THERE IS A LOT MORE TO ETDs

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ABSTRACT

In general, ETDs are regarded as sources of information that are very important to graduate students, faculty and researchers. They contain state-of-the-art results and bibliographic reviews, besides being analyzed and approved by committees. Having them online is an important support to research and education.

But there is a lot more to ETDs. They are tools that help change old habits, they introduce topics to discussion that (in some environments) had never been addressed and they can be used to provide information concerning the administration and the demographics of graduate programs. ETDs can bring additional benefits to the academia and to society in general.

This paper addresses these topics to show how beneficial an ETD project can be to other groups besides graduate students, faculty and researchers. Examples of the benefits, in Latin America, are presented to underline how ETDs are bringing new ideas and practices to this subcontinent.

Keywords: **ETDs; digital libraries; e-publishing;**

01.INTRODUCTION

In general, an ETD project is viewed for its main objective, i.e, for making theses and dissertations available worldwide from digital libraries connected to the Internet.

There is no doubt that the access to ETDs is a very important contribution to graduate education and to research activities. Union catalogs make it easy to search, retrieve and access contents of state-of-the-art results and bibliographic reviews.

This is the most visible product of an ETD project. It probably is the only one that faculty and graduate students are aware of or concerned about.

But to start an ETD project there are many topics to be addressed and many problems to be solved. Addressing the topics and solving the problems yield important byproducts that are not be overlooked.

The following sections discuss the additional benefits of an ETD project. Section 02 addresses the benefits that are brought to the universities – they affect not only graduate programs; other groups can benefit from them too. Section 03 focuses on how consortia and union catalogs are important in terms of the results they yield not to the institutions but to society as well.

02.AN ETD PROJECT IN THE UNIVERSITY

A university wants to start an ETD project; may people in the university ask the two most popular questions: What system should we use? What is the type of server we need?

It seems that buying a server and installing a system will solve all the problems and that on the next day, *voilà!* there are ETDs on the Internet.

But implementing an ETD project is like implementing any other project – there is learning, planning, creating a team, reviewing/establishing workflows, dealing with property of results, raising funds, assigning responsibilities, etc.

For this reason, an ETD project allows the institution to grow by questioning the way things have been done, by addressing problems that have been ignored for years and by changing old habits. In addition, new cultures are introduced. Let some points be presented.

a. The Digital Library Culture

Digital libraries are a new area of study. In many institutions there are a few, if any, people who are profficient in it. Since an ETD project requires a digital library, the groups involved with it have to learn about digital libraries. Thus, the digital library culture is introduced in the institution and other projects may arise.

Two examples can be mentioned in the Latin American scenario. One is at PUC-Rio – after ETDs were introduced, the Department of Business Administration has made available the final project reports of their students through the digital library and the Department of Economics is starting a similar project. The second example is in Venezuela where Universidad de los Andes is starting the ETD project along with the final project reports – two open and free software digital library solutions (ETD-VT and TEDE) were customized to host the undergaduate level works.

b. E-Publishing Culture

The introduction of online digital texts brings to focus the way T&Ds are written and how students can be more active in the process of creation, identification and submission of their works – they can learn to edit electronic documents. This knowledge will allow graduate students to electronically publish other contents.

But the e-publishing culture is not restricted to students. An example is the Universidad de los Andes in Colombia. Besides ETDs, they publish online magazines.

c. Presentation of Theses and Dissertations

The way T&D's are presented is, in general, an old habit; in general, they have had the format of printed books for many years.

ETDs have brought up the discussion of multimedia, interaction and simulation as basic parts of T&Ds. In the international scenario, West Virginia University has been very active in discussing and promoting new formats. Hagen [01] mentioned that the number of multimedia presentations has been growing at WVU.

The Virginia Tech ETD system has an area called Some Facts about VT ETDs (http://scholar.lib.vt.edu/theses/data/somefacts.html). Browsing the information, one can find that among the 17,008 files (Jun 2004) there are 462 still images files, 165 video files and 18 audio files; this represents 3.8% of the files. This is a small, number specially if the maturity of VT's project is considered. Should this be probably due to the resistance that academia has to change?

Though there is some resistance to the introduction of the new formats, the enhancement in quality that they bring will make them an irreversible alternative – theses and dissertations in music, drama, medicine, biology and other areas will be enriched by the use of digitized audio, digitized video, animations, etc.

