETDs.

EURILIA started in February 1994; it attempted “to establish a pan-European system for information access, retrieval, image browsing and document delivery. EURILIA's initial focus was on the provision of access to academic theses. Available documentation on the project is scanty.

A University Thesis On-line Group (UTOG) was formed in 1994 in the United Kingdom. The Committee, which was originally a working group of university librarians, now includes representatives from a university computer centre, from administration and from an academic department. UTOG undertook investigation into the technical, cultural and administrative issues involved in the storage and delivery of theses in digital form.

UMI has provision for submitting masters' dissertations or theses in electronic formats, on disk, compound documents or CD. For UMI, a compound document contains both text on paper and other information only available in, and accessible through, a specific electronic format which includes multimedia and hypertext.

Virginia Tech has carried out the most extensive work on ETDs and there is copious documentation on their initiative.

A significant number of ETD projects were initiated in the context of the Networked Digital Library of Theses and Dissertations (NDLTD) initiative, and the software developed at Virginia Tech was widely adopted. Over the years there have been new technology-related effort and new software is now available.

Brief Chronology of ETD Initiatives

Period	Activity
1987	Concept of ETDs was first openly discussed at a meeting in Ann Arbor arranged by UMI.
1992-1994	Various meetings in Washington, Atlanta and Blacksburg
1994	European Initiative in Library and Information Aerospace — EURILIA
1994	University Thesis On-line Group (UTOG) (UK)
1994	Virginia Tech students submit their TDs as Portable Document Format (PDF) files.
1996	Virginia Tech's pilot project for students to submit TDs electronically.
1996	NDLTD launched. As of 13 Oct 2003, there are 189 NDLTD members: 165 member universities (including 7 consortia).
1997	• Compulsory electronic submission at Virginia Tech; • Australian Digital Theses Program
1997	Cyberthèses initiated by L'Université de Montréal (Canada) and L'Université Lumière - Lyon 2 (France). A federated facility.
2002	One stop shop for ETDs : OAI Harvester application from OCLC contacts contacts sites daily to ask for newly published TDs. Electronic Thesis/Dissertation OAI Union Catalog Based at OCLC (experimental): http://rocky.dlib.vt.edu/~etdunion/cgi-bin/OCLCUnion/UI/index.pl

Outlook by continent

A brief overview of ETD developments in different parts of the world follows. The information presented here is mostly gleaned from the proceedings of the Sixth

International Symposium On Electronic Theses and Dissertations held at the Humboldt-University in Berlin. It is by no means a comprehensive report, and the information is meant simply to show the trend and models whenever possible. More detailed information can be obtained at the ETD Tutorial in ETD 2003.

Continent	Developments
Africa	**DATAD:** Abstracts of TDs in 10 institutions. Database developed with Procite software. **Algeria:** The Ministry of Higher Education and Scientific Research has decreed that an electronic copy of every Master's and PhD thesis defended in every academic institution must be deposited at CERIST Research Centre. **Egypt**: Bibliographical data as well as the abstract on each thesis and dissertation are available on the Ain Shams University Network (ASUNET). **Francophone countries**: CyberThèses (now called Cyberdocs) **South Africa:** SABINET Online maintains the *Union Catalogue of Theses and Dissertations*, a bibliographic database. ETD Projects: • Rhodes University • Rand Afrikaans University? • University of Pretoria • University of the Witwatersrand
Asia	**India:** Projects based on the NDLTD software.
Australia	Projects based on the NDLTD software. A central metadata repository containing descriptions of theses, which are linked to PDF versions of theses hosted on servers at participating institutions. The metadata repository is managed for CAUL by the University of New South Wales Library.
Europe	**France:** CyberThèses : a free XML-based publication system using a dynamic web architecture. http://sourcesup.cru.fr/cybertheses. **Germany**: Humboldt-University in Berlin leads a national project and has developed an elaborate system. The German Library involved. **Greece:** National Documentation Centre is responsible for collecting the theses and dissertations, and maintains a national archive of dissertations. Has carried a retrospective conversion and developed a digital library of dissertations. http://theses.ekt.gr

	Russia: Russian State Library – Dissertations Digital Library (DDL) was opened in June, 2002. **Spain:** The Consortium of Academic Libraries of Catalonia and the Supercomputing Center of Catalonia have built and maintained a TDX server which are e-dissertations from 10 universities. The National Library of Catalonia also participates in the project, working on preservation topics. **Sweden:** Royal Library in Stockholm is responsible for the administration and development of the LIBRIS system (Union Catalogue). Archives full text in PDF. **Switzerland:** Swiss Federal Institute of Technology (ETH) Zurich – started with retrospective conversion. Authors now provide digital versions. **UK:** Very slow progress. The Joint Information Systems Committee (JISC) now funding three project teams to address key issues which have held back e-theses development.
North America	**Canada**: CyberThèses. National Library of Canada coordinates a centralised theses programme – acquires and preserves Canadian theses in print & digital formats. Canadian universities to submit e-theses and metadata directly to the National Library. Will become a service provider, harvesting metadata records for approved theses and dissertations from universities using the OAI protocol for metadata harvesting. <http://www.nlc-bnc.ca/thesescanada> **Mexico:** "Tales" project at the Universidad de las Américas, Puebla (UDLA). **United States:** Various initiatives – NDLTD, D-Space, Eprints. UMI/Proquest now designated a digital archive for the Library of Congress for dissertations. UMI able to download ETDs and their [something missing] from institutional server into UMI server. UMI is able to provide microfilms, papers (hardcopy) and electronic copies of the ETDs.
South America	**Brazil:** Projects based on the NDLTD software.

Most projects commenced by accepting digital copies of TDs from authors, while a minority began by scanning print dissertations retrospectively.

There is a general trend towards the use of open source software. The procedures vary, from simply collecting word-processed files from students and loading them on to a server, to requiring students to use elaborate systems to submit their theses and dissertations. The portable document format (PDF), using Adobe Acrobat, remains the most used format in which documents are presented and stored. However, many organizations believe that for long-term preservation XML should be used.

Automated procedures for submission streamline workflow and save time and labour. These eliminate some of the concerns often raised about ETDs, especially the concern that the digital file submitted by students may not be the same as the final approved copy of the file.

There are various models. In Canada and Germany, the National Library leads a national initiative, while in France the Ministry of Education drives the initiative. A National Library is often in charge of archiving a country's literature output. In Australia, the digital theses programme started as an initiative of seven Australian universities in association with the Council of Australian University Librarians (CAUL) **<http://www.library.unsw.edu.au/thesis/adt-ADT/info/aims.html>**

Efforts are being made towards developing a single window to all ETDs worldwide. This will only happen if each repository participates in the Open Archives Initiative (OAI) initiative. Any new initiative should immediately seek to participate in the growing international community, and devise mechanisms for integration under the guidelines of the OAI.

Although many institutions are now developing electronic repositories of the knowledge output of their universities, the digital library of theses and dissertations remains one of the most important. Other grey literature considered for a repository includes research reports, pre-prints, lecture notes and other materials, study guides and university and departmental reports.

Many arguments have been advanced in support of ETD projects. These include:

- ETDs contribute towards making knowledge more accessible to wider communities of users;
- There is a better chance of ETDs being seen by more people, thus raising the profile of the institution internationally;
- Publishing the theses and dissertations online will help foil plagiarists because more people will have access to the dissertations and may recognize when portions of them are copied elsewhere;
- Students creating ETDs can use more creative approaches than just ink on paper; these include audio, video, hypertext, multimedia and hypermedia;

- Access to graduate research information is improved by making it available to researchers on the Internet (ETDs are accessed ten to a hundred times more than the paper copy);
- Collaboration between research programmes can be promoted at separate universities by making research work visible and accessible via a network archive;
- The library can reduce costs: there is nothing to bind, no staff is needed to circulate and no shelf space is required;
- The library can offer a more timely service: the document is available 24 hours a day and it is never checked out.

The objectives of the Networked Digital Library of Theses and Dissertations (NDLTD), described below, still remain core to most ETD projects.

Networked Digital Library Of Theses And Dissertations

The Virginia Polytechnic Institute and State University (Virginia Tech) has been in the forefront with regard to digital theses and dissertations and has driven the initiative for a Networked Digital Library of Theses and Dissertations (NDLTD). The NDLTD is an international consortium aimed at improving graduate education and enhancing universities' information infrastructures (Fox 1997). It focuses on universities facilitating their students' efforts in preparing electronic theses and dissertations. It also facilitates international collaboration, and is becoming a valuable aid in enhancing the sharing of information.

Many universities and regional/national consortia are members of this network. In the NDLTD, each participating institution maintains its own digital library of theses and dissertations. In this way, institutions have control of the intellectual products of their staff and students. Existing digital library technology affords simple solutions to intellectual property right concerns (e.g., by enforcing access restrictions) (Fox 1998).

The objectives of the NDLTD are

- to improve graduate education by allowing students to produce electronic documents, use digital libraries, and understand issues in publishing;
- to increase the availability of student research for scholars and to preserve it electronically;
- to lower the cost of submitting and handling theses and dissertations;
- to empower students to convey a richer message through the use of multimedia and hypermedia technologies;
- to empower universities to unlock their information resources; and
- to advance digital library technology.

The NDLTD has become an umbrella body for ETD initiatives worldwide. The organisation was incorporated on 20 May 2003 in Virginia, USA (the location of the initiative's founder, Professor Fox) as a not-for-profit corporation. The Board members are drawn from across the continents.

International Conferences on ETDs

Since 1998 the NDLTD has organised annual conferences:

8. 2005: Sydney, Australia.

7. 2004: University of Kentucky, Lexington, KY USA. June 3-5, 2004.
http://www.uky.edu/ETD/ETD2004/

6. 2003: Humboldt-University, Berlin, Germany
"Next Steps: ETDs Worldwide"
215 participants

5. 2002: Brigham Young University, Provo, Utah
"Pioneering on the Electronic Frontier: e-theses and Intellectual Solidarity"
124 participants

4. 2001: California Institute of Technology, Pasadena
"ETDs 2001"
about 190 participants

3. 2000: University of South Florida, St. Petersburg; March 16-18, 2000
"Applying New Media to Scholarship"
more than 200 participants

2. 1999: Virginia Tech, Blacksburg; May 16-18, 1999
"ETD Pilot Institution Workshop"
about 60 participants

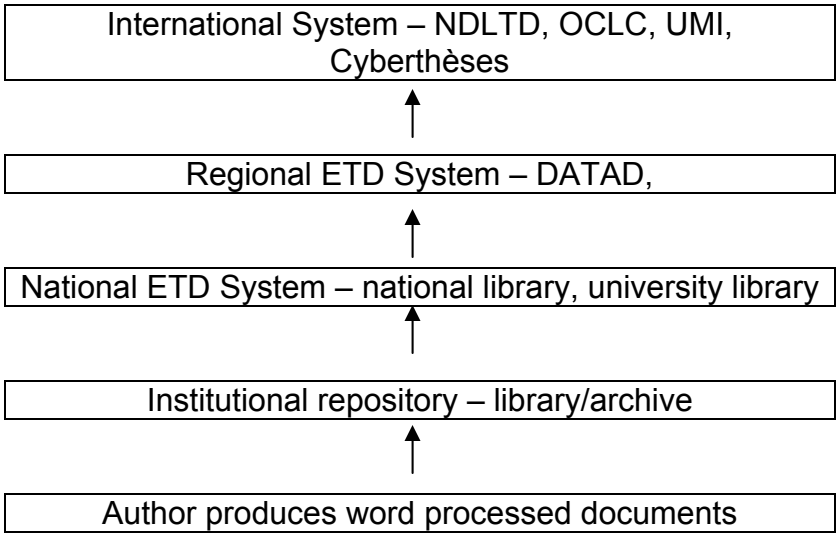
1. 1998: MECCA - ITEC Conference, Tennessee; June 11, 1998
"Networking Infrastructure for Education"
20 participants

Past Symposium Proceedings are available at West Virginia University Electronic Scholarly Resources Archive.
http://www.access.wvu.edu/esra/ESRASearch_VSearchform.cfm

Collaboration

The above shows that NDLTD is a "collaboration of individuals representing institutions who believe that scholarship will be enriched by the availability of theses and dissertations on the Internet". NDLTD members share a common goal (Lippincott 2003).

The ETD process can be illustrated as follows:



An ETD initiative involves different stakeholders/constituencies, including the author, academics, the library, the computing centre, the university administration. In such a situation the need for collaboration cannot be overemphasised. The Deutsche Initiative für Netzwerkinformation (DINI) recommends that

- A policy should be developed stating the roles of various parties involved;
- Legal preconditions should be set that enable electronic publishing to become effective, e.g., contracts should be drawn up between authors and the university for copyright protection;
- The Library should offer a contact for electronic publishing;
- Software that has been developed for electronic publishing should be installed on the university server;
- Regular training or introductory classes for working with style sheets for text processing systems should be established and are considered essential. Training will guarantee that the quality of receiver documents is of a high standard. The earlier that authors take part in such classes, the easier it will be subsequently be to prepare their documents for electronic publishing.

How could we collaborate on a national level? And how could we collaborate on a regional/international level?

Observation

Only a few universities in South Africa have embarked on ETD projects. This has an advantage, as efforts can be coordinated without too much disruption to existing programmes. The National Library of South Africa (NLSA) has not yet played any meaningful role in the acquisition, preservation and provision of access to South African theses and dissertations. A few years ago, the NLSA did make an attempt to acquire copies of theses and dissertations from universities, but I believe that effort yielded little or no fruit. What role then is there for the NLSA?

Any ETD programme is located at the institutional level, where stakeholders should be involved in discussing issues and concerns. Ultimately it is students who will be required to produce ETDs. Institutions should therefore

- initiate the establishment of procedures for the submission of electronic theses and dissertations by students as part of the conditions of the award of the degree;
- oversee the establishment of internal ETD management teams;
- take responsibility for the management of their TDs and for the conversion of the theses and dissertations into appropriate archiving format;
- facilitate the development of relevant copyright procedures and regulations that will promote the protection of the intellectual property rights of the authors;
- provide a working environment that is conducive for the project;
- provide staff for the execution of project activities; and
- fit the project into the national framework.

There is a need to collaborate at the national level in South Africa, and to involve various interest groups.

Conclusion

Current initiatives to make theses and dissertations produced in Africa easily accessible are beginning to yield good results. These initiatives are sustainable, as appropriate technology is now readily available.

The role of international organisations in supporting the African initiatives should be acknowledged. They have assisted with the provision of support for training and workshops for various stakeholders.

South African higher education institutions produce thousands of theses and dissertations, working papers and other publications each year. Increasing numbers of these are now published electronically. I hope we can jointly collaborate in the adoption of appropriate ICT in the management of and access to these documents.

No digital project has found all the solutions to the concerns expressed about the long-term accessibility of digital documents. If the digital revolution is in its infancy then it would be foolhardy to expect that there can only be one answer to the question of digital preservation. ICTs will continue to evolve and we will have to find solutions in the context of the times.

