UNIVERSITY SCIENTIFIC KNOWLEDGE ORGANIZATION: A CASE STUDY

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ABSTRACT

The scientific knowledge at UFMA justifies the organization process in the *Programa Institucional de Bolsas para Iniciação Científica (PIBIC)* archive that aims to let produced scientific documents available so the Institutional Repository can use them. It uses the description research methodology in data collection. It deals with document as information holder and representation. It shows meanings, objectives, archive function and emphasizes the necessity of letting documents available and its virtual ease. It describes the collection, analyzes its composition and describes the archive organization process of PIBIC at the *Universidade Federal do Maranhão* (UFMA). It defines institutional memory based on some authors, emphasizing the importance of preservation of the Institution documents. It clears the Institutional Repository as scientific production medium and concludes by indicating that the UFMA Institutional Repository is an effective tool to make the PIBIC scientific production archives.

Keywords: Institutional Memory; Archives; Institutional Repositories; PIBIC/UFMA.

1 INTRODUCTION

Disorder in the environment structure that holds information affects directly the services providing quality in administrative, educational or social section. It also affects the information confidence to its users.

Nowadays it´s possible to notice documents production increase, commonly known as the 'document explosion' (SILVA *et al.*, 1998, p.132), of which support variety to materialize information caused changes in its publicizing and access.

With the technologies development aiming to promote the best way to access a document, the net availability is a highlight, since the Internet reaches most of users and satisfies their information needs.

Among the motivations and objectives in the *Programa Institucional de Bolsas para Iniciação Científica* at the *Universidade Federal do Maranhão* (PIBIC/UFMA) archive organization we have: the paper piles derived from the great document production and the necessity of an administrative document systematic storage to facilitate the PIBIC administration easy and quick location and to highlight order as an important element to institutions.

This study shows documents issues as information record way, archives as information sources, the PIBIC/UFMA archive characterization and its organization process. It also highlights institutional memory and institutional deposits.

2 MATERIAL AND METHODS

This study has two stages: the first one is classified as a description and aims to make a PIBIC/UFMA archive status diagnosis; the second stage proposes the Program projects from 2010 to 2011 storage, based on the Institutional Repository technique.

This study is also a description research and it "[...] searches to specify characteristics of the analyzed phenomenon, showing the context different angles and extents" (RICHARDSON, 1999; RAMPAZZO, 2005).

Preservation ways, discount and storage criteria of main documents produced in this section (PIBIC) are linked to the *Pró-Reitoria de Pesquisa e Pós-Graduação* (PPPG/UFMA). The analyzed causes and results in the beginning of the organization process are represented in Frame 1.

Frame 1: PIBIC/UFMA Archive Analysis.

CAUSES	RESULTS
Wrong use of space	Out of order documents storing
Lack of standard and of shelves and cabinets sign	Difficulty to handle archives
Documents stored in hot and stuffy places	Danger of document degradation
Storage policy absence	Document sum and difficulty in collection information search

Source: PIBIC/UFMA – May, 2010.

3 DOCUMENT: AN INFORMATION REPRESENTATION SUPPORT

With the invention of writing, information was recorded in supports such as parchment – made with animal skin – but in the course of time information was recorded in paper, developed in China. This invention was improved and it is nowadays widely used in schools, universities, offices and in other environments where information is spread. It´s evident that documents have the evidence function, especially when they are used in material support to do business, bill issues, and official letters. To have value they need to have truth resources. Starbird and Vilhauer (1997, p.65) explain: "The 'originals' usually are genuine and have characteristics and/or evidence proof, such as stamps and signatures".

Baldan, Cavalcanti and Valle (2002) commented that "[...] documents are always used and they will always be in our lives and especially our work".

In fact all human productions (scientific, cultural, artistic and juridical) are considered documents. For this reason it´s natural that most of public and private organizations are worried about their document managing.

The clarification in the documents is used so one can find out about something, to clarify a matter, to train the citizens' conscience, to promote intellectual growth, so documents should be processed accordingly to specific aims.

3.1 Analogical Document x Digital Document

Information representation can be done through data, images and symbols to conceive the message and the information medium. Documents are these pieces of information materializing that make mankind expressions and the fix of thought possible through content representation, always serving a certain objective and making knowledge acquisition possible.

Deposit real objective is to spread its information to users, but the constant documents handle contributes to their damage.

A good way to preserve original documents and make them available is digital storing, so the originals will remain stable and last without the restriction of searches.

