1

Article





Revista Digital de Biblioteconomia e Ciência da Informação Digital Journal of Library and Information Science

# Domain analysis of Brazilian open access institutional policies

Luísa Chaves Café <sup>1</sup> D Vanessa Oliveira de Macêdo Cavalcanti <sup>2</sup> D Camila Monteiro de Barros <sup>3</sup> Luciane Paula Vital <sup>4</sup> Edgar Bisset Alvarez 5 🕩

#### ABSTRACT

Introduction: Open Access to scientific literature is a movement that has been developing for more than two decades and has become more complex as a domain of knowledge. Because of the advances in this area, some institutions create open access policies that express norms, values and paradigms on the subject. Objective: The objective of this study is to identify the fundamental aspects of open access representations in Brazilian institutional policies. Methodology: It uses as a qualitative approach the domain analysis and the theoretical-methodological course of content analysis through the application of the categorical technique. Performs the mapping of documents from the Melibea open access policy directory. Results: It points out that there is acknowledgment of the importance of open access as a strategy for the democratization and universalization of knowledge for society and indicates important aspects from the viewpoint of analyzed Brazilian institutions such as copyright, preservation, and open data. Conclusion: It concludes that there are terminological relationships to be considered in the open access domain and that the policies are important to institutionally align the understanding of fundamental concepts as well as to guide open access practices.

#### **KEYWORDS**

Open access. Information policies. Domain analysis. Knowledge organization.

## Análise de domínio de políticas institucionais de acesso aherto no Brasil

## **RESUMO**

Introdução: O Acesso Aberto à literatura científica é um movimento que se desenvolve há mais de duas décadas e se torna mais complexo como domínio de conhecimento. Com os avanços da área, algumas instituições criam políticas de acesso aberto que expressam normas, valores e paradigmas acerca do tema. Objetivo: Este estudo tem como objetivo a identificação dos aspectos fundamentais do acesso aberto em suas representações presentes nas políticas institucionais brasileiras. Metodologia: Utiliza como abordagem qualitativa a análise de domínio, e o percurso teórico-metodológico da análise de conteúdo por meio da aplicação da técnica categorial. Realiza o mapeamento dos documentos a partir do diretório de políticas de acesso aberto Melibea. Resultados: Aponta que há um reconhecimento da importância do acesso aberto como estratégia para democratização e universalização do conhecimento para a sociedade e indica aspectos importantes na visão das instituições brasileiras analisadas como direitos autorais,

## Correspondence to authors

- <sup>1</sup>Universidade Federal de Santa Catarina – Florianópolis, SC – Brazil e-mail: lccafe@gmail.com
- <sup>2</sup>Universidade Federal de Santa Catarina – Florianópolis, SC – Brazil e-mail: vanessabiblio@gmail.com
- <sup>3</sup>Universidade Federal de Santa Catarina – Florianópolis, SC – Brazil e-mail: camila.c.m.b@ufsc.br
- 4Universidade Federal de Santa Catarina – Florianópolis, SC – Brazil e-mail: luciane.vital@ufsc.br
- 5 Universidade Federal de Santa Catarina – Florianópolis, SC – Brazil e-mail: edgar.bisset@ufsc.br

preservação e dados abertos. Conclusão: Conclui que há relações terminológicas a serem consideradas no domínio do acesso aberto e que as políticas são importantes para alinhar institucionalmente a compreensão sobre conceitos fundamentais e orientar as práticas de acesso aberto.

#### PALAVRAS-CHAVE

Acesso aberto. Políticas de informação. Análise de domínio. Organização do conhecimento.

#### **CRediT**

- Recognitions: Not applicable.
- Funding: Not applicable.
- Conflicts of interest: Authors certify that they have no commercial or associative interest that represents a conflict of interest in relation to the manuscript.
- Ethical approval: Not applicable.
- Availability of data and material: Not applicable.
- Authors' contributions: Conceptualization, Data Curation, Formal Analysis, Research, Methodology, Visualization, Writing - original draft: CAFÉ, L.C.; CAVALCANTI, V.O.M.; Supervision, Validation, Writing - review & edition: BARROS, C.M. de; VITAL, L.P.; BISSET ALVAREZ, E.