At the same time, the issues on preservation are increased when multimedia filees are added to ETDs. Thus this is an area that deserves discussion and planning.

d. Teamwork at the University

An ETD project is based on three important teams in the university, besides the students. They are:

- Graduate programs – faculty, administration and staff
- Library staff
- ICT team

It is not uncommon that universities function as archipelagos. In order to implement successful ETD project, bridges must be built among the islands. Once built, they can be used to many more useful activities in the university.

e. Intellectual Property Rights

Authors rights is a topic that in many institutions had not been discussed before ETDs were introduced. The publication on the Internet, due to an ETD project, has brought this discussion to various levels – graduate programs, graduate students, the administration, the library and legal departments.

The awareness of the rights of authors and the legislation that protects them have become well known in the universities. All universities are using forms for authors to authorize (or not to) the public access to their works on the Internet; the discussion is addressing the paper versions too – should copies be allowed?

The discussion on temporary protection due to further publication (papers and/or books) and to patent registration has also brought to open discussion these results of T&Ds.

The Regional of Science and Technology for South America and the Caribbean of UNESCO (http://www.unesco.org.uy/) has sponsored eight ETD courses in the last four years. Each one of them has become a forum to discuss topics related to Intellectual Property Rights, how to protect them and, at the same time, how to stimulate students to make their works freely available.

A very interesting situation concerning this attitude can be found at WVU ETD Project. In the FAQ area (http://www.wvu.edu/~thesis/etd-faq.html) there is one question that is ”Why should I make my ETD freely available?” The answer encourages the students to do it.

Another byproduct of this discussion is the set of tools that ICT offers to protect the rights. The choice of the technological solution must take into account access control in the different levels that the institutions is willing to allow authors to choose from.

For this reason, other areas where authors rights are important are benefitting from ETDs.

f. Preservation of Digital Documents

Preservation of digital documents has become an important subject in the discussions about ETD projects, specially because there is an eventual decision to be made about abandoning paper versions.

Questions on physical and technological preservation are asked and their answers apply to other digital contents, many of which have been used and stored with no concern on preservation. This enforces the need to use international standards and non-proprietary formats.

g. Information on Access to ETDs

An ETD project provides tools to graduate programs administrators. Interesting numbers to observe are the accesses of ETDs by program or area, the ones that are most read or downloaded.

An example on how such an information can be compiled and made available can be seen at Some Facts about VT ETDs. There is a function that shows the most accessed ETDs in the previous year and also many different types of logs on requests.

Another example can be found at Universidade Estadual de Campinas, in Brazil (http://libdigi.unicamp.br/zeus/stats.php). Their ETD project informs the most accessed ETDs, the percentage of accesses by area of knowledge when compared with the percentages of ETDs in these areas and also the general statistics.

h. ETD Digital Library and other Academic & Scientific Information Repositories

Linking digital libraries of ETDs to other repositories of research and academic information helps map intellectual production.

An example is Latin America can be found in Brazil. CNPq – Conselho Nacional de Desenvolvimento Científico e Tecnológico is an institution of the Ministry of Science and Technology. It hosts a database with more than 390 thousand curricula of persons related to activities of research, development and higher education; it is the Plataforma Lattes and is available online from http://lattes.cnpq.br/.

This platform is linked to the BDTD – Biblioteca Digital de Teses e Dissertações, the Brazilian national ETD consortium (http://bdtd.ibict.br/bdtd). In order to implement this link, one of the metadata elements used by the consortium is the URL of the curriculum in the Lattes platform. This is a link in only one direction, from BDTD to Lattes.

At the same time, CNPq offered universities to implement links with Lattes in two directions – the author info on the university digital library is to be linked to Lattes URL and the Lattes curriculum is to contain an instruction sellecting the ETDs that were supervised by the researcher. The Maxwell System (http://www.maxwell.lambda.ele.puc-rio.br/) implemented this double link, so one can be transferred from the CV to the full text ETDs by clicking the system logo on the top-right hand side of the page. The other direction is being transferred from the Maxwell System to Lattes that is implemented too.

i. Information on the Funding and the Demographcis of Graduate Programs in the University

Not all graduate programs in the university have the same profiles. Some of them have more students, other may have more support from funding agencies or private companies, etc.

Information on graduate programs has been available for many years, it has been used by universities, funding agencies, educational organizations, etc. But this information, in general, is stored on administrative systems. Information on the accesses to theses and dissertations are available from library systems.