This way, the document storing issue raises, leading us to the following questions: do the projects and final reports have recognized importance? Are these projects and final reports organized and stored as knowledge level and individual production college determiner? Were these important projects and research final reports used to promote social events and assure experience exchange?

These matters will be commented with special emphasis on the project and research report importance, especially as information origin sources.

4 ARCHIVES: MEANINGS AND CONCEPTS

When we discuss archives the first thing we have in mind is a repository with ancient papers, without any function and taking up space. The origin of the word archive is the Latin word *archivu* and the Greek word *arkheîon*, both meaning, in short "[...] a place or building to keep documents [...]" (DICIONÁRIO..., 2011).

However, when studying this concept through other aspects, Souza[1] (*apud* PAES, 2004) explains that Solon Buck, American archivist, defined archive like as "[...] series of documents officially produced and received by an organization, company or firm during their activities to be used by their successors in the future".

Archives are considered a series of administrative documents describing and proving the existence of facts or events; they are used by administration as information medium. This is their greatest aim: to make archives available so they can be used daily or in scientific researches.

Archives main function is to organize and keep frequently used (or not) documents because when administrative activities stop, documents will do its duty of historical function and portray the institution memory.

As a result, when documents are ruined, the historical and existence functions of the administrative ends become useless. This is a result of document

storage status. Technical cares are necessary in documents organization so their content won´t get lost.

In companies that don´t have documents storage care the results affect directly the information searches. According to Terra (2001): "It´s common to see employees losing up to five days trying to recover a document if there´s no storage criterion".

So archive documents administration involves an activity set to make easier the archive employees and assistants´ actions. It´s recommended fitting document administration in a planning to find solutions to the document saving necessity and to create a storage policy.

5 PIBIC/UFMA ARCHIVE DESCRIPTION AND ORGANIZATION PROCESS

PIBIC/UFMA has its own archive collection, constituted by projects and researches made in its Program. The archive has documents produced from 1987 to 2004. All the projects were made by Rural and Biological Science, Exact and Technological Science, Human Science, Social Science and Health Science area scholarship holders and have informative value. Besides, the Program archive has administrative documents, such as: official letters, memos and statements that explain private details that weren´t explained in the projects.

Archive physical space is its strength, since it offers: documents access, reasonable lighting and available furniture to store documents, such as cabinets, shelves and drawers. However the archive lacks climate, air conditioned and wind, since these factors can let the environment temperature high and without air. There are many responsible factors for the archive damage if there´s no policy to store it. This will contribute to an out of order sum of documents and it will make information location difficult when there´s no signs.

PIBIC archive organization uses documents preparation activities: paper clips and staples removal because they might interfere in the digitization process and also folded pages removal so they won´t interfere in the document content copy. Then the document is saved in PDF – that blocks possible document changes – in categorized

archives (with entrance for the guide and scholarship holder) and they are also categorized by starting and finishing year of scholarships (usually their duration is one year with the possibility of renewal).

Selection processes of main documents in each archive and the removal of the least important ones are the next steps. Documents such as project assessment, working plans and others are rejected because they have information that refers to the author´s authenticity.

Written document sums in PIBIC collection wasn´t done because of the difficulties and the bad situation of the collection organization and preservation. This situation made information access difficult; there´s a lack of technical and operational steps to preserve original documents.

Later these documents will promote institutional memory through digitization that will increase a specific database for the assessment and PIBIC administration collection access. Digitization – that has advantages such as storage area reduction, speed in information recovery, possibility to keep copies safety and other–, will make structure organization and Institution document heritage preservation possible.

6 INSTITUTIONAL MEMORY

PIBIC institutional archive besides contributing in a certain research field also contains in its contents an essential issue to its linked Institution: memory, which makes archives a document heritage and indicates events and record truth.

The word memory comes from Latin word *memoria*, which means "[...] faculty used by the spirit to keep ideas and images or to acquire them without great effort; memory [...]" (DICTIONARY..., 2011). This way, when the word memory is used in any context it leads us strongly to the connections between the making of past that served as support and what exists today. That applies to cultures, biographies and other texts. Londolini (1990, p.157) explains this matter by saying that:

> Since ancient times, man has demonstrated the need to preserve their own 'memory', first orally, later through drawings (graphite), and finally a codified system [...] The memory was well recorded and preserved and still forms the basis of all human activity: the existence

of a social group would be impossible without the memory register and without archives.

The author highlights that human history is known through records that indicate facts, events or experiences of a certain moment. A widely known example is paintings in cave walls that portray habits and events that happened in Ancient times. These events were the support to cultures formation and to proof their existence, showing the documents preservation importance in their media, shapes and contents variety.