JITA: IM. Open data.



Article submitted to the similarity system

Submitted: 13/06/2022 - Accepted: 24/08/2022 - Published: 16/09/2022

Responsible editors Gildenir Carolino Santos Daniele Thiago Ferreira

## 1 INTRODUCTION

The Open Access Movement (Open Access) to scientific information has caused several changes in how scientific communication takes place. There is a global involvement to drive the free dissemination of the scientific literature seen in the creation of digital platforms and services, in new ways of publishing, in deals with publishers, and in the development of policies implemented by governments, foundations, and public and private research funding agencies.

In Brazil, discussions about open access began in the 2000s with some manifestations that supported the Movement. In 2005, the Brazilian Institute for Information in Science and Technology (IBICT) formally joined the initiative and launched the Brazilian Manifesto in Support of Open Access to Scientific Information, which is a reference, containing several recommendations to achieve the goal of freely accessing scientific information. Among the recommendations, the document mentions the need to establish a national policy of free access to scientific information, involving researchers, organizations/institutions, and funding agencies.

As discussions about open access advance, higher education and research institutions, producers of knowledge expressed in publications, are creating institutional policies to regulate and strengthen open access practices, such as publication in journals or deposit in digital repositories. At the same time, these policies are instruments of epistemic governance, meaning that they express values, norms, and paradigms related to knowledge, which are used to exert power and influence over various actors in academic and scientific information contexts (ALBORNOZ et. al., 2018). Systematizing the information expressed in institutional open access policies allows a new look at the general knowledge about the views and practices in the 3 open access domain.

The objective of this study is to identify key aspects of open access in its representations present in Brazilian institutional policies. Domain analysis is the chosen approach, as it consists of a process of analysis and organization that allows a comprehensive view of the main concepts of a given area (HJØRLAND, 2003). In the execution of the objective, we mapped open access policies of national institutions, choosing relevant documents for the investigation and the application of the analysis. With support from the Melibea Directory, three policies were selected for analysis, which belong to the institutions: Oswaldo Cruz Foundation (Fiocruz), São Paulo State Research Support Foundation (FAPESP), and State University of Campinas (UNICAMP). Although several other Brazilian institutions present consolidated open access initiatives, the study prioritized comprehensive and structured policies. As a contribution to the theoretical-methodological path, we resorted to content analysis in Bardin (2016) by applying the categorical technique.

The policies are considered as the literary base in which the knowledge of the speech community is expressed, in this case, the Brazilian institutions analyzed, regarding the domain of open access. The results are expected to assist the knowledge organization about open access, considering the view of Fiocruz, FAPESP, and UNICAMP as active agents in this field.

#### 2 LITERATURE REVIEW

The publication of scientific research in open access brings benefits in the communication of results, therefore, it collaborates with the development of Science. According to Costa and Leite (2017, p. 16), some of the arguments that justify open access practices are: "the public nature of scientific knowledge, [...] the possibility of access to scientific literature by institutions that would not be able to pay for the amount charged by commercial publishers", and the visibility of scientific production from regions excluded from the scientific communication scenario. For, the literature in open access presents greater potential readers and consequently may present greater use and impact (HARNAD; BRODY, 2004). In addition to the benefits cited, open access respects peer review and research quality practices, as well as is compatible with copyright, database indexing, and other attributes associated with conventional scholarly literature (SUBER, 2013).

The Open Access (OA) movement has been consolidated by the creation of open archive platforms such as arXiv in 1991, open journals, and the formal declarations of Budapest (2002), Bethesda (2003), and Berlin (2003). The Budapest Declaration, published in 2002 and reaffirmed in 2012, brings the formal definition of "open access to peer-reviewed scientific literature" as

[...] free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited (BOAI, 2012).

Open access is therefore more than just free access to scientific literature available on the Internet. For improved scholarly communication flows, greater sustainability of business models, and expansion of the social base of science, publications should be available for unrestricted access and reuse for legal purposes. The statement also defined possible strategies for open access: the green way and the golden way. The former comprises self-archiving of articles in digital repositories; the latter comprises publishing articles in journals that do not charge subscription or access fees, making articles freely accessible at the time of publication (BOAI, 2012).