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UMI's Dissertation Explorer.

http://www.umi.com/hp/Support/DExplorer/prepare/submit.htm

Q & A from this session

Q: How can the reader of the document be sure of the validity of the documents?

A1: The institutions mechanisms for examining and when the dissertation goes into the electronic format the entire examination process hold have been completed.

A2: What we have in the electronic copy has been approved.

You can removed a dissertation from the library when plagiarism when it has been discovered. If people have been found to be guilty of plagiarism the institutions need to have polices in place. The degree can be withdrawn.

UNESCO ETD Initiatives

Felix N. Ubogu, University Librarian University Of The Witwatersrand

Keywords Electronic theses; Dissertations; Africa; South Africa; UNESCO

Introduction

UNESCO - the United Nations Educational, Scientific and Cultural Organization – has been involved in the Electronic Theses and Dissertations (ETD) movement since 1998. It is presently represented on the Board of the Networked Digital Library of Theses and Dissertations (NDLTD). UNESCO believes in the knowledge society, that knowledge should not only be used for economic growth but also for empowering and developing all sectors of society. It also seeks to help developing countries take full advantage of the advances offered by ICTs for access to scientific and technological information and learning opportunities.

UNESCO is aligned with many organisations and initiatives, such as the Open Archives Initiative (OAI), NDLTD, etc., that believe that the dissemination of the results of research should be free. Its policy is to encourage and assist Member States to promote access to information and knowledge for the progress of science and the diffusion of education, while keeping in mind the necessity of rigorous conformity with international conventions on intellectual property (Plathe, 2003). UNESCO strongly supports the use of open source software and open access solutions; it is committed to promoting information-sharing in education, the sciences and culture, and to disseminating information and software for development under open access conditions.

UNESCO's involvement in the ETD movement is part of this drive to promote access to information in the public domain, and the use of the Internet as a tool for disseminating scientific knowledge. It is particularly interested in facilitating the transfer of expertise in establishing sustainable ETD programmes from developed countries to developing countries.

UNESCO'S activities in the ETD arena include

- Membership of the NDLTD Board;
- Hosting of the first expert meeting to look at the possibility of fostering and supporting the internationalisation of already existing projects, notably Virginia Tech's NDLTD project;
- Publication of the UNESCO *Guide to Electronic Theses and Dissertations*;
- Sponsoring of the establishment of a model training programme for project managers responsible for ETD programmes;
- Provision of support to organizations for training courses, for example at ETD conferences;

- Sponsoring pilot projects in Africa, Eastern Europe and Latin America.

These initiatives are designed to help the ETD movement to make its next steps so that it becomes truly worldwide and can contribute to the creation of equitable knowledge societies.

Africa ETD Initiative

In an email to Professor Edward Fox of Virginia Tech in October 2002, Axel Plathe of the Information Society Division of UNESCO, confirmed that

- UNESCO will support the organization of training courses on the establishment and implementation of ETD project for university faculty, librarians and administrators from developing countries at ETD 2003 (contract with the Humboldt University, Berlin);
- UNESCO will support the revision of the NDLTD website as a central information resource for ETD initiatives;
- Projects in Latin America and the Caribbean should mainly concentrate on developing online training tools (online tutorial for self study, based on the UNESCO ETD Guide, languages: Spanish, Portuguese, English); the main project partner should be the Catholic University of Brazil but involve also IBICT and ISTEC.
- Projects in Africa could be implemented in cooperation with the Library of the University of the Witwatersrand, Johannesburg, South Africa.

Being involved with the DATAD project and realising the need for a holistic approach to ETD initiative in Africa, the author and the DATAD coordinator, Mary Materu-Behitsa, jointly developed a proposal on an ETD project for Africa that was submitted to UNESCO in May 2003.

This proposal was based on the rationale that although the initiatives and efforts to establish ETD projects in Africa are increasing, they seem to be ad-hoc and uncoordinated, and based in individual institutions. Digitization projects require factors such as infrastructure requirements, management policies and copyright policies to be considered. These call for policy decisions and financial, infrastructural and human resource inputs. In addition, digital archiving requires planning and collaboration with authors, especially for the protection of their integrity over the long term and for retaining accessibility for future use.

The object of the proposal was to drive ETD development in Africa at national levels, initially in Ethiopia and South Africa. Identified institutions will participate in a national programme requiring theses and dissertations to be prepared and submitted electronically. National initiatives should be predicated on the need to share software, metadata, documentation and training tools. Such pooling of expertise and resources may in particular benefit those institutions where staff with highly developed IT skills are in short supply. Sharing of detailed

documentation on all aspects of operating an ETD programme is a very cost effective method of collaboration. The development of generic procedures and training programmes, which can be customized for local conditions, may facilitate the participation of institutions in an ETD programme. Sharing of documentation is also likely to reinforce the implementation of standards, which will ensure that ETDs are readily retrieved.

It is envisaged that, building upon existing expertise in digital preservation and digital collection management, the project will develop guidelines for producing and preserving ETDs in participating institutions, will test and promote technical and organizational feasibility of the chosen ETD strategy, and will implement pilot projects. It aims to make African theses and dissertations accessible online to scholars and users worldwide; to build capacity on digital libraries at institutional, national and regional levels; to promote regional cooperation;, and to train scholars in the technique of electronic publishing and electronic access to documents.

Axel Plathe on behalf of UNESCO approved this proposal, and UNESCO and the University of the Witwatersrand signed a contract in August 2003 to the effect that the Contractor shall:

> Within the framework of UNESCO's efforts to enhance the production, access and archiving of scientific information, particularly theses and dissertations, by using the opportunities offered by ICTs, the Contractor shall establish a pilot project to improve the management and access to African theses and dissertations based on the principles, guidelines, workflow models and best practices described in the UNESCO ETD Guide (Paris, 2002).
>
> The project shall be aimed at empowering at least two (2) universities in two (2) different Member States in Africa to establish sustainable ETD programmes and at sensitizing other universities in the region to the importance of such projects, through the establishment of a project website.

This is the background against which we are gathered here today. This workshop is aimed at examining various issues that should result in successful implementation of institutional as well as national ETD programmes in Africa.

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Comments and Questions for this session.

Q. There have been other national initiatives for ETD. Offer from SABINET ONLINE. How is this linked into this UNESCO initiative?

A. I hope we will be able to find a way forward on a national ETD project. UNESCO has provided the initial seed money for this.

Undertaking from the National Research Foundation:

- IT can assist with copyright and agreements and how to handle it.
- Important to facilitate the access to and the utilization of the knowledge generated.
- ETD storage facility for libraries or institutions with funding problems
- Human resources for ETD.
- One entry point – portal system when and if required.

Starting New ETD Programmes – social, institutional and policy issues; champion – Mary Materu-Behitsa, Monica Hammes, Pateka Matshaya, Felix Ubogu

Panel discussion done away with – whole group asked to participate instead. With khoki and stick on notes to generate as many ideas as possible but only select three to put on to the sticky note.

Participants were required to discuss and exchange ideas in groups on the following topic:

What institutional social and policy issues needs to be addressed before embarking on an ETD programme?

The responses were grouped as follows:

INSTITUTIONAL POLICY AND COMMITTMENT
Commitment of Top Management
Policy
Stakeholder involvements
Management support
Institutional culture
Strategic planning
Clear submission and
Workflow
NEPAD
Policy – buy-in in university
Disagreement within organization about submitting via Internet
Institutional commitment
Roles and responsibilities of various role players
Buy in at highest institution level
All policy issues to be worked out and discussed
Institutional acceptance from faculties? Or are faculties ready?
Negative perceptions towards the ETD program among fellow members of the institution
Stakeholder involvement
Commitment from various stakeholders within organization
Political in-fighting stop collaboration
Need all theses and dissertations be included?
Fear of public comparisons ALA matric results (Performance indicators and QC)
Unaware of other similar projects at institution
Will students have a choice?

INTELLECTUAL PROPERTY & COPYRIGHT
Copyright
Policy plagiarism
Policy ethics
Intellectual property and secrecy
Standards
Hardware and Software
Copyright – what it means? Clarification. Policy
Fear of lost of intellectual property or want to derive financial gain
Research that has been sponsored. What impact on the embargo/availability of theses
Institution –copyright and intellectual property – who does it rest with – institution or author
Location of copyright needs to be determined
Intellectual property copyright
Institutional reliability of the theses and dissertations – computer expertise of students

Free?
Too late: Theses and dissertations are fast becoming outdated/obsolete

IT SUPPORT AND STRUCTURE
INFRASTRUCTURE
Software
STANDARDS AND PROTOCOL
Google
PDF appropriate format
Watermarking
Standards

FUNDING
Financial resources
Funding?
Institutional costs who bears the costs – student or institution?
Sustainability

IT NEEDS FOR DISSEMINATION
Standards
Google
Institution policy in respect of submission of theses (formats)
Clear – Submission and format guidelines
Policy – Watermarking
Open source versus proprietary software
Policy – Is PDF an appropriate format for preservation?
Sustainability

IT INFRASTRUCTURE
Established ICT infrastructure
IT Infrastructure – support
New software migration: keep hardcopy
IT infrastructure
ITC resources must be available
IT infrastructure

HR
Capacity
HR staff
Availability of staff
Skills
Rules/responsibilities of role players
Institutional policy - formats
Ability to participate
Social
HR expertise

Institutions ability to support ICT and HR
Social – computer literacy? Are students ready to submit electronically?

Workflow for an ETD programmes – Monica Hammes

Monica Hammes – Academic Information Service, University of Pretoria

•Definition
•Three good reasons to take Work*flow* seriously
•Work*flow* design
•Policy determines Work*flow*
•Automating Work*flow*
•Key benefits of Work*flow*

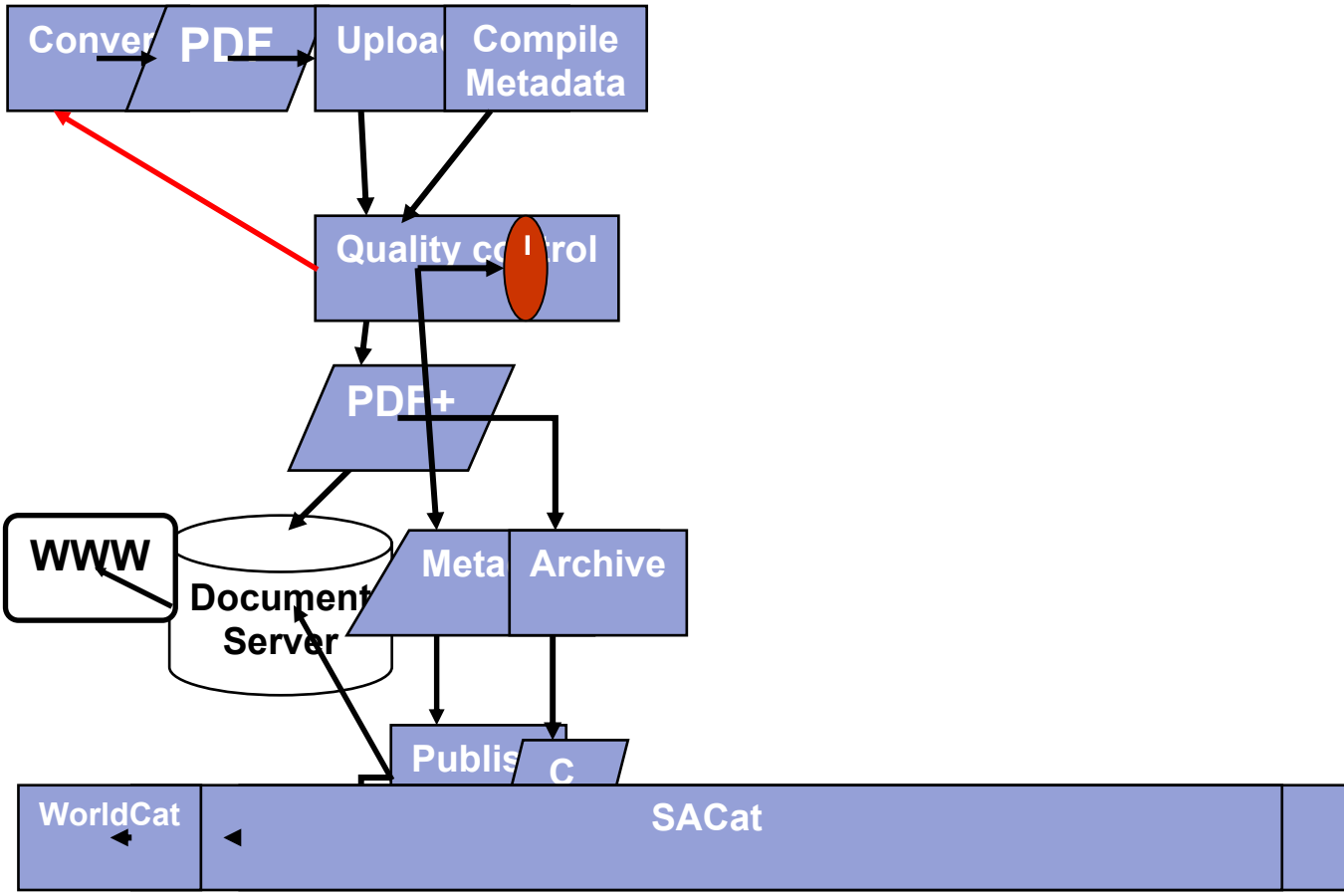
Definition
Work*flow* is the representation of a "predictable" and (at least somewhat) structured business process

- during which tasks, documents and information
- are passed from one participant to another for action
- according to a set of procedural rules
- in order to meet a specific objective
- within a specific time frame.
- Part or all of it may be automated.

Three good reasons to take Workflow seriously

1. Resource constraints will necessitate a high level of efficiency.
2. Uneven inflow needs to be balanced with service level agreements for smooth output and priority demands.
3. You will have to manage a complex work environment - to be able to work with the academics and IT people and students.