An ETD project allows the two areas to be combined, yielding a richer result – the numbers of T&Ds (per year, per program, per supervisor), time-series in the last years, T&Ds funded by agencies and/or companies and links to other repositories can be found on the Internet and the necessary combinations made available. This makes graduate programs more visible.

These the points are important to the universities to compare programs and results. For prospective students they are important too.

j. Discussion on the Quality of Theses & Dissertations

The possibility of making T&Ds available on the Internet has brought up a discussion on the quality of the works. Not only the research results were questioned but the quality of the writing and presentation are addressed too.

In many the many courses that UNESCO has sponsored in Latin America, groups of librarians, graduate program administrators, faculty and ICT teams had a general opinion that the worldwide access to T&Ds is a factor to enhance quality of T&Ds.

03.ETD CONSORTIA

Creating an ETD consortium has as the most obvious result the easy access to the full-text ETDs of the cooperating institutions. The use can browse or search metadata records from many institutions at the same time.

The implementation of a consortium requires a good level of organization among the participating institutions. The process that yields the consortium brings important byproducts to the universities and to society in general. Some of the results are:

a. Dissemination of Knowledge

When a consortium is started, there are institutions with different levels of profficiency in the area. The cooperative work helps disseminate the knowledge about digital libraries and ETDs – this can be accomplished through courses, workshops, discussion forums, etc. The digital library culture spreads among institutions.

b. Sharing of Solutions

Some institutions in the consortium may have proprietary solutions for their ETD projects, but others may have to implement one in order to join the consortium. Experience has shown that solutions developed by one institution can be used by others.

Many ETD projects worlwide use ETD-VT, the solution developed by Viriginia Tech (http://www.vt.edu). It has been translated into many languages and customized to meet local needs of metadata sets or functions. The last known customization of ETD-VT just happened in Venezuela; Universidad de los Andes (http://www.serbi.ula.ve/) has just translated it into Spanish and customized it to support undergraduate project reports.

Another solution, Cyberthèses (http://www.cybertheses.org/cybertheses/cybertheses.html) had a similar history. It was developed jointly by the Université de Montreal (http://www.pum.umontreal.ca) and Université Lyon 2 (http://www.univ-lyon2.fr), in Canada and France. Currently, it is used in Europe, Latin America and Africa. In Latin America, the Universidad de Chile (http://www.cybertesis.cl/) translated it into Spanish and works as a support to other institutions in the region that decided to use it.

In Brazil, IBICT – Instituto Brasileiro de Informação em Ciência e Tecnologia (http://www.ibict.br/), the head of the national consortium, developed a open source solution, the TEDE System. TEDE was developed for ETDs and the interfaces are in Portuguese. Universidad de los Andes also translated it into Spanished and made the required customizations for undergraduate project reports.

Currently, quite a few institutions are using D-Space for their digital solutions. D-Space was developed by MIT – Massachesetts Institute of Technology (http://www.mit/edu/).

There is no doubt that this sharing of SW solutions has sped up many, if no most, ETD projects all over the world.

c. Union Catalogs

Union catalogs are one of the important results of a consortium. There may be regional, national and international union catalogs. An example of a regional catalog is Téses Doctorals de Catalunya (http://www.tdcat.cbuc.es/), that is a consortium of institutions from the Catalonian region of Spain. A national consortium is ADT – Australian Digital Theses Program (http://adt.caul.edu.au/) and another is Vidyanidhi (http://www.vidyanidhi.org.in/) the Indian consortium. And finally, there is one international consortium that must be mentioned; it is NDLT – Networked Digital Library of Thesis and Dissertations (http://www.ndltd.org). NDLTD started at Virginia Tech but became truly international.

As mentioned before, union catalogs make it simler for the user to browse and search ETDs.

d. Collaborative work

The implementation and the operation of metadata harvesting based on OAI-PMH – Open Archives Initiative Protocol for Metadata harvesting requires the existence of data providers and service providers. Thus collaboration among institutions is necessary.

e. ETD Digital Libraries and other Academic & Scientific Information Repositories

This was presented in sectio 02.h and the benefits are not only to the universities but to the scholar community as a whole.

f. Information on the Funding and the Demographics of Graduate Programs

In section 02, information on graduate work was focused in the university. But ETDs have made available data on various institutions and, for this reason, it is possible to generate information on regional, national and international levels.

04.COMMENTS

As it was shown, ETDs have helped address many important topics related to universities and graduate education. In some time, it will be possible to have a clear view of the influence that ETDs will have had and that at the time it seems to be only a possible guess.

ETDs will be the catalysts to many changes.

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