Currently, open access to scientific publications is understood as one of the initiatives within the context of Open Science that also covers, for example, open scientific data, open hardware, open educational resources, and citizen science (ALBAGLI; CLINIO; RAYCHTOCK, 2014). However, in recent research in the perspective of expanding the field of open science, Silveira *et al* (2021) developed a study on the taxonomy of the theme by the analysis of Brazilian experts and presented the following terms: Open Access, Open Data, Open Reproducible Research, Open Science Evaluation, Open Science Policies, Open Science Tools, Open Education, Open Licensing, Citizen Science, Digital Preservation and Open Innovation. In this same study, in the facet about Open Access with the inclusion of the term open publishing, the researchers kept the ramifications of the access routes to scientific knowledge, presenting in the golden route the journal portals, data journals, and mega journals, and in the green route presenting the institutional and thematic repositories. Regarding open access policies, the authors defined them from the ramification of specialized policies in Open Science (SILVEIRA et al, 2021).

In twenty years, Open Access has developed in several countries and through several fronts with the creation of open journals, digital repositories, and open directories, new types of usage licenses, laws, and policies for free availability of scientific publications. It is a complex movement involving many initiatives and types of actions undertaken by librarians, researchers, universities, publishers, and funding agencies. With the development of Open Access, the theoretical and practical knowledge about open philosophy and its strategies grows. This knowledge demands organization to support the description and consequent retrieval of information in this domain, as well as to aid in the understanding of open access practices themselves.

Knowledge Organization (KO) involves knowledge's intellectual organization, which deals with concepts, symbolic systems, conceptual systems, and theories, as well as social organization, which deals with professions, businesses, and disciplines. The combination of intellectual and social organization results in cognitive organizations for defining traditions,

ideologies, and paradigms, based on social influences (HJØRLAND, 2003). The Knowledge Organization activity deals with assigning similarities and identifying differences to categorize concepts and understand a knowledge domain. Therefore, it relies on Knowledge Organization Systems (KOS), such as thesaurus, taxonomies, ontologies, or classification systems. Also according to Hjørland (2003), the creation and use of these systems involve decisions that include epistemological implications in what is considered relevant, considering the connections between classes and types of documents according to the purposes of information users. It is important to emphasize that the description and classification of a subject is not a neutral and objective activity; it is influenced by different theoretical views and interests, as well as by semantic issues.

The Knowledge Organization Systems (KOS) structure conceptual relationships to enable solving problems related to the production and organization of scientific knowledge. They are essential tools in any information unit, which need knowledge bases to organize and retrieve relevant information (MOREIRA, 2019). The basis of these systems are the semantic relationships between concepts, which are considered the units of thought and knowledge. A descriptor or a class represents a concept, and information retrieval depends on the relationships between the search terms and the concepts presented in the documents (HJØRLAND, 2003).

Here, the difference between concept and term is emphasized. Concepts are represented by terms, therefore, terms are manipulated to support the retrieval of the respective concepts. An example exposed by Moreira (2019) is that of the thesaurus, whose purpose is to guide the indexer or researcher to choose a standardized term to describe or retrieve a concept. In this way, KOSs deal with conceptual relations of several types, such as hierarchical, partitive, and associative or instance relations. The more delimited the domain to be described by the KOS, the greater the precision in the identification, discrimination, and description of concepts and their relationships (MOREIRA, 2019).

For Knowledge Organization and its systems, there are quantitative, qualitative, text-based, user-based, institution-based, bibliometric, word frequency, and epistemological, critical, and historical methods. The different OC methods serve for scientific or bibliographic classifications (HJØRLAND, 2003).