Current UpeTD Workflow



Workflow design: elements 1

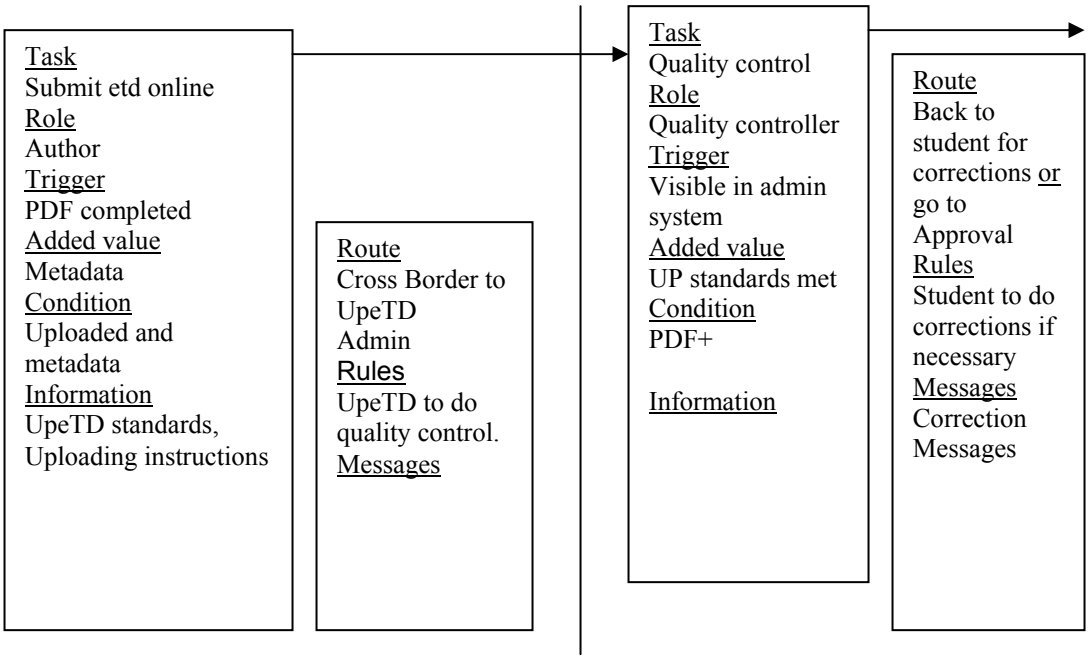
Task
What needs to be done at this stage of the process
Role
The set of knowledge/skills/responsibilities which is needed to perform and complete the task

Trigger
The event that alerts you to the incoming task

Information
Necessary to complete the task**Workflow analysis: elements 2**

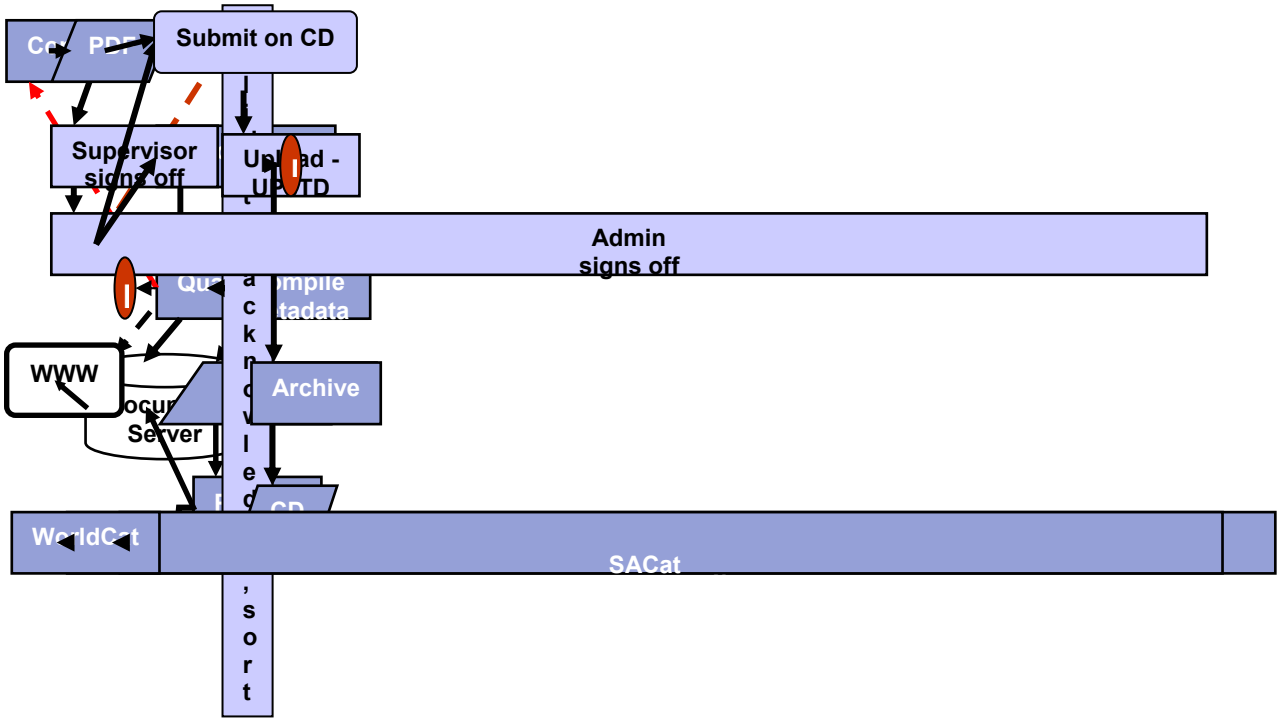
Added Value
The positive change that was brought about by performing the task.
Be wary of adding tasks that don't add value**Condition**
The status of the ETD after the task was performed

Example



Policy determines Workflow
Policy is the actual reason for doing the work and doing it in a certain way.
Do the policy decisions make sense for what is meant to happen?
Policy and processes on campus need to be influenced.

Possible new workflow for UpeTD



Automating Workflow

Automated work*flow* provides the participants with a computerized work environment. In most cases, it will automatically launch the correct tool for the correct task, and it will assist the users with additional information so that they can be more effective at their job.

An automated work*flow* system should facilitate the process in the following ways
•Notify a participant that work is at hand (by e-mail)
•Provide the user with the proper tools to do the work
•Provide the tool with the necessary information already flowing
•Allow the user to see where his task fits in

Key benefits of Work*flow*
•Improved efficiency
•Aligning of resources
•Correct level of staffing
•Managing work complexity
•Accelerate and facilitate collaboration
•Leverage knowledge across organisation
•Improved customer service – consistency in the processes leads to greater predictability in levels of response to customers
•Flexibility for redesign in line with changing business needs
•A tool for diagnosing problems and for business process improvement: streamlining and simplification and the elimination of cumbersome, wasteful processes
•Influence the process and policy

Final hints
•Complete the loops
•Manage the borders with good service level agreements
•Define roles well
•Articulate policy well and make it available to everyone
•Revise often

Sources

1. Attinger, ML 1996, 'Workflow: a terminology primer' *Records Management Quarterly*,vol. 30, issue 3,pp 3-7, viewed 1 Oct 2003, *Business Source Premier: EBSCOhost.*
2. Brunwin, V 1994, 'A Survivor's Guide to Workflow' *Management Development Review,* vol. 7, no.4, pp. 27-29, viewed 1 Oct 2003, *Emerald.*

3. The workflow portal http://www.e-workflow.org/

Comments from this session:

Q: Is there some kind of incentive for self-submitting?
A: The thesis is processed quicker. If the student is unable to PDF himself it will be provided at a cost.

Q: Will University provide training?
A: Yes training opportunities are available in workshops.
There must be free training for the University to make it possible.
Presently provided via the library suggested that it is a special course

STANDARDS, METADATA AND THE OAI-PMH (NDLTD AND ADHERENCE TO THE OAI-PMH PROTOCOL

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NDLTD Standards, Metadata and the OAI-PM

Introduction to NDLTD and OAI

1.What is NDLTD?

Networked Digital Library of Theses and Dissertations (NDLTD)
International non-profit organisation of institutions and consortia dedicated to the establishment and support of electronic thesis/dissertation (ETD) programmes

1.1 Some Objectives

Improve post-graduate education by increasing access to electronic documents
Assist universities to archive their ETDs locally
Assist students to locate the ETDs they seek online

1.2 History in 1 Slide

- 1996: NDLTD was established – promoted management of ETDs at source
- 1998: First experiments to connect together remote sites into a central catalogue
- 1999: Santa Fe Convention
- *Representatives of academic digital libraries agreed to set up a* low-barrier interoperability solution
- 2000: Open Archives Initiative (OAI) formed out of Santa Fe Convention
- 2000-2002: Large-scale interoperability experiments
- 2002: v2.0 of OAI Protocol released for public use

1.3 What is the OAI ?

- **What is the Open Archives Initiative (OAI)?**
  Organisation dedicated to solving problems of digital library interoperability by defining simple protocols, most recently for the exchange of metadata

- **What is the Protocol for Metadata Harvesting?**
  Network protocol to transfer metadata from a source archive to a destination archive

- **OAI in Practice**
  Multiple independent university-based and university-controlled collections of electronic documents

1.4 ETDMS

- Electronic Thesis and Dissertation Metadata Set (ETDMS) is a metadata description format to capture information about an ETD

- ETDMS is used by NDLTD members to exchange descriptions of their documents

1.5 THE INTERNATIONAL UNION CATALOG

Having a Union catalogue will work better, rather than trying to get z39.50 to search all the libraries.

1.6 DEALBREAKERS

- CONTROL

- NDLTD and OAI advocate that institutions must retain complete control over their resources!

- The ONLY service provided is a means for students/academics around the world to locate theses at your institution – thereafter the students/academics are redirected to your institution and you decide whether or not they can get a copy and how!

- DEALBREAKERS – Z39.50

- Libraries already have federated search software – why not just use this?
- Will it scale to include every university in the world?

- NDLTD currently has over 200 members (some of whom are country-level consortia) – about 20% currently participate in the Union Catalog and this is growing …

1. OAI – What's it about

Basic Principles

- *What is an Open Archive?*
- *Harvesting vs. Federation*
- *Metadata vs. Data*
- *Data and Service Providers*

Underlying Technology

- *HTTP and XML*
- *XML Namespaces and Schema*

Protocol Policies

- *What is a record?*
- *Multiplicity of Metadata*
- *Sets*
- *Date stamp, Harvesting and Flow Control*
- *How to become a data provider*

1.1. **What is an Open Archive?**

- Any WWW-based system that can be accessed through the well-defined interface of the Open Archives Protocol for Metadata Harvesting
- … a.k.a. OAI-Compliant Repository

No implications for:

■*Physical storage of data*
■*Cost of data*
■*Metadata and data formats*
■*Access control to server*

1.2. Harvesting vs. Federation

- Competing approaches to interoperability
  - *Federation is when services are run remotely on remote data (e.g., Federated searching)*
  - *Harvesting is when data/metadata is transferred from the remote source to the destination where the services are located (e.g., Union catalogues)*
- Federation requires more effort at each remote source but is easier for the local system and vice versa for harvesting
- NDLTD and OAI currently focus on harvesting

2.3. Metadata vs. Data

- Data refers to digital objects or digital representations of objects (e.g., a PDF version of an ETD)
- Metadata is information about the objects (e.g., title, author)
- OAI focuses on metadata, with the implicit understanding that metadata usually contains useful links to the source digital objects

2.4. Data and Service Providers

- Data Providers refer to entities who possess data/metadata and are willing to share this with others (internally or externally) via well-defined OAI protocols (e.g., database servers)
- Service Providers are entities who harvest data from Data Providers in order to provide higher-level services to users (e.g., search engines)

2.5. HTTP and XML

- OAI-PMH is an almost stateless request/response protocol
- Requests and responses are sent through the WWW in standard URL-encoded formats
- Responses are well-formed XML documents

2.6. XML Namespaces and Schema

- Consistency and data quality is ensured by using XML Schema descriptions for each possible response
- XML Namespaces are used where necessary to clearly define which parts of the responses are actual metadata and which support the Metadata Harvesting Protocol

2.7. What is a record?

- A record refers to an independent XML structure that may be associated with digital or physical objects
- Records are usually associated with metadata, not data
- OAI advocates harvesting of records, which contain metadata and additional fields to support the harvesting operation

2.8. Sample OAI Record

(note: schema and namespaces have been left out for clarity)

```
<record>
  <header>
    <identifier>oai:etd2003.ac.za:talk1</identifier>
    <datestamp>2003-10-16</datestamp>
    <setSpec>talks</setSpec>
  </header>
  <metadata>
    <dc>
      <title>Talk at ETDAfrika Workshop 2003</title>
      <creator>Hussein Suleman</creator>
      <language>English</language>
    </dc>
  </metadata>
</record>
```

2.9. Multiplicity of Metadata

- Multiple formats of metadata allowed
- Dublin Core is mandatory
- Any other format allowed as long as it has an XML encoding
- E.g., MARC (Libraries), ETDMS (Theses/Dissertations)

2.10. Sets

- Protocol mechanism to allow for harvesting of sub-collections
- Useful to separate repositories based on type of data, subject area, etc.
- May be defined by arrangement between data providers and service providers

2.11. Date stamps & Harvesting

- Each record needs a date stamp that indicates its date of creation or modification
- Dates are used to allow for harvesting by date range, thus allowing incremental transfer of metadata from a data provider to a service provider – efficiency is a primary concern

2.12. Flow Control

- HTTP “retry-after” mechanism and resumptionTokens are used to prevent denial-of-service attacks and overloading of servers by allowing the server to carefully control the flood of requests

2.13. How to become a Data Provider
- Source of metadata – e.g., a database or ILS
- Web server
- IT person/programmer
- Effort required depends on how you adapt existing solutions and/or use out-of-the-box tools
- **See www.openarchives.org for list of publicly available software tools**

3. OAI Protocol for Metadata Harvesting
- **Service Requests**
  - *Identify*
  - *ListMetadataFormats*
  - *ListSets*
  - *GetRecord*
  - *ListIdentifiers*
  - *ListRecords*
- **Metadata Multiplicity**
- **Date Ranges**
- **Resumption Tokens**
- **Error and Exceptions**

3.1. Identify
- **Purpose**
  - *Return general information about the archive and its policies*
- **Parameters**
  - *None*
- **Sample URL**
  - *http://www.anarchive.org/cgi-bin/OAI?verb=Identify*

3.2. Identify - Response

3.3. ListMetadataFormats
- **Purpose**
  - *List metadata formats supported by the archive as well as their schema locations and namespaces*
- **Parameters**
  - *identifier – for a specific record (O)*
- **Sample URL**
  - *http://www.anarchive.org/cgi-bin/OAI?verb=ListMetadataFormats*

3.4. ListMetadataFormats - Response

3.5. ListSets
- **Purpose**
  - *Provide a hierarchical listing of sets in which records may be organized*
- **Parameters**

- *None*

Sample URL

- *http://www.anarchive.org/cgi-bin/OAI?verb=ListSets*

3.6. ListSets – Response

3.7. GetRecord

Purpose

- *Returns the metadata for a single identifier in the form of an OAI record*

Parameters

- *identifier – unique id for record (R)*
- *metadataPrefix – metadata format (R)*

Sample URL

- *http://www.anarchive.org/cgi-bin/OAI?*
verb=GetRecord&identifier=oai:test:123&metadataPrefix=oai_dc

3.8. GetRecord - Response

3.9. ListIdentifiers

Purpose

- *List headers for all records corresponding to the specified parameters*

Parameters

- *from – start date (O)*
- *until – end date (O)*
- *set – set to harvest from (O)*
- *metadataPrefix – metadata format to list identifiers for (R)*
- *resumptionToken – flow control mechanism (X)*

Sample URL

- *http://www.anarchive.org/cgi-bin/OAI?*
verb=ListIdentifiers&metadataPrefix=oai_dc

3.10. ListIdentifiers - Response

3.11. ListRecords

Purpose

- *Retrieves metadata for multiple records*

Parameters

- *from – start date (O)*
- *until – end date (O)*
- *set – set to harvest from (O)*
- *resumptionToken – flow control mechanism (X)*
- *metadataPrefix – metadata format (R)*