> Archives constitute the memory of an organization regardless of kind of society - a community, a company or an institution - with a view to harmonizing its operations and manage its future (ROBERT, 1990, p.137).

This way it´s possible to conclude that any record found in a collection has important memory value. It´s necessary to highlight the importance of selection and organization of documents in a systematic way, because they indicate trace guides as information sources.

Documents are also memory support and only they have the capacity to indicate information about the Institution route in a safely way. For this reason, storage ways, organization, handling and treatment must be taken in consideration in the Institution range.

6.1 Institutional Repository PIBIC/UFMA

Besides administrative document digitization – that will be used only by PIBIC administration –, another initiative is to make scientific production available, consisted of research final reports of areas Agrarian, Biological, Exact, Technology, Humanities, Social and Health Sciences, developed by the Program and presented from 2010. These documents will be available to consultation for the academic community in the Institutional Repository (IR) at UFMA.

Scientific communication is an efficient medium of disseminating the results from the researches made by scholars and professors in many knowledge fields. This influence directly reflects on the original institution production level. With the increase

and advantages of using and publicizing information through the Web, Internet became an important vehicle for the dissemination of scientific production.

IR uses the *Open Access* policy that aims to encourage electronic publication and academic production access to allow the whole text publicizing. University ID is one of the guides to Open Access.

Lynch (2003) understands institutional deposit as a "[...] set of services that university offers to its community members to the administration and publicizing of digital materials created by the university and its community members". Like this, IR objectives of inclusion to store, to publicize, to access and to gather all university production without format restriction are justified. Leite e Costa (2005, p.8) highlights this matter by saying:

> Institutional Repository (IR) are varied in types of contents and forms that can be stored in IR, such as: scientific articles, electronic books, book chapters, preprints, post prints, technique reports, discussion texts, theses, compositions, papers used in conferences, talks, teaching material (slides, short texts, summaries, presented works and other), multimedia archives.

According to Crow (2002, page16), "[...] institutional repository is a digital archive of intellectual products created by the institution professors, by a researcher and student community". At PIBIC/UFMA context, researches final results in Agrarian, Biological, Exact, Technology, Humanities, Social and Health Sciences delivered from July 2011, in CD-ROM and PDF will be available in the IR/UFMA, according to research guides.

With the same objectives as in a library, institutional deposits propose free access to collections and important researches. They also preserve in an effective way and work as publicizing medium, considering that research supported by the State is one of the university foundations.

CONCLUSIONS

Information is the instrument that boosts and works together with intellectual, social and economic growth. It makes independent individuals and promotes people good.

PIBIC/UFMA document conditions attracted the Program coordination attention to a matter that lacks archive immediate solutions because they remain without specific care. There are possible solutions to some of the difficulties:

a) Document degradation risks: technical care with the handle, installation, climate and proper material use to preserve documents (plastic is a good example because it doesn´t damage paper);

b) Difficulty to handle archives and document disorganized storage, what makes searches complex: describing label use in archives;

c) To reduce the numbers of documents without administrative use: to make an assessment that will result in an eliminated documents table, specifying the reason of the elimination.

The PIBIC/UFMA archive organization process is still underway. After the organization activities the archive documents will be classified and labeled. There´s also a proposal to create an 'Archive Organization and Maintenance Manual'. From these proposals it´s possible to create a storage policy with coordination guidelines to ensure that document lack of care and disorder won´t happen again.

It´s possible to notice the benefits of an archive policy – that still doesn´t exist in many institutions –, and the benefits of its use, implementation and effectiveness to keep documents correctly.

Usage and damage of documents should be avoided when there´s a safety storage objective to ensure that institution memory will remain and for that reason administrative documents digitization is used. Nowadays used social media are adapting to information production ways. With the coming of computer and Internet, there´s a highlight on media forms. There´s a new definition use to appoint current storage, production, processing and net distribution, what contributes to knowledge acquisition.

It´s important to remind that besides document and information effective managing, subsidies increase when cooperating with information publicizing and Program researches; they will have important contribution to the academic community through the IR/UFMA.

To make scientific production available through IR/UFMA it is necessary, first of all, to plan its implementation and also to invest in the archive administrators training because they will keep the information publicizing process through free access.

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[1] Souza, M. de L. da Costa e. Apostilas do Curso de Organização e Administração de Arquivos: Ponto I. Rio de Janeiro: DASP, 1950.