One of the methodological contributions to the KO as a discipline is domain analysis. It is an approach for "characterization and evaluation of science, as it allows identifying the conditions by which scientific knowledge is built and socialized" (GUIMARÃES, 2014, p. 15). According to the author, domain analysis is the theoretical study of an area represented in scientific literature, generating knowledge about the interaction of a given community with information. In this context, the object of analysis, that is, the domain is categorized, as being subjected to knowledge organization. A domain can be an area of knowledge or a certain field of specialty, and its analysis allows the identification of the objects of this domain in such a way that enables knowledge organization (DIAS, 2015).

With the identification of similarities and separation by differences, the fundamental categories of the field are identified from the literature, which represents the literary warrant for knowledge organization (GUIMARÃES, 2014). This warrant is a necessary condition for the development of a KOS so that the selection of a term can be validated. Thus, the understanding of a domain considering the choice of terms that represent it allows the modeling of an information system (DIAS, 2015).

The processes of the survey, identification, description and evaluation subsidize the identification of knowledge generated in a given domain by discourse communities, which consist of "distinct social groups synchronized in thought, language and knowledge" (HJORLAND; ALBRECHTSEN, 1995, apud GUIMARÃES, 2014, p. 17). Communities have specific behaviors and uses of information, so for information professionals, it is important to consider these specificities when dealing with the organization and retrieval of information (DIAS, 2015).

The open access movement was analyzed as a scientific domain by Rios, Lucas, and

Amorim (2019) from the manifests and main statements of the movement. The authors conducted the analysis from bibliometric and historical studies and at the end of the study, made considerations about the evolution of the definitions of open access from what was expressed in formal statements. Through the analysis of institutional policies, it is expected to complement the study on the domain of open access, to contribute to the understanding and organization of knowledge in the area, considering the representation of the vision of Brazilian institutions and their practices as part of this knowledge.

## 3 METHOD

Scientific research should be aimed at solving problems in a process of inquietude, search and knowledge of reality, being present in day-to-day life, in the development of science, in technological advancement, and in the intellectual progress of an individual, having the support of the scientific method.

From this understanding, to investigate the proposed research, the domain analysis approach was used as a process to achieve the proposed objectives, understanding the representation and knowledge organization (GUIMARÃES, 2014; DIAS, 2015; AMORIM; CAFÉ, 2016). However, as this research is characterized qualitatively, for a better understanding of the issues, it used the theoretical and methodological foundation of content analysis of Bardin (2016, p. 44), because it presents itself as a "set of techniques for analysis of communications that uses systematic and objective procedures to describe the content of messages," i.e., its main objective is to look for something behind a text.

Hjorland (2002) lists among the possible approaches to domain analysis terminological studies, special-purpose language studies, base semantics, and discourse studies. Thus, we understand that content analysis can be an effective resource in understanding discourses in certain domains and, therefore, can be used to achieve a domain analysis. In the methodological path, in Bardin (2016) we followed the organization of the stages of the content analysis process through the pre-analysis, the exploration of the material, the treatment of the results obtained by the data collection, and the interpretation through inferences.

Forming a corpus, which Bardin (2016, p. 126) conceptualizes as "the set of documents taken into account to be submitted to analytical procedures", we conducted the mapping of policies for this study by consulting the Melibea directory of open access policies. The directory is a product developed and maintained by the Open Science Spain project of the Universitat de Barcelona and the Consejo Superior de Investigaciones Científicas (CSIC), both in Spain (OPEN SCIENCE SPAIN, [2021]; UNIVERSITAT DE BARCELONA et. al., [2021]). This directory was selected because it includes open access policies from several fronts, whether for deposit in repositories or article publication. This comprehensive coverage is due to its mission to analyze and develop parameters for unrestricted open access policies. In the virtual environment, a search by country was done selecting all policies from Brazil. Then, the information was extracted for better control of the data, and a floating reading was applied as the first contact with the documents. But for the analysis of the documents, in this case, the open-access policies of the institutions, we chose the categorical technique that

[...] works by breaking down the text into units, and categories according to analogical regroupings. Among the different possibilities for categorization, are the investigation of themes, or thematic analysis (BARDIN, 2016, p. 201).