Sample URL

- *http://www.anarchive.org/cgi-bin/OAI?*
verb=ListRecord&metadataprefix=oai_dc&from=2001-01-01

3.12. ListRecords - Response

3.13. Metadata Multiplicity

3.14. Errors and Exceptions

4. ETDMS
- Why a new format?
- Relation to Dublin Core and MARC
- ETDMS Example

4.1. Why a new format?
- OAI emphasizes simplicity
  - *But there is no simple standard to describe ETDs*
- Internationally, some countries have specific requirements for the information that must be archived

- After wide consultation, a new standard was agreed upon for NDLTD use:
  - *Electronic Thesis and Dissertation Metadata Set (ETDMS)*

4.2. Relation to Dublin Core and MARC
- Dublin Core is used to describe items in terms of fields such as “title”, “creator”, “date”, etc.
- ETDMS builds on Dublin Core by adding thesis-specific information:
  - *degree name, grantor, etc.*
- ETDMS recommends a mapping to/from Dublin Core and MARC
  - *You can extract ETD records directly from your ILS!*

4.3. ETDMS Example

- **thesis:**
  - *title: The British Labour Party in Opposition, 1979-1997: Structures, Agency, and Party Change*
  - *creator: Allan, James P. subject: electoral performance*
  - *subject: The Labour Party*
  - *subject: structure and agency*
  - *description: The British Labour Party has spent eighteen years in opposition since … a longer-term process of party change.*
  - *publisher: VT*
  - *contributor: (role=chair) Charles L. Taylor*
  - *contributor: (role=committee_member) Stephen K. White*
  - *contributor: (role=committee_member) Rebecca H. Davis*
  - *date: 1997-04-24*
  - *type: Electronic Thesis or Dissertation*
  - *format: application/pdf*
  - *identifier: http://scholar.lib.vt.edu/theses/available/etd-454016449701231/*
  - *language: en*
  - *rights: unrestricted*
  - *rights: I hereby grant to Virginia Tech or its agents the right … of this thesis or dissertation.*
  - *degree:*
    - **name: MA**
    - **level: masters**
    - **discipline: Political Science**
    - **grantor: VT**

5. Union Catalogue Project

- **The Union Archive**
- **Union Archive Data Provider**
- **Union Catalogues**
  - *VTLS Virtua*
  - *Experimental Systems*

- **Links to both can be found on:**
  - *http://www.ndltd.org/browse.html*

5.1. The Union Archive
- Collection of metadata records describing ETDs all over the world
- Maintained by OCLC – includes OCLC's records
- As OAI-PMH service provider, periodically harvests metadata from all participating institutions
- As OAI-PMH data provider, provides data to anyone who wants it
- Freely and publicly-accessible at:
  - *http://alcme.oclc.org/ndltd/servlet/OAIHandler*
  - *in 20 minutes you can get a full copy of all 40000 records currently in the collection!*

5.2. Union Archive Data Provider

5.3. VTLS Virtua

5.4. Experimental Systems

6. What Next?
- Does your institution want to share descriptions of its ETD holdings with the rest of the world?
- Do we form one or more consortia?
- Do we set up open access services for South Africa?
  - *Based on the international metadata archive?*
  - *Based on South African metadata?*
- How do we support new institutions that want to share metadata?

7.1. Links
- **NDLTD**
  - *http://www.ndltd.org*
- **Open Archives Initiative**
  - *http://www.openarchives.org*
- **OAI Protocol for Metadata Harvesting**
  - *http://www.openarchives.org/OAI/openarchivesprotocol.htm*
- **Virginia Tech DLRL OAI Projects**
  - *http://www.dlib.vt.edu/projects/OAI/*
- **Repository Explorer**
  - *http://purl.org/net/oai_explorer*

7.2. More Links
- **ARC Cross-Archive Search Service**
  - *http://arc.cs.odu.edu/*
- **XML Schema Validator**
  - *http://www.w3.org/2001/03/webdata/xsv*
- **Dublin Core Metadata Initiative**
  - *http://www.dublincore.org*
- **E-Prints DL-in-a-box**
  - *http://www.eprints.org*

- **XML Tools at W3C**
  - *http://www.w3.org/XML/#software*

DAY TWO

Hands on demonstrations

Infrastructure Requirement (HW,S/W, HR) – ***Arthur Kekana, Charl Roberts***

Infrastructure Requirements for an ETD Project – using the Virginia Tech ETD Software

TECHNICAL
INFRASTRUCTURE
To efficiently and effectively implement an ETD program, involved institutions need to develop a suitable technical infrastructure – a side benefit and related goal of the initiative.

Networking Issues – will be looking at Speed, reliability and support.

- **The Network condition**

Reasonably reliable, with the necessary technical infrastructures in place. To ensure that the users of the ETD system can upload and download efficiently.

- **Internet connection**

The appropriate network connections need to be in place.

- **Network Traffic**

The university should consider the volume of traffic on the network, making sure that the networking hardware could accommodate uploading and downloading of ETDs.

Hardware requirements

●**Web Server**
●**Unix-based Server platform** (Linux can be used as an alternative)
●**Disk space.** A normal ETD takes about 2,5 MB. It is recommended that you allow for at least a years' worth of ETDs space be made available on your server.
●**More space early on.** Virginia Techs software does not allow for scanning on multiple hard drives. It is therefore advisable to have a larger hard drive available initially.
●**Enough memory** to be able to handle the web-server and database server as well as what ever other applications you have in mind.

The Wits approach

(Wits ETD pilot project)

●**Hardware used:**
- *Pentium 4 PC*
- *40GB disk*
- *256MB RAM*
- *Linux-based web server and database server (Wits did some modifications here)*

●**Limitations:**
- *Low processing power*
- *Slow response time*

You need to look at a suitable technical infrastructure to se able to support ETDs.

Software Needs for an ETD Project

Open Source Technologies (freely available for you to download, all the technologies that it works with are freely available to you, and you can change it to your requirements, and then redistribute to other people as you wish.)

The soft ware requirements based on the Virginia Tech ETD software:

The Operating System – must be Unix based
-**Linux / Unix –** Wits used Linux Red Hat Version 9 (latest version) some of the Perl scripting was modified.
Virginia Tech ETD Software.
- http://scholar.lib.vt.edu/ETD-db/developer/install.html - URL with instructions and download files

More software needs…
-**MySQL needed download here - http://www.mysql.com/ software** used to connect to the database to get information from it and to place information on to it.
-**PERL Engine - http://www.perl.com/CPAN/ The** Virginia ETD software is written in Perl Scripting. You need to install this on your server so that your server can understand the language that the software was written in.
-**Web Server - http://www.apache.org/ Freely** available, very stable and has worked well for Wits.
If you decide to use a Linux distribution. Some of them already have Apache available as part of that distribution.

-**Add-ons for MySQL and PERL as directed by the Installation instructions**
- Install and test all software before starting ETD installation.
Human Resource Needs for an ETD Project
-LINUX / UNIX Administrator
-PERL Programmer (MySQL Knowledge)
~ Modifying scripting to suit your institution
-Front End designer (HTML, CSS, Scripting,)
~ Creating the website for the ETD system
~ Creating the workflow of the ETD system
~ Help file creation
Human Resource Needs for an ETD Project
-LINUX / UNIX Administrator
-PERL Programmer (MySQL Knowledge)
~ Modifying scripting to suit your institution
-Front End designer (HTML, CSS, Scripting,)
~ Creating the website for the ETD system
~ Creating the workflow of the ETD system
~ Help file creation
-Web Administrator
~ Able to use Apache web server software

Software options: VT, D-Space, Eprints, and Greenstone

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Overview
- ETD Management Requirements
- Issues beyond the Basics
- Options
- Advantages of OS DL Software
- ETDdb
- EPrints
- DSpace
- Greenstone
- Bottom Line

ETD Management Requirements

You have to know what your requirements are so that you can find the solutions.
Archiving of ETDs - **Technical and policy aspect.**
User interface to locate and access documents (Web-based)
Administration interface to maintain archive
Ability for students to submit documents
Ability for university authorities to review and accept submissions
Issues beyond the Basics
Preservation – does the software support long-term maintenance of documents?
Security – how can we be certain that the system cannot be circumvented?
Stability – will it die when we need it most at the end of year/semester?
Interoperability – will it connect into other systems such as the library ILS or the NDLTD Union Catalogue?
Standards-compliance – what does it adhere to?
Cost – does it?
Hardware – what do we need to run the software?
Support – how much staffing do we need to run it?
Options
Use the ILS
Write your own software
Outsource management to a company or consortium
Use an open source digital library (DL) software package

- *ETDdb*
- *EPrints*
- *DSpace*
- *Greenstone*

Advantages of OS DL Software
- Free!
- OAI compliance out-of-the-box
- Tested by many others already
- Community of use – active support
- Closely tracks research and trends in information management and Internet technology
- Mostly tailored especially for document submission/review/archiving

ETDdb
- Early ETD management software created at Virginia Tech
- Perl Web server CGI scripts and MySQL database – few prerequisites and simple to install
- Not very well maintained but used by many institutions and at VT for ~5 years!

ETDdb Interface

EPrints
- Software to archive electronic pre-prints of journal/conference proceedings, but easily adaptable to ETDs
- Perl Web server scripts and MySQL database, plus a few Perl libraries
- Needs a bit of effort for initial installation and customisation but has a slick user interface
- Active user community in many different areas (NDLTD uses EPrints for individuals whose institutions do not have archives!)
- Modifying the software can be tricky

DSpace
- DSpace was developed by Hewlett-Packard for MIT to manage its institutional repositories, but it is open source and free for anyone else to use
- Has the backing of a professional software development company
- Based on Java servlets, Postgres database, Java libraries
- Still somewhat unproven – but very promising

DSpace Interface

Greenstone
- Well-known open source digital library software, funded largely by UNESCO for digital libraries in third-world countries
- Good support for compression and full-text indexing of documents

- Alas, it does not support submission of documents – only works for fixed collections
  - *Not really suitable for ongoing management of ETDs*
  - *Next version may be different – 2005/6?*

Bottom line
- No easy solutions ☺
- ETDdb – most specific and oldest tried-and-tested solution
  - *You're largely on your own*
- EPrints – largest community of users
  - *Software works but difficult to change*
- DSpace – most professional software
  - *Still in testing phase*

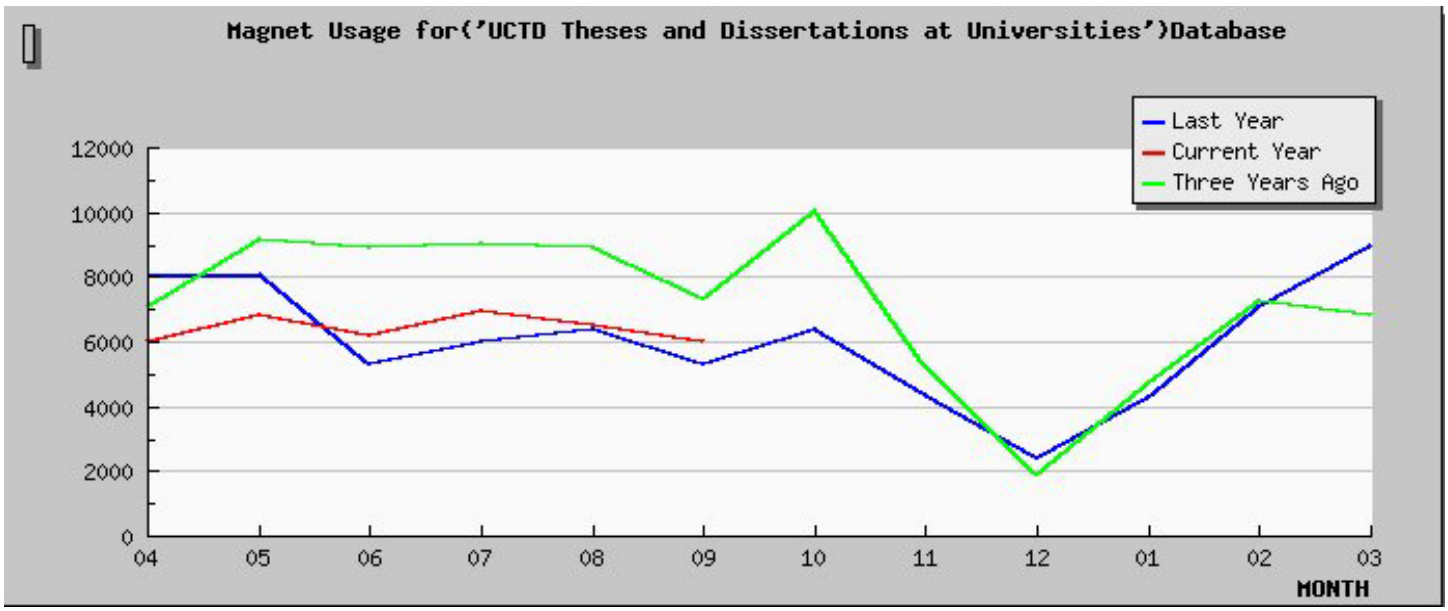
Links
- ETDdb
  - *http://scholar.lib.vt.edu/ETD-db/developer/*
- EPrints
  - *http://www.eprints.org/*
- DSpace
  - *http://www.dspace.org/*
- Greenstone
  - *http://www.greenstone.org*

:

Service Providers – Pierre Malan, Sabinet Online

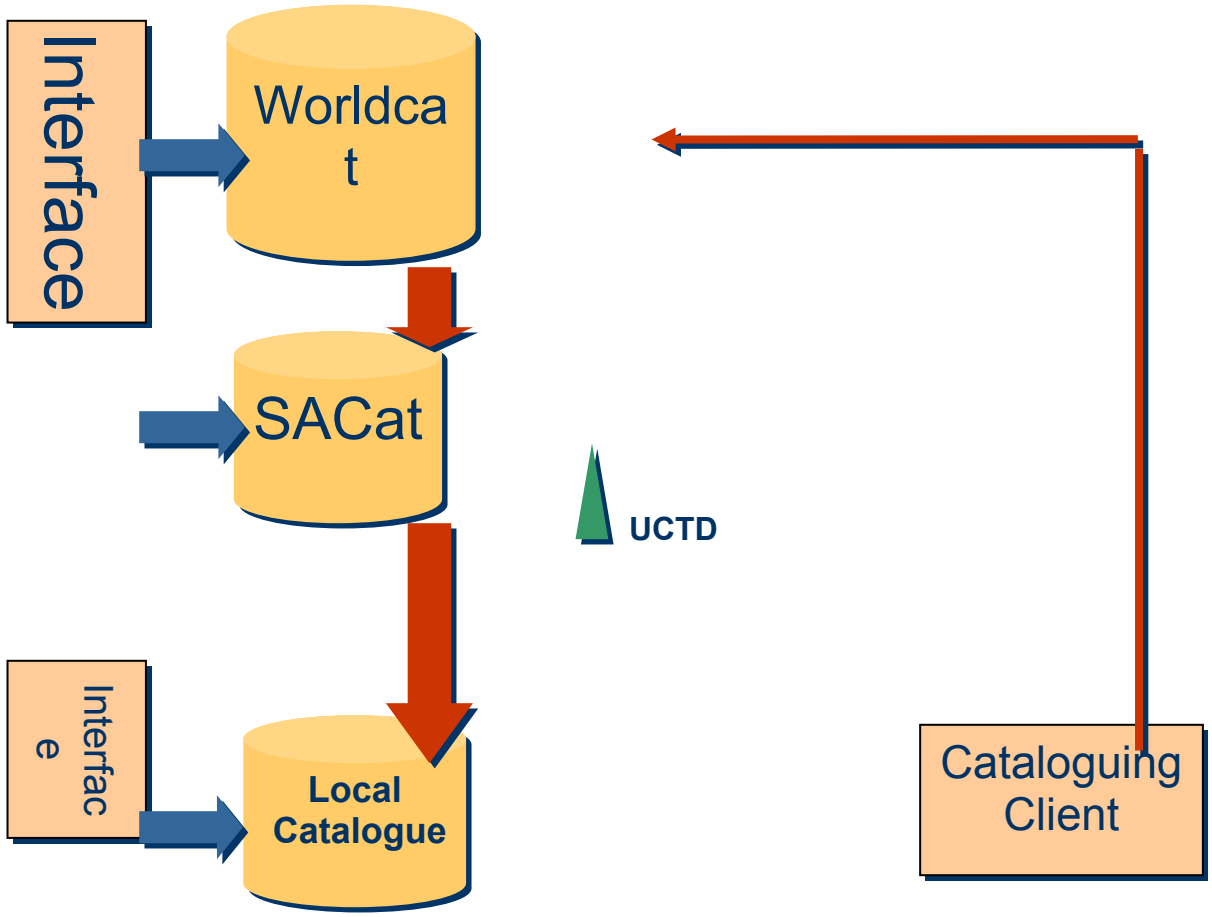
Background
- The role of PUCHE
- Compiled UCTD since 1918
- Compilation stopped during 2002
- Total of 84 413 bibliographic records
- Hosted by Sabinet since 1985
- Also hosted is "Current and Completed Research" by NRF since 1950
- April 2002 to March 2003 – 71 810 searches
- Availability
- To end users +- 43 000
- Interlending +- 400 libraries

Usage of Theses and Dissertations



Creation of UCTD
•Libraries create records on SabiCat
•According to standard cataloguing practices and workflow as advised by the Sabinet Standards Committee *(next slide)*
•These records are downloaded to local catalogues
•2205 records added since Jan 2003
•Holdings included
•$ 3,50 credit per record added
•Records available through:
•UCTD, SACAT, Worldcat

Workflow in creation of UCTD



UNESCO ETD Guide – principles, guidelines, workflow models and best practices – Monica Hammes, Hussein Suleman

Overview of the UNESCO ETD Guide

Introduction

The ETD Guide was initially funded by UNESCO to gather the collected knowledge about ETD programmes for sharing with new endeavours all over the world.

Multi-lingual (English, Español, …)
Multi-format (PDF, html, …)
Multi-author (too many to mention …)

The Guide for Electronic Theses and Dissertations

Introduction | Universities | Students | Technical Issues | Training | The Future

1. Introduction: Purpose and scope of this document *(Edward Fox)*
    1.1. What are ETDs? (*Edward Fox)*
        1.1.1. ETDs as new genre of documents (*Edward Fox)*
    1.2. Why ETDs? *(Edward Fox and Joseph M. Moxley)*
        1.2.1. Minimize duplication of effort (*Edward Fox)*
        1.2.2. Improve visibility (*Edward Fox)*
        1.2.3. Accelerate workflow: graduate more quickly, make ETDs available faster to outside audience (*Edward Fox)*
        1.2.4. Costs and benefits (*Edward Fox)*

1.2.4. Costs and benefits, Edward Fox

ETD submission over networks has zero cost, which compares favorably with the charges of hundreds or thousands of dollars otherwise required to print, copy, or publish TDs using paper or other media forms. In many institutions, the networking, computing, and software resources available to students suffice so that students preparing ETDs need make no additional expenditure. Similarly, on many campuses, assistance is available to answer questions and train students regarding word processing and other skills valuable for authors of electronic documents and users of digital libraries. If students elect to use personal computers and acquire their own software to use in ETD creation, these will later be useful in other research and development work for both professional and personal needs, with low marginal expense specifically required for ETDs. Thus, it is typical that the pros far outweigh the cons regarding students preparing ETDs.

1.3. Purpose, goals, objectives of ETD activities (*Edward Fox)*
1.3.1. Helping students be better prepared as knowledge workers (*Edward Fox)*
1.3.1.1. Helping students be original *(Joseph M. Moxley)*
1.3.1.2. Helping students network professionally *(Joseph M. Moxley)*
1.3.2. Improving graduate education, and quality/expressiveness of ETDs (*Edward Fox)*
1.3.2.1. Helping faculty *(Joseph M. Moxley)*
1.3.3. Increasing readership of ETDs, communicating research results (*Edward Fox and Joseph M. Moxley)*
1.3.4. Helping universities develop digital library services & infrastructure (*Edward Fox)*
1.3.5. Increasing sharing and collaboration among universities and students (*Edward Fox)*
1.3.6. Enhancing access to university research (*Edward Fox)*
1.3.6.1. Searching (*Edward Fox)*
1.3.6.2. Browsing: Classification systems, classification schemes used in different disciplines (*Edward Fox*)
1.3.6.3. Well known sites/resources for ETDs *(Susanne Dobratz)*
1.4. Brief history of ETD activities: 1987-2000 (*Edward Fox)*
1.5. Global cooperation in ETD activities (*Edward Fox)*
1.6. Overview of rest of the Guide (*Edward Fox)*

2. Universities
2.1. Why ETDs? (*Ana Pavani)*
2.1.1. Reasons and strategies for archiving electronic theses and dissertations (*Ana Pavani)*
2.2. How to develop an ETD program? *(Ana Pavani*)
2.2.1. Scenarios illustrating approaches, schedules and workflow *(Edward Fox and Jose H. Canos Cerda)*
2.2.2. Role of the Graduate School / Graduate Program (*John Eaton)*
2.2.3. Role of the Library and Archives (*Gail McMillan)*
2.3. What are the key concerns and their resolution?
2.3.1. Intellectual Property Rights (*Gail McMillan and Edward Fox)*
2.3.2. Publishers (*Gail McMillan)*

2.3.3. Human resources and expertise needed for an ETD program *(Gail McMillan; Universite Montreal)*
2.3.4. Sources for funding *(Australian Digital Theses Program; Universite Montreal)*
2.3.5. Costs *(Gail McMillan; Universite Montreal)*
2.3.5.1. Processing charges *(Edward Fox)*
2.3.5.2. Budgets *(Universite Montreal)*
2.3.6. Plagiarism *(Jean-Claude Guedon)*
2.4. Assessment and Measurement *(Gail McMillan; Universite Montreal; Joan Lippincott)*
2.4.1. Introduction *(Joan Lippincott)*
2.4.2. Types of assessment *(Joan Lippincott)*
2.4.3. The assessment and measurement process *(Joan Lippincott)*
2.4.4. Measuring production and use of ETDs: Useful models *(Joan Lippincott)*
2.4.5. Statistics and usage *(Gail McMillan)*
2.4.6. Measurement in related contexts *(Joan Lippincott and Jose H. Canos Cerda)*
2.4.7. Guidelines for implementing an assessment program for ETDs *(Joan Lippincott)*
2.4.8. Student comments *(Gail McMillan)*
2.4.9. Resources list *(Joan Lippincott)*
2.5. Policy Initiatives: National, regional, and local, discipline specific, language specific *(Universite Lyon 2; Humboldt-University Berlin; Universite Montreal)*
2.5.1. Policy Initiatives: The case of france *(Jean Paul Ducasse)*
2.6. E-Commerce: Fee based methods *(Australian Digital Theses Program; Universite Montreal)*

3. Students *(Edward Fox)*
3.1. How to learn about ETDs? (workshops, online resources, helpers) *(Edward Fox and Joseph Moxley)*
3.1.1. Importance of satisfying local requirements *(Edward Fox)*
3.1.2. Learning from other ETDs *(Edward Fox)*
3.2. How to prepare an ETD? (approaches) *(Edward Fox)*
3.2.1. Overview: writing with word processors and structured editors *(Edward Fox)*
3.2.2. Writing in word processing systems *(Edward Fox)*
3.2.2.1. Microsoft Word and Office 2000 *(Joseph Moxley)*
3.2.2.1.1. Using Style Sheets *(Suzanne Dolbratz)*

3.2.2.1.2. Using Plug-ins: Bibliography Plug-in *(José H. Canós Cerdá)*
3.2.2.2. Corel WordPerfect (*Humboldt-University Berlin)*
3.2.2.3. LaTeX (*Humboldt-University Berlin)*
3.2.2.4. Other Systems
3.2.2.4.2. FrameMaker (*Humboldt-University Berlin)*
3.2.3. Writing directly in SGML/XML (*Universite Montreal; Universite Lyon 2; Humboldt-University Berlin*)
3.2.4. Preparing a PDF document (*Humboldt-University Berlin)*
3.2.4.2. From LaTeX (*Humboldt-University Berlin)*
3.2.5. Preparing for conversion to SGML/XML (*Humboldt-University Berlin)*
3.2.5.1. In MS Word (*Humboldt-University Berlin; Universite Montreal*; *Universite Lyon 2)*
3.2.5.2. In WordPerfect (*Humboldt-University Berlin*)
3.2.5.4. In LaTeX (*Humboldt-University Berlin)*
3.2.5.5. Checking and correcting (*Humboldt-University Berlin*; *Universite Montreal*)
3.2.6. Integrating multimedia elements (*Simon Pockley*)
3.2.7. Providing metadata – inside, outside documents (*Simon Pockley*)
3.2.8. Protecting intellectual property / how to deal with plagiarism (*Edward Fox)*
3.3. Naming standards : file names; unique Ids (*Australian Digital Theses Program*)
3.4. How to submit your ETD? (*Gail McMillan; Humboldt-University Berlin*)
3.4.1. Local support (*Australian Digital Theses Program*)
3.4.2. Typical workflow, local policies and procedures (*Australian Digital Theses Program; Gail McMillan;* KSR)
3.5. Becoming a researcher in the electronic age (*Edward Fox*)

4. Technical issues (*Edward Fox*)
4.1. Infrastructure (*Edward Fox*)
4.1.1. Contexts: local, regional, national, global (*Ana Pavani*)
4.1.2. Networking (*Edward Fox*)
4.1.3. Seamless access: Open Archives Initiative, federated search (*Edward Fox*)
4.2. Production of ETDs
4.2.1. Overview (*Edward Fox*)

4.2.1.1. Hardware needed
4.2.1.2. Software needed (*Charles Myers*)
4.2.2. Page Description Languages (*Melanie Warfel*)
4.2.2.1. Software (*Melanie Warfel*)
4.2.3. Markup Languages - SGML/ XML (*Edward Fox*)
4.2.3.1. Software (*Universite Montreal; Humboldt-University Berlin*; *Universite Lyon 2)*
4.2.3.2. DTDs for ETDs (*Humboldt-University Berlin*; *Universite Montreal*)
4.2.3.2.1. Berlin DTD workshop (*Humboldt-University Berlin*)
4.2.3.3. Support for students to write directly in XML (*Dilshad Akhter and Edward Fox*)
4.2.3.4. Conversions (*Humboldt-University Berlin*; *Universite Montreal; Universite Lyon 2*)
4.2.3.4.1. Word, Word Perfect or other RTF-compatible tools (*Charles Myers; Universite Lyon 2; Humboldt-University Berlin*)
4.2.3.4.2. LaTeX (*Humboldt-University Berlin)*
4.2.3.5. Rendering-style sheets (*Universite Lyon 2*; *Humboldt-University Berlin)*
4.2.4. Metadata, cross walks (*Gail McMillan; Universite Montreal*)
4.2.5. Naming standards (*Edward Fox*)
4.2.6. Encryption; Watermarking (*Charles Myers*)
4.2.7. Packaging (*Tony Cargnelutti*)
4.2.8. Post processing
4.2.8.1. Backups, Mirrors (*Humboldt-University Berlin*)
4.3. Dissemination of ETDs (*Edward Fox*)
4.3.1. Identifying: URN, PURL, DOI (*Universite Montreal*)
4.3.2. Metadata models for ETDs (*Ana Pavani; Universite Montreal*; *Humboldt-University Berlin*)
4.3.3. Cataloguing: MARC, DC, RDF (*Ana Pavani; Gail McMillan;* KSR)
4.3.4. Database and IR (*Ana Pavani*)
4.3.4.1. Packaged solutions (*Edward Fox*)
4.3.4.1.1. DiTeD and DIENST (*Jose Luis Borbinha, Nuno Freire*)
4.3.4.1.2. ADT (*Tony Cargnelutti*)
4.3.4.1.3. Cybertheses (*Universite Montreal*)
4.3.4.1.4. VT DB and other tools (*Anthony Atkins*)
4.3.4.1.5. Library Automation/OPAC: VTLS (*Edward Fox*)
4.3.4.1.6. Harvest usage in Germany, France (*Humboldt-University Berlin*)

4.3.4.1.7. The NDLTD Union Catalog *(Gail Gulbenkian)*

4.3.5. Searching
- 4.3.5.1. Metadata (*Simon Pockley*)
- 4.3.5.2. Fulltext (*Edward Fox*)
- 4.3.5.3. 4.3.5.3. SGML/XML Overview (*Humboldt-University Berlin)*
  - 4.3.5.3.1. 4.3.5.3.1. *SGML/XML and Other Markup Languages* (*Tejas Patel and Edward Fox*)
- 4.3.5.4. Multimedia (*Edward Fox*)

4.3.6. Interfaces (*Edward Fox*)

5. Training the trainers (*Edward Fox*)
- 5.1. Initiatives to support ETD projects in Latin America (*Johann van Reenen*)
- 5.2. Tool kits for trainers *(Luc Grondin)*
  - 5.2.1. Identifying what is available *(Luc Grondin)*
- 5.3. Demonstrations, explanations (*Gabriela Ortuzar; Universite Lyon 2)*
  - 5.3.1. Initiatives and Projects (*Gabriela Ortuzar*)
  - 5.3.2. Guidelines and Tutorials for ETDs (*Gabriela Ortuzar)*
    - 5.3.2.1. Specific Guidelines (*Gabriela Ortuzar)*
- 5.4. Creating an online database of problem solving solutions (*Universite Lyon 2; Gabriela Ortuzar*)
- 5.5. Help develop a broad local team (*Australian Digital Theses Program*)
- 5.6. Standards, cooperation, and collaboration (*Australian Digital Theses Program*, *Gabriela Ortuzar*)
- 5.7. Outreach/helping others (*Australian Digital Theses Program)*
  - 5.7.1. Developing Centres of Expertise where appropriate and helpful (*Australian Digital Theses Program; Ibero-American Science Technology Education Consortium*)

6. The future (*Edward Fox*)
- 6.1. Expanding ETD initiatives (*Edward Fox*)
- 6.2. Transforming Graduate Education (Joseph M. Moxley)
- 6.3. Managing technology changes (*Simon Pockley; Edward Fox*)
- 6.4. Interoperability (*Universite Montreal*)
- 6.5. A vision of the future (*Australian Digital Theses Program*)

Status of the Guide

- **Translations in multiple languages underway**
- **Live document! – constantly updated with new contributions/experiences**
- **Mechanisms in place for collaboration among contributors: Wiki/Blog**

- **Book with similar material currently in press:**
  - *Fox, et al. (eds.) Electronic Theses and Dissertations: A Sourcebook for Educators, Students, and Librarians, Marcel Dekker, Inc.*

Group Discussion – Break away groups formed, and returned for the Group Discussion

QUESTION: How should the ETD project be governed at regional, national and institutional level?