From the first reading, and considering what was delimited in the field of Open Access by the taxonomy of Silveira et al (2021), the units of record to be analyzed were defined, being: open access, journals, and repositories. The former is to understand how open access itself is represented in policies, and the latter because they constitute the basic strategies of the movement. For, according to Bardin (2016, p. 134), the unit of record "is the codified unit of

meaning and corresponds to the segment of content considered the basic unit, aiming at categorization".

Next, when exploring the material, the units of context were extracted, which serve for "understanding to codify the unit of record" (BARDIN, 2016, p. 137), considering the sentence or paragraph in which the definitions and activities involved with the delimited units of record are addressed. The units of context were then interpreted through inference to observe possible patterns between the terms present in the different policies.

In the following section, the results of the analyses that aimed to identify the representations present in Brazilian institutional policies on open access are presented.

## **4 RESULTS**

In the directory of open access policies, Melibea retrieved 12 policies from different Brazilian institutions. We chose to investigate the links provided by the directory, as well as to search for possible new versions or revisions in each institution's site, which might not have been indexed in the base. It was found that some URLs informed by the Directory referred to pages that were offline or without policy content. In these cases, we searched for the policies on the institution's websites.

From the 12 Brazilian institutions listed in the Melibea directory, it was not possible to find the policy referring to one (1) institution. Among the documents found, eight do not refer to open access policies, and among these, one (1) refers to a bill, five deal with specific policies for depositing documents in repositories, and two covers open data policy. Therefore, only three institutions present an open access policy that can be analyzed in the scope of this study, which are: the Oswaldo Cruz Foundation (Fiocruz), the Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP) and the Universidade Estadual de Campinas (UNICAMP). Next, it is presented the units extracted from each policy for analysis, the categories (Open Access, Periodical, and Repository) as the registration units, and the context units with the definitions presented in each policy (BARDIN, 2016).

Chart 1. Open Access Policy at Fiocruz: extracted context units.

Recording unit	Context unit
Open Access	<ul> <li>"guarantee to society free, public and open access to the full content of all intellectual work produced by Fiocruz."</li> <li>"Considering information as a public good and one of the social determinants in health, the principles of the Brazilian Constitution, the Universal Declaration of Human Rights, the global movement of open access to knowledge, as well as the Federal Government's guidelines for its promotion, which include the integrity of the research conducted and published"</li> <li>"The democratization and universalization of access to knowledge in the sciences and humanities."</li> <li>"to strengthen the mechanisms for the preservation of the institutional memory and increase access to and the impact of Fiocruz's intellectual production, constituting an important instrument that will promote, in an organized and gathered way, the dissemination, accessibility and, consequently, visibility of the knowledge generated in the Institution."</li> <li>"For the purposes of Fiocruz's institutional open access policy, intellectual work is understood as all of Fiocruz's scientific, technical, technological, cultural, and didactic-educational production."</li> <li>"The objectives of Fiocruz's Knowledge Open Access Policy are I. Favoring free and public access to the knowledge produced by the institution; II. Preserving the institutional memory; III. Give visibility and disseminate the intellectual production; IV. Support the planning and management of research; V. Establish guidelines for the registration and publication of intellectual production."</li> <li>"Increase the visibility and citations of scientific works produced at Fiocruz; §</li> </ul>