REGIONAL

- AAU ROLE?
- SADC
- NEPAD
- WHY?
- CONTACTS
- SUPPORT
- SUPPORT FROM UNESCO?
- REGIONAL/SUBREGIONAL CONSORTIA AGENCIES TO TAKE THE INITIATIVE
- REGIONAL GOVERNANCE BY CONSORTIA OR INTEREST GROUPS

NATIONAL LEVEL

1. ADDRESS COPYRIGHT/IPR
2. INFORMAITON HARVESTING
3. POLICY
4. STANDARDS
5. NATIONAL FORUM FOR ACADEMIC LIBRARIES (FULSA) TO LEAD THE INITIATIVE
6. RELEVANT GOVERNMENT DEPTS TO SUPPOORT THE INITIATIVES (NRF,DOE)
7. EXPERT GROUPS NEEDED FOR – PROJECTS – KICKSTARTING-HELP AND SUPPORT- TRAINING
8. NATIONAL HARVESTING
9. LEADERSHIP – REPRESENTATION IN VARIOUS FORUMS
10. WHAT IS THE ROLE OF THE NATIONAL LIBRARY?
11. NRF OFFER/SERVICE PROVIDERS?
12. FUNDING??

13. ACADEMIC CONSORTIA
14. NRF,NLSA, SABINET
15. TASKS
16. COORDINATION
17. CENTRAL SUPPORT, TOOLS AND SERVICES
18. COPYRIGHT/IPR

INSTITUTIONAL LEVEL

19. CHAMPION AT INSTITUTIONAL LEVEL
20. COMMITMENT AND AGREEMENT AT SENTATE LEVEL
21. PART OF INSTITUTION STRATEGIC PLAN
22. LIBRARY PLAY INITIATIVE ROLE AND IMPLEMENTATION
23. OPERATIONAL PLANS
24. IT DEPENDS ON CAMPUS GOVERNANCE
25. ALL STAKEHOLDERS AND INTERESTED PARTIES SHOULD BE INVOLVED (STEERING COMMITTEE)
26. CHAMPIONSHIP WITHIN THE INSTITUTION
27. ASSIGNED RESPONSIBILITY FROM TOP MANAGEMENT
28. LIBRARY IS RESPONSIBLE FOR THE METADATA
29. SENATE, SENEX, GRADUATE STUDIES BOARD
30. LIBRARY IT DIVISION – LEADING ROLE?
31. GOVERNANCE TO BE NEEDS BASED.

OUTCOMES AGREED UPON FROM DISCUSSIONS

NATIONALLY

1. All stakeholders and interested parties should be involved (steering committee)
2. Standards need to be set and agreed upon.
3. There needs to be central support, tools and services available.
4. National forum for academic libraries (FULSA) to lead the initiative
5. Expert groups needed for – projects – kick starting- help and support- training
6. National harvesting
7. Leadership – representation in various forums
8. What is the role of the national library? This needs to be established
9. NRF offer/service providers? NLSA, SABINET
10. Academic consortia
11. Wits should act as the secretariat for the project

INSTITUTIONALLY

12. Champion at institutional level within the institution: Senate, Senex, Graduate Studies Board
13. Commitment and agreement at senate level
14. Part of institution strategic plan
15. Library play initiative role and implementation with the library it division playing a leading role? Library is responsible for the metadata. Assigned responsibility from top management.
16. Operational plans need to be drawn up.
17. It depends on campus governance, governance to be needs based

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ETD Workshop

University of the Witwatersrand, Johannesburg, South Africa
October 16-17, 2003

EVALUATION FORM

Kindly take a few minutes to tell us what you thought about the workshop. Your candid assessment will help to improve the planning and content for the next workshop. Thank you.

Please rate the various parts of the workshop on a scale of 1-5 where

1*= didn't find it good/useful/relevant..etc TO* ***5****= thought this was very useful/relevant/good*

1. Organization of the Workshop

1.1 Correspondence prior to the workshop [ ]

1.2 Information regarding workshop and travel arrangements [ ]
Additional comments: .....
.....
.....

2. Workshop facilities
2.1 Workshop room arrangement/facilities [ ]

2.2 Coffee/tea break arrangement/facilities [ ]
Additional comments: .....
.....
.....

3. Workshop activities
3.1 Demonstrations
DATAD demo [ ]
UPTED demo [ ]
Hands on demonstrations [ ]

3.2 Presentations
DATAD Program (Mary) [ ]
Overview of worldwide ETD initiatives (Felix) [ ]
UNESCO ETD Initiative (Felix) [ ]
Infrastructure requirements (Arthur, Robert) [ ]
Workflow for ETDs (Monica) [ ]
Standards, metadata, OAI-PMH (Hussein) [ ]

Software options:VT, D-Space, E-prints, Greenstone (Hussein) [ ]
Service providers (Pierre) [ ]
UNESCO ETD Guide (Monica, Hussein) [ ]

Additional comments:.....
.....
.....

4. Group discussions
Starting new ETD Programmes (Mary, Monica, Pateka, Felix) [ ]
Governance issues (Mary, Felix) [ ]
Additional comments: .....
.....

5. Any other comments: .....
.....

Analysis of Responses to the Evaluation Questionnaires

The aim of the evaluation was:

- To establish the usefulness and relevance of the different topics discussed as well as the benefits to the workshop participants;
- To act as a guide in the organization and preparation for the Addis Ababa workshop in order to achieve better outcomes.

Attendance

Participants

Thirty-one people were expected for the workshop but twenty-nine people participated, resulting in a 93.5% turn out.

Each participant was required to fill in a two-page semi-structured questionnaire at the end of the workshop. The questionnaire included both quantitative and qualitative questions and some of them were open-ended questions, so as to give participants the opportunity to express their responses in their own words.

Support group

Four other people who contributed to the logistics and the smooth running of the workshop were also in attendance at the two-day workshop.

Questions in the questionnaire

There were five groups of questions that dealt with different aspects of the workshop. Participants were expected to comment on issues from the preparation time prior to the workshop to ETD and DATAD programmes. Participants were expected to respond on scale of *5* where 1 represented the least useful/relevant and *5 most useful/relevant*. Question *5* was an open-ended qualitative question. For ease of analysis, the responses

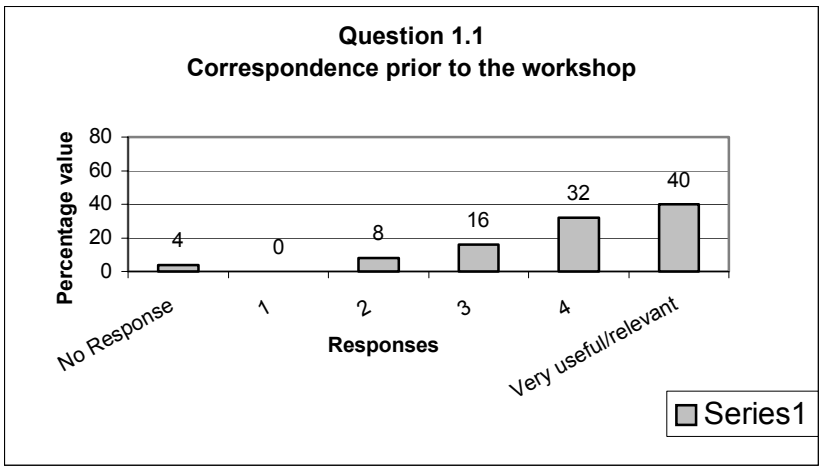
were rated on a scale of 5, with *least relevant/not useful* as *1* and *good/very useful* rated as *5*

Twenty-five participants completed the questionnaire.

Question 1: Organisation of the Workshop

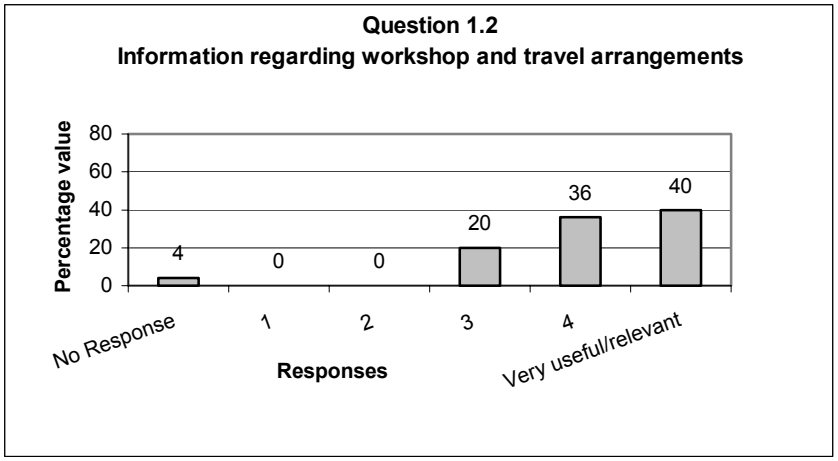
1.1 Correspondence prior to the workshop

All the twenty-five participants responded to this statement. Of the twenty-five, ten participants (40%) rated *5* and eight participants (32%) rated *4* as their responses.



1.2 Information regarding the workshops and travel arrangements.

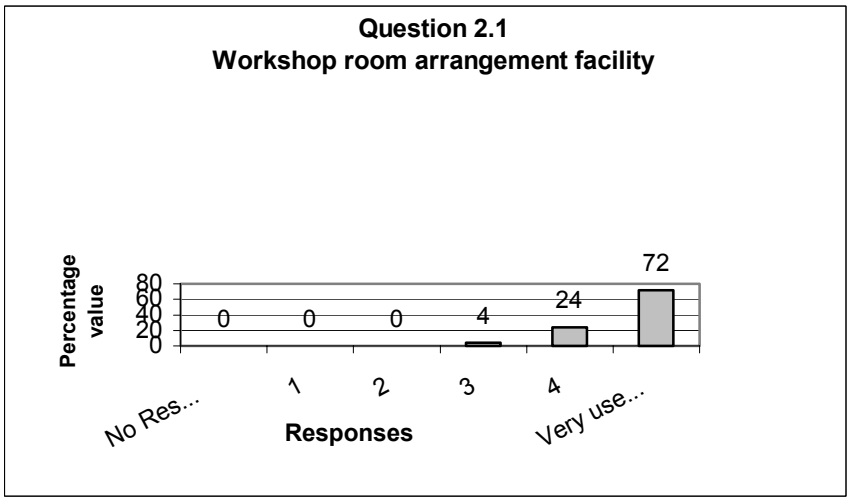
One participant (4%) did not respond to this question, while ten participants (40%) rated the question on a scale of 5.



Question 2: Workshop facilities

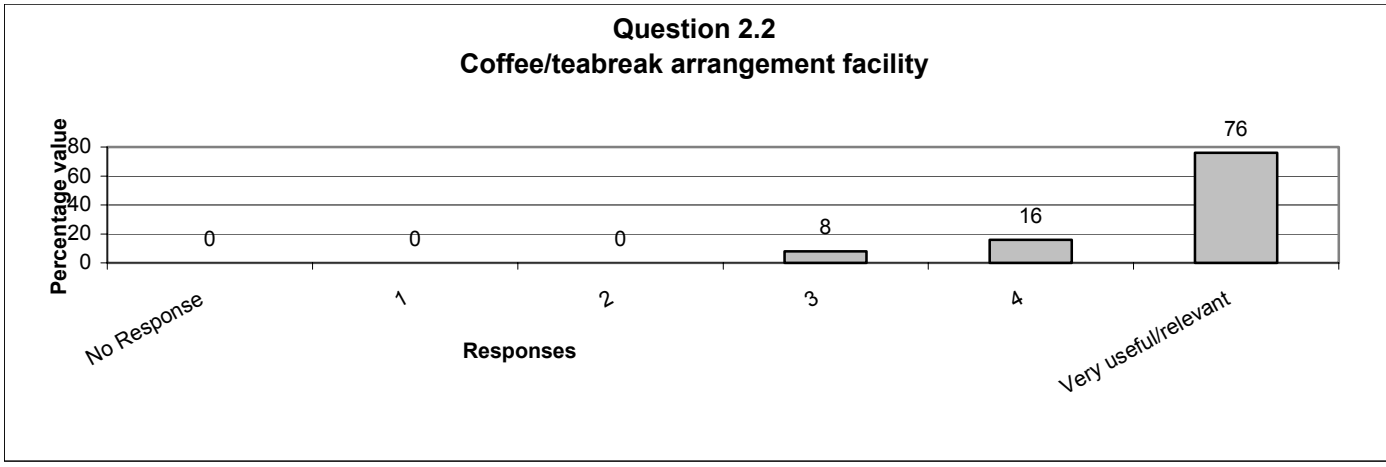
2.1 Workshop room arrangement facilities: Workshop room arrangement facility

Eighteen out of the twenty-five participants (72%) rated this question *5*. While six participants (24%) rated *4* as the response.



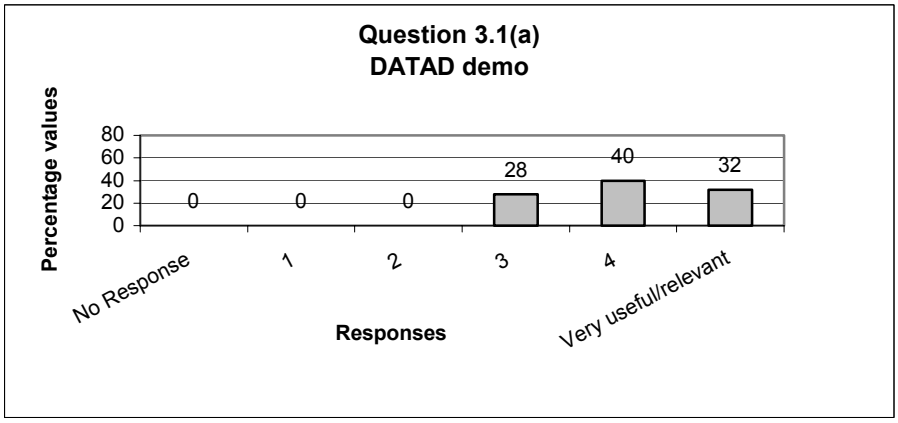
Question 2.2: Coffee/tea break arrangement facility

Nineteen participants (76%) and four participants (16%) rated the question as *5* and *4* respectively. While four participants (2%) gave a rating of *3*.