so Stimulate the greater participation of Flooruz authors in funding agencies tenders, where deposit in the institutional repository is a condition for registration (\$4° Optimize management, safeguarding, and digital and authorial preservation and Floorus?*  - "The Policy will contemplate different stimuli to Open Access, such as institutional financial support aliming at the publication of articles in Open Access Journals."  - "The embargo period set by the journals is respected."  - "has a mandatory character. Thus, it is mandatory the deposit [] of articles produced within Flooruz and published in scientific journals."  - "Scientific articles published injournals with restricted access must be deposited in the institutional Repository."  - ""Authors should preferably publish in open access journals."  - "The Institutional financing aiming at the publication of Floorus's intellectual works in Open Access Scientific Journals that require payment of financial values for article processing, both nationally and internationally will be defined in its own regulation."  - "The Policy has a mandatory character initially regarding the deposit in the Arca Institutional Repository of dissertations and thesis defended in the Post-graduate Programs at Flooruz and of scientific articles published in periodicals."  - "Its function is to host, make available, and give wishing to the Institutional Commitment to free access to scientific information in health, as well as to grant transparency and encourage scientific communication among researchers, educators, academics, managers, graduate students, and the entire civil society."  - "an intellectual work is defined as all Floorus's scientific, technical, technical, technical, and didactic educational production."  - "The fulfillment of the deposit in the Arca Institutional Repository is the body responsible for the coordination, management, operation, participation and adhesion to the Repository and crossure operational alignment among the units."  - "The fulfillment		
registrations, § a° Optimize management, safeguarding, and digital and authorial preservation at Flocruz;*  * "The Policy will contemplate different stimuli to Open Access, such as institutional financial support aiming at the publication of articles in Open Access Journals."  * "The embargo period set by the journals is respected."  * "has a mandatory character. Thus, it is mandatory the deposit [] of articles produced within Flocruz and published in scientific journals."  * "Scientific articles published in journals with restricted access must be deposited in the Institutional Repository."  * "Authors should preferably publish in open access journals."  * "The institutional financing aiming at the publication of Flocruz's intellectual works in Open Access Scientific Journals that require payment of financial values for article processing, both nationally and internationally, will be defined in its own regulation."  * "The Policy has a mandatory character initially regarding the deposit in the Arca Institutional Repository of dissertations and thesis defended in the Post-construction and the Arca Institutional Repository of dissertations and thesis defended in the Post-construction of knowledge to strengthen the institutional commitment of real excess to scientific information in health, as well as log grant transparency and encourage scientific communication among researchers, educators, academics, managers, graduate students, and the entire civil society."  * "an intellectual work is defined as all Flocruz's scientific, technical, technological, cultural, and didactic-educational production."  * "The fulfillment of the deposit in the Arca Institutional Repository will provide the attribution of advantages to authors in the Arca Institutional Repository is the body responsible for the coordination, management, operation, participation and adhesion to the Repository in articulation with the NAACs. Its objective is to define the lines of action, work plan and operation of the Arca Institutional Reposit		3° <b>Stimulate the greater participation</b> of Fiocruz <b>authors</b> in funding agencies'
preservation at Piocruz,"  "The Policy will contemplate different stimuli to Open Access, such as institutional financial support aiming at the publication of articles in Open Access Journals."  "The embargo period set by the journals is respected."  "Inha a mandatory character. Thus, it is mandatory the deposit [] of articles produced within Piocruz and published in sensific journals."  "Scientific articles published in journals with restricted access must be deposited in the institutional Repository."  "Authors should preferably publish in open access journals."  "The institutional financing aiming at the publication of Piocruz's intellectual works in Open Access Scientific Journals that require payment of financial values for article processing, both nationally and internationally, will be defined in its own regulation."  "The Policy has a mandatory character initially regarding the deposit in the Arca Institutional Repository of dissertations and thesis defended in the Post-graduate Programs at Floricurz and of scientific articles published in periodicis."  "The Policy has a mandatory character initially regarding the deposit in the Arca Institutional Repository of dissertations and thesis defended in the Post-graduate Programs at Floricurz and of scientific articles published in periodicis."  "Its function is to host, make available, and give visibility to the Institution's intellectual production, pringing it togethric articles published in periodicis."  "Its function is to host, make available, and give its rengthen the institutional commitment to free access to scientific information in health, as well as to grant transparency and encourage scientific communication among researchers, educators, academics, managers, graduate students, and the entire civil society."  ""a. in intellectual work is defined as all Fiocrur's scientific, technical, technological, cultural, and didactic-educational Production."  "The fulfillment of the deposit in the Arca institutional Repository will provide the attribution		,