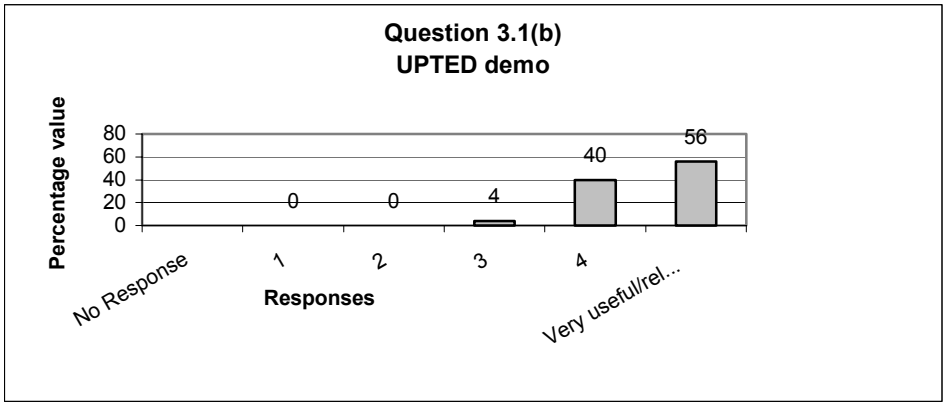
Question 3.1(a): DATAD demo

The pattern of responses to previous questions where the scale of *5* had the highest responses changed in statement *3.1* that dealt with DATAD demonstration. The scale of *4* was 40% (ten participants) while the scale of *5* was 32% (eight participants); and seven participants (28%) rated the question on the scale *3*. See graph below.



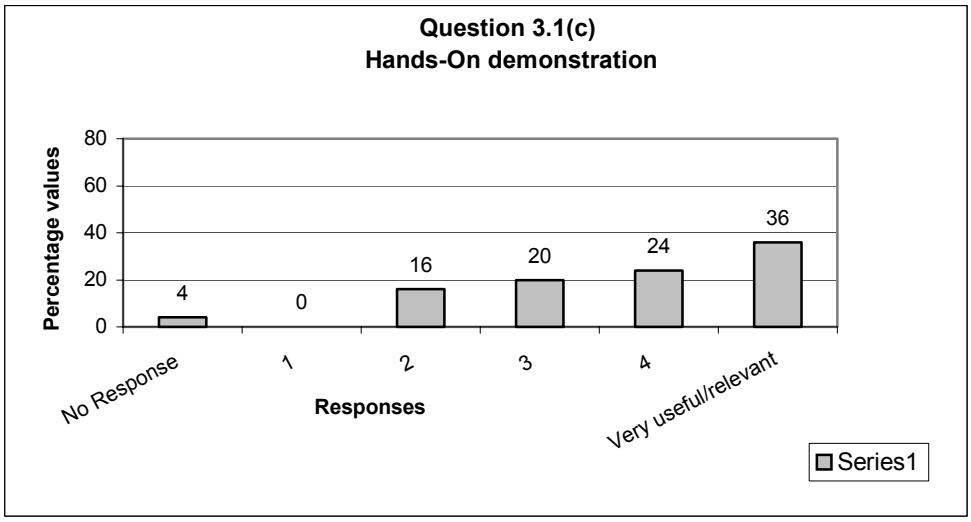
Question 3.1(b): UPTED demo

However, fourteen participants (56%) scored the UPTED demonstration on the scale of *5*, ten participants (40%) scored the question on the scale of *4* (40%) and only one participant (4%) scored the statement on the midpoint scale of *3*. See graph below.



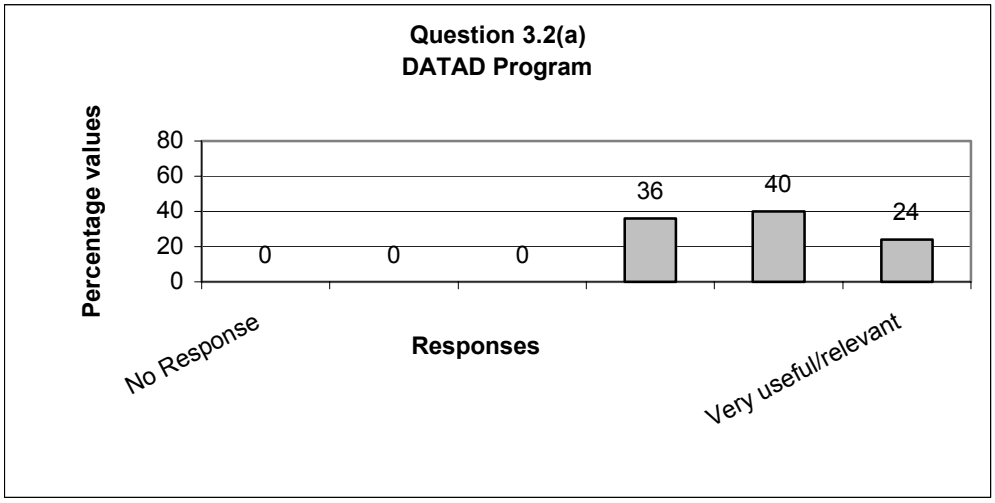
Question 3.1(c) Hands-On demonstration

The Hands-on demonstration was rated 5 by nine participants (36%) while six participants (24%) rated the question 4, and 5 participants (25%) of the group rated the demonstration 3 (20%).



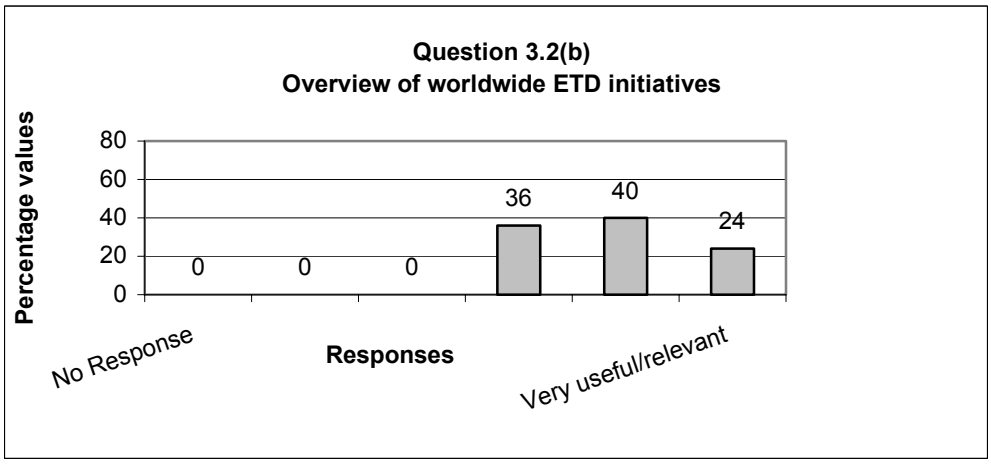
Question 3.2(a) DATAD Program

DATAD Program was rated by 40% of the participants (40) on scale *4.* Six participants (24%) rated the program as *5* while nine of group (36%) rated the program as *3*.



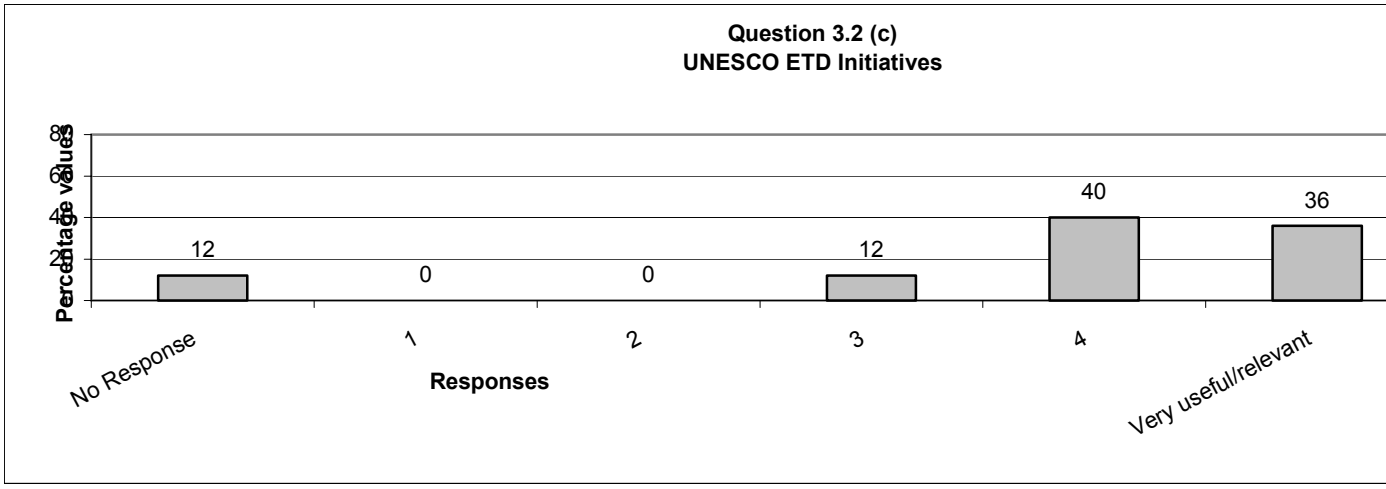
Question 3.2 (b): Overview of worldwide ETD initiatives

Similar pattern of grading as in the former question is observed in Question *3.2.* Fourteen participants (56%) rated the Overview of worldwide ETD initiatives as 4, eight participants (32%) rated the overview as *5* and three participants (12%) rated the overview as *3.* See graph below.



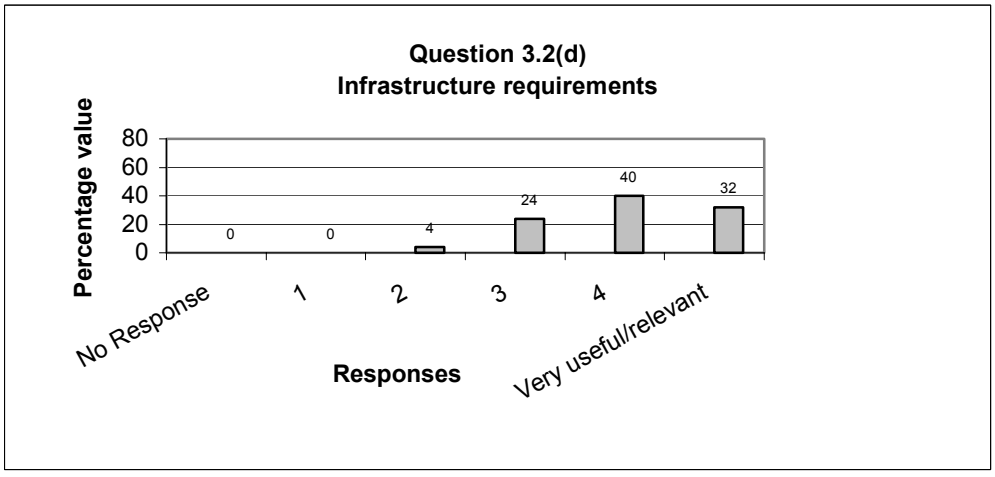
Question 3.2 (c): UNESCO ETD Initiatives

For this session of the workshop, ten participants (40%) rated it 4, while nine participants (36) rated the program *5* and only three participants rated it as *3*. Notably is the fact that three participants (12%) did not respond to the question.



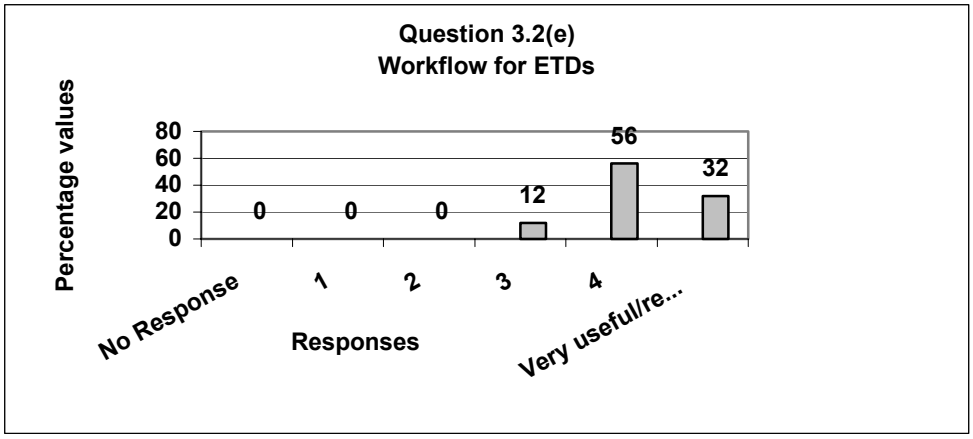
Question 3.2 (d): Infrastructure requirements

Ten participants (40%) rated the session for infrastructure requirements as *4*. Eight participants (32%) rated the session *5* and six participants (24%) rated the session as *3*. *One of the few sessions that had a rating of 2.* This *2* rating was however by only one *participant* (4%).



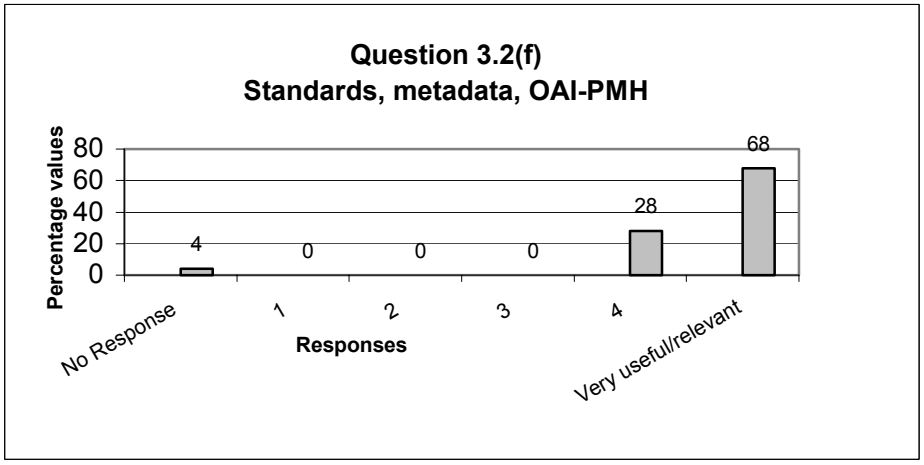
Question 3.2 (e): Workflow for ETDs

Similar pattern of rating for the previous session continued in the rating of the session on the workflow for ETDs. Fourteen participants (56%) rated the session *4*. Eight participants (32%) rated it *5,* while three participants (12%) rated the session *3.*



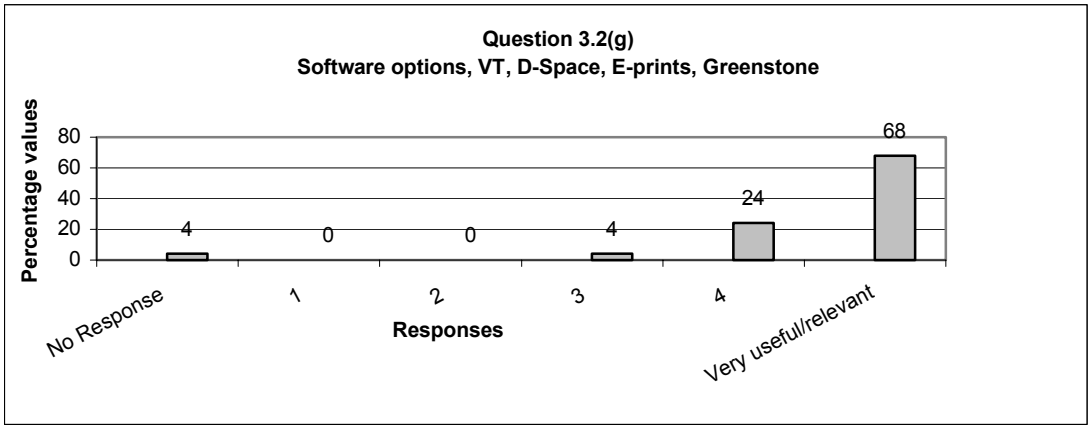
Question 3.2 (f): Standards, metadata, OAI-PMH

Seventeen participants (68%) rated this session on the scale of *5*, while seven participants (28%) rated it on the scale *4* and only one participant (4%) did not comment on the session.



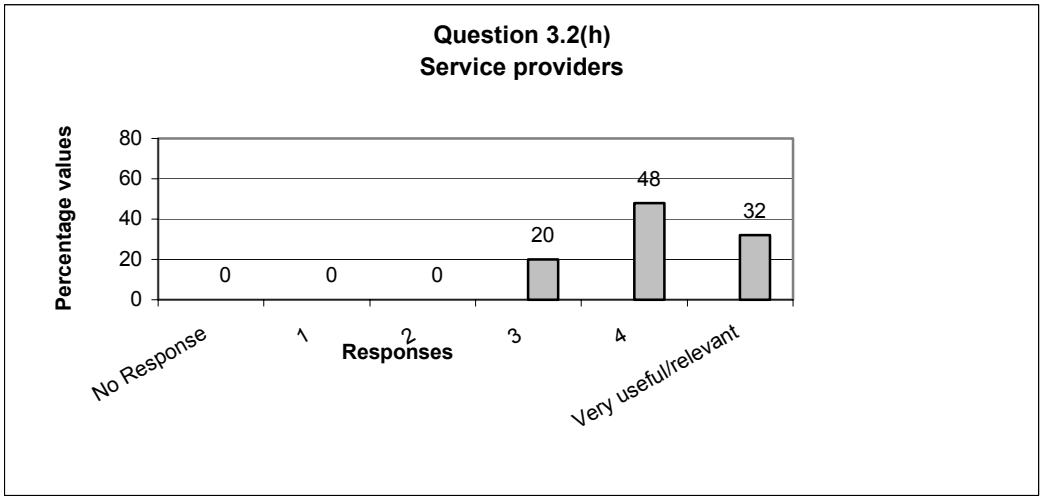
Question 3.2(g): Standards, metadata, OAI-PMH

Similarity is observed in the responses to this session as for previous session for Standards, metadata, OAI-PMH. Seventeen participants (68%) rated the session on the scale of *5.* Six participants (24%) rated the session *4.* Whilst one participant (4%) rated it as *3*, one participant (4%) also did not rate the session.



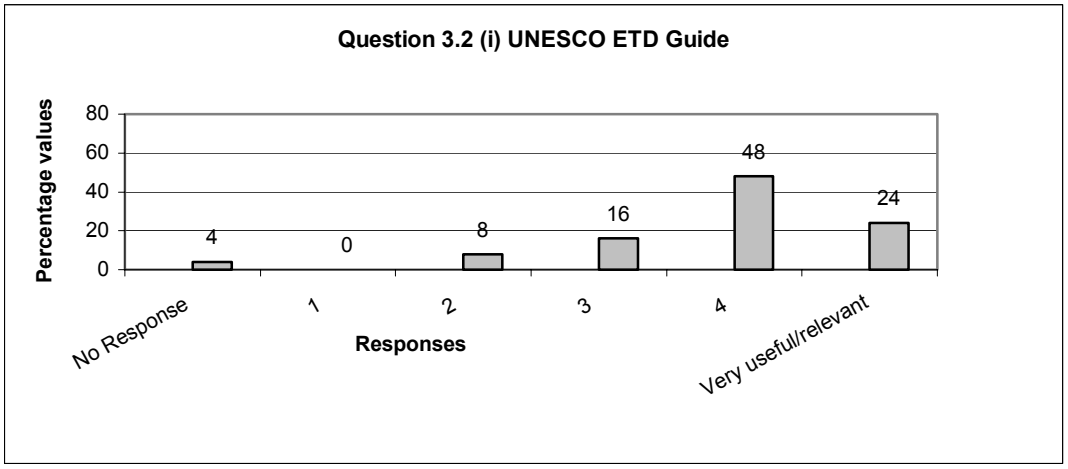
Question 3.2(h): Service providers

Twelve participants (48%) rated this session *4.* While eight participants (32%) rated it *5,* five participants (20%) rated *3*



Question 3.2(i): UNESCO ETD Guide

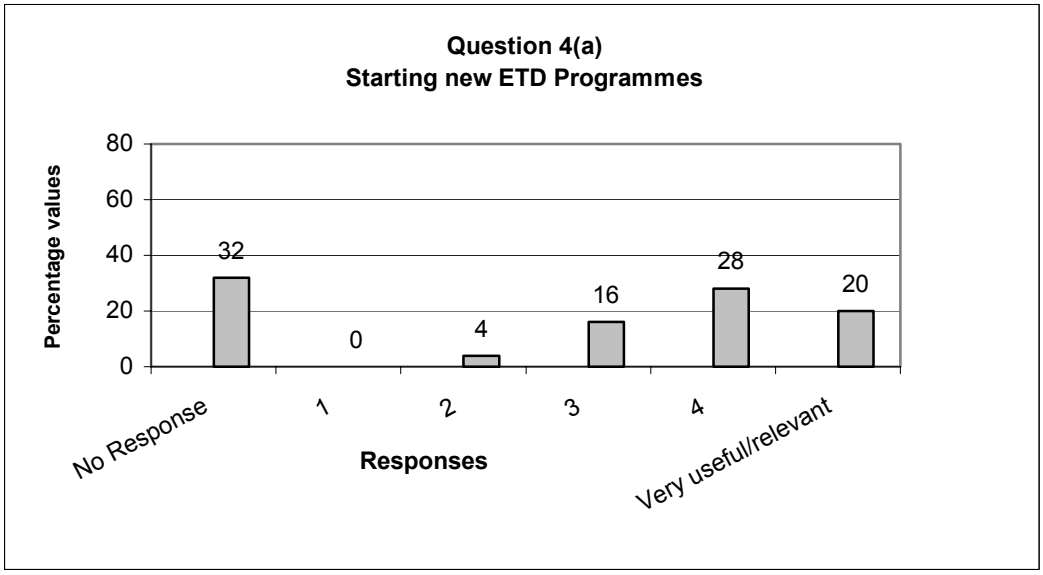
This session had one of the most diverse ratings. Six participants (24%) rated the session *5*. Twelve participants (48%) rated it *4.* Although there were four participants (16%) that rated it *3*, two participants (8%), rated the session *2* and one participant (4%) did not respond.



Question 4(a): Starting new ETD Programs

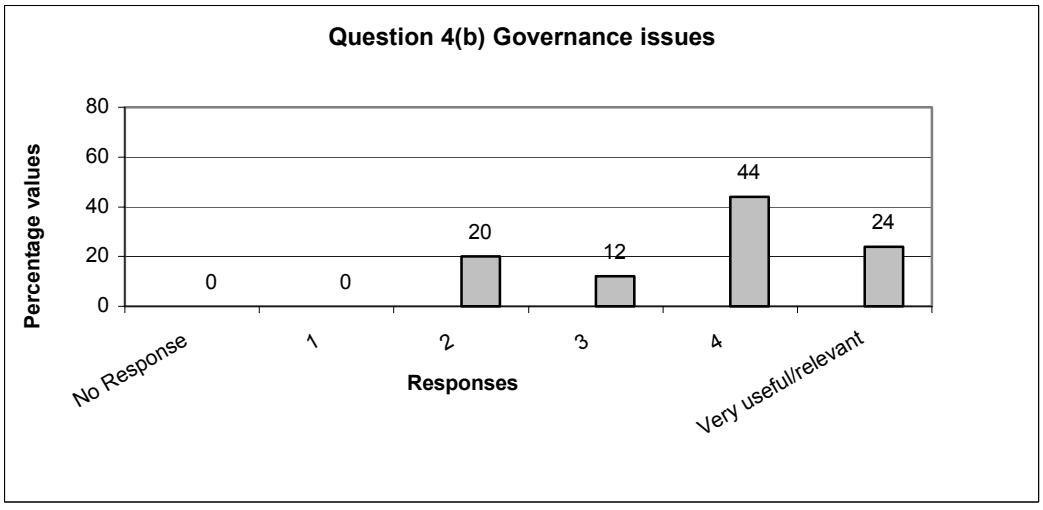
The responses to the session were the most varied and disappointing. Eight participants (32%) did not respond, while one participant (4%) gave a rating of *3*. Although five participants (20%) rated the session *5,* seven participants (28%) rated the session.*4.*

It is not clear whether the participants understood what the session was. Another assumption would be that since most institutions in South Africa have not started the ETD programs, the participants could not relate with the session appropriately. See graph below



Question 4(b): Governance issues

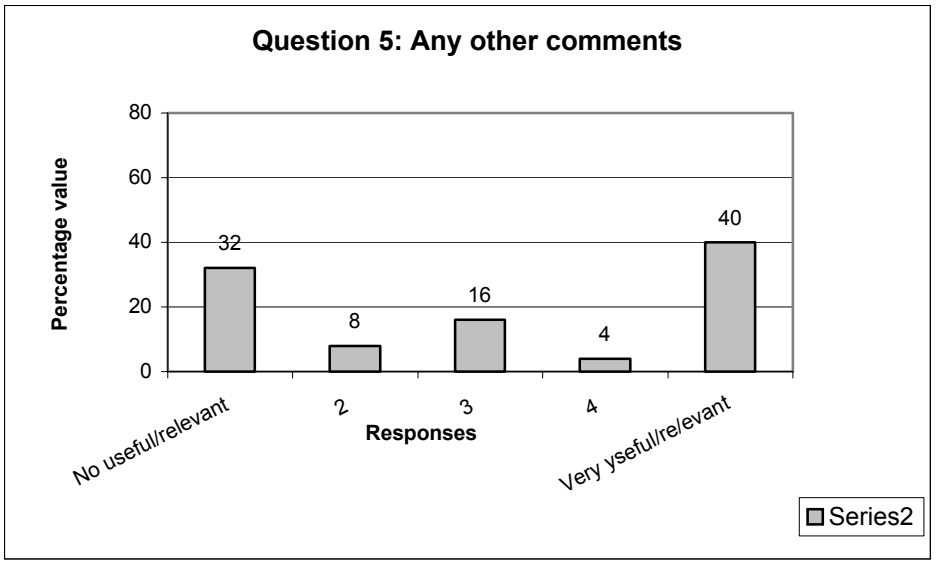
Another diverse responses were noticed in this session on governance. Six participants (24%) rated the session *5* and eleven participants (44%) rated it as *4*. Three participants (12%) rated the session *3* and five participants (20%) did not respond. See graph below.



Question 5: Any other comments

The purpose of the inclusion of this statement was to give the participants the opportunity to express themselves in their own words and to talk about any concern/worries concerning the workshop. The concerns might have been in the preparation or the running of the workshop.

Ten participants (40%) found the workshop very useful. An example of a response was "Grateful to be able to attend. Very good. Must be the first of many to ensure we work together to the benefit of the National Community". However, eight participants (32%) did not have any comment, while four participants (16%) gave responses that were rated average, (*3*). An example of one response rated as *3* was "a useful workshop- a good opportunity to find out what the other institutions are doing and meeting the people involved." See graph below.



Conclusion

The overall feeling was that the workshop was a great success. South African educational system at this stage is going through a lot of changes and the workshop seemed to have been presented at the most opportune time.

Appendix 1: Participants comments

Participants	Comments
1	Very good and comprehensive workshop on ETD. Touched on all aspects. Thank you, I'm grateful that I could Attend.
2	None
3	Great thank you!! Continual feedback required.
4	All the presentations were good. Hussein was exceptional. Made technical issues understandable. Very well organised and useful. Good starting point to take ETD forward. Thank you.
5	None
6	None
7	Direct communication with the Libraries would have been nice (in addition to VC) More explanation of what the intention of the workshop was, would have helped. Rushed some guidance should have been provided. Governance / policy issues needed more time for discussion - summing up done in a rush and would have been useful to have further input from the floor. Overall a useful workshop - a good opportunity to find out what other institutions are doing and meeting the people involved.
8	The governance session was quite useful, and needed even more discussion. This was a good initiative to bring interested parties together in this country and I hope more workshops or conferences will follow. I suggest that more institutions and regions are involved in the programme, and be called on to participate. Thank you to the sponsors for funding travel costs and thank you very much to the organisers/hosts.
9	None
10	Lunch was fantastic. Thank you.

11	None
12	This was very interesting and informative.
13	Grateful to be able to attend. Very good. Must be the first of many to ensure we work together to the benefit of the National Community.
14	Very early flight. Too much to talk about - maybe longer breaks in future.
15	None
16	All of these presentations were accompanied by very good discussions - perhaps not enough time left for this. Programme should probably have allowed time for more discussions - given the "workshop" nature of the meeting.
17	Plans for workshop itself were clear and well organised. Correspondence about travel could have been a bit better. Good, pleasant facilities. Breaks/coffee tea well organised. Good program! Excellent workshop - good presenters - just the right people who are at the forefront of ETD work. Good coverage of many aspects of implementing ETD. Left me with good ideas, enthusiasm to implement and sense of available support from a user community.
18	None
19	Excellent - well organised very informative. Excellent. On the whole this was a worthwhile exercise.
20	The map on your web is not clear. Instructions would also be helpful. Need more computers though…. Thanks - very interesting workshop and I learned a lot.
21	None
22	Thanks for a great workshop!
23	Hats off to Dawn at her efficiency in making quick arrangements. Perhaps more advice on accommodation. Many time constraints - therefore a similar workshop should be given more time perhaps 3 days.
24	Very accommodating. Lunch too big ☺ .Everything was great - extremely informative.
25	This was a very useful workshop.