"The Policy will contemplate different stimuli to Open Access, such as institutional financial support aiming at the publication of articles in Open Access Journals."      "The embargo period set by the journals is respected."      "She embargo period set by the journals is respected."      "She embargo period set by the journals is respected."      "Scientific articles published in journals with restricted access must be deposited in the institutional Repostory."      "Scientific articles published in journals with restricted access must be deposited in the institutional Repostory."      "The institutional financing aiming at the publication of Fioicruz's intellectual works in Open Access Scientific Journals that require payment of financial values for article processing, both nationally and internationally, will be defined in its own regulation."      "The Policy has a mandatory character initially regarding the deposit in the Arca Institutional Repository of dissertations and thesis defended in the Postgraduate Programs at Fiocruz and of scientific articles published in periodicals."      "Its function is to host, make available, and give visibility to the Institution's intellectual production, bringing it together in a single access point, and to stimulate the widest circulation of knowledge to strengthen the institutional commitment to free access to scientific information in health, as well as to grant transparency and encourage scientific communication among researchers, educators, academics, managers, graduate students, and the entire civil society."      ".a.a. intellectual work is defined as all Fiocruz's scientific, technical, technological, cultural, and didactic-educational production."      "The Milliment of the deposit in the Arca Institutional Repository will provide the attribution of Advantages to authors in the competition of internal notices or other mechanisms of Fiocruz's own resources."      "The Management Committee of the Arca Institutional Repository and ensure operational alignme		
institutional financial support aiming at the publication of articles in Open Access Journals."  "The embarga period set by the journals is respected."  "Inhas a mandatory character. Thus, it is mandatory the deposit [] of articles produced within Flociruz and published in scientific journals."  "Scientific articles published in journals with restricted access must be deposited in the Institutional Repository."  "Authors should preferably publish in open access journals."  "The institutional Repository."  "The institutional financing aiming at the publication of Flociruz's intellectual works in Open Access Scientific Journals that require payment of financial values for article processing, both nationally and internationally, will be defined in its own regulation."  "The Policy has a mandatory character initially regarding the deposit in the Arca Institutional Repository of dissertations and thesis defended in the Postgradual Programs at Floricuz and of scientific articles published in periodicals."  "Its function is to host, make available, and give visibility to the Institution's intellectual production, bringing it together in a single access point, and to stimulate the widest circulation of knowledge to strengthen the institutional commitment to free access to scientific information in health, as well as to grant transparency and encourage scientific communication among researchers, educators, academics, managers, graduate students, and the entire civil society."  ".m.an intellectual work is defined as all Fiocruz's scientific, technical, technological, cultural, and didactic educational production."  "The fulfillment of the deposit in the Arca Institutional Repository will provide the attribution of advantages to authors in the competition of internal notices or other mechanisms of Fiocruz's own resources."  "The Management Committee of the Arca Institutional Repository is the body responsible for the coordination, management, operation, participation and adhesion to the Repository in articulation with		
in its own regulation."  "The Policy has a mandatory character initially regarding the deposit in the Arca Institutional Repository of dissertations and thesis defended in the Post-graduate Programs at Fiocruz and of scientific articles published in periodicals."  "Its function is to host, make available, and give visibility to the Institution's intellectual production, bringing it together in a single access point, and to stimulate the widest circulation of knowledge to strengthen the institutional commitment to free access to scientific communication among researchers, educators, academics, managers, graduate students, and the entire civil society."  "an intellectual work is defined as all Fiocruz's scientific, technical, technological, cultural, and didactic-educational production."  "The fulfillment of the deposit in the Arca Institutional Repository will provide the attribution of advantages to authors in the competition of internal notices or other mechanisms of Fiocruz's own resources."  "The Management Committee of the Arca Institutional Repository is the body responsible for the coordination, management, operation, participation and adhesion to the Repository in articulation with the NAACs. Its objective is to define the lines of action, work plan and operation of the Arca Institutional Repository and ensure operational alignment among the units."  "The digital objects in the Arca Institutional Repository can contain text, images, and audio."  "The digital objects in the Arca Institutional Repository can contain text, images, and audio."  "Must have the capacity to integrate with national and international systems that automatically enable the inclusion and collection of the relevant intellectual production, observing in particular the protocols and standards defined in the Open Archives Initiative (OA) model."  "Self-archiving will be preferably adopted, when authors will fill in the metadata and deposit the digital object. Libraries and community managers will act as facilitators in self-archiving	Journal	<ul> <li>institutional financial support aiming at the publication of articles in Open Access Journals."</li> <li>"The embargo period set by the journals is respected."</li> <li>"has a mandatory character. Thus, it is mandatory the deposit [] of articles produced within Fiocruz and published in scientific journals."</li> <li>"Scientific articles published in journals with restricted access must be deposited in the Institutional Repository."</li> <li>"Authors should preferably publish in open access journals."</li> <li>"The institutional financing aiming at the publication of Fiocruz's intellectual works in Open Access Scientific Journals that require payment of financial</li> </ul>
"The Policy has a mandatory character initially regarding the deposit in the Arca Institutional Repository of dissertations and thesis defended in the Postgraduate Programs at Flocruz and of scientific articles published in periodicals."  "Its function is to host, make available, and give visibility to the Institution's intellectual production, bringing it together in a single access point, and to stimulate the widest circulation of knowledge to strengthen the institutional commitment to free access to scientific information in health, as well as to grant transparency and encourage scientific communication among researchers, educators, academics, managers, graduate students, and the entire civil society."  "man intellectual work is defined as all Fiocruz's scientific, technical, technological, cultural, and didactic-educational production."  "The fulfillment of the deposit in the Arca Institutional Repository will provide the attribution of advantages to authors in the competition of internal notices or other mechanisms of Fiocruz's own resources."  "The Management Committee of the Arca Institutional Repository is the body responsible for the coordination, management, operation, participation and adhesion to the Repository in articulation with the NACs. Its objective is to define the lines of action, work plan and operation of the Arca Institutional Repository and ensure operational alignment among the units."  "The digital objects in the Arca Institutional Repository can contain text, images, and audio."  "Lies distributed in communities for the organization of information and scientific production,"  "Must have the capacity to integrate with national and international systems that automatically enable the inclusion and collection of the relevant intellectual production, observing in particular the protocols and standards defined in the Open Archives Initiative (OAI) model."  "Self-archiving will be preferably adopted, when authors will fill in the metadata and deposit the digital object. Libraries and commun		,
Institutional Repository of dissertations and thesis defended in the Post- graduate Programs at Fiocruz and of scientific articles published in periodicals."  "Its function is to host, make available, and give visibility to the Institution's  intellectual production, bringing it together in a single access point, and to  stimulate the widest circulation of knowledge to strengthen the institutional  commitment to free access to scientific information in health, as well as to grant  transparency and encourage scientific communication among researchers,  educators, academics, managers, graduate students, and the entire civil  society."  1 "an intellectual work is defined as all Fiocruz's scientific, technical,  technological, cultural, and didactic-educational production."  1 "The fulfillment of the deposit in the Arca Institutional Repository will provide  the attribution of advantages to authors in the competition of internal notices or  other mechanisms of Fiocruz's own resources."  1 "The Management Committee of the Arca Institutional Repository is the body  responsible for the coordination, management, operation, participation and  adhesion to the Repository in articulation with the NAACs. Its objective is to  define the lines of action, work plan and operation of the Arca Institutional  Repository and ensure operational alignment among the units."  1 "The digital objects in the Arca Institutional Repository can contain text, images,  and audio."  2 ""is structured in communities for the organization of information and scientific  production."  3 "Must have the capacity to integrate with national and international systems  that automatically enable the inclusion and collection of the relevant intellectual  production, observing in particular the protocols and standards defined in the  Open Archives Initiative (OAI) model."  2 "Self-archiving will be preferably adopted, when authors will fill in the metadata  and deposit the digital object. Libraries and community managers will act as  facilitators in se		3
	Repository	<ul> <li>"The Policy has a mandatory character initially regarding the deposit in the Arca Institutional Repository of dissertations and thesis defended in the Postgraduate Programs at Fiocruz and of scientific articles published in periodicals."</li> <li>"Its function is to host, make available, and give visibility to the Institution's intellectual production, bringing it together in a single access point, and to stimulate the widest circulation of knowledge to strengthen the institutional commitment to free access to scientific information in health, as well as to grant transparency and encourage scientific communication among researchers, educators, academics, managers, graduate students, and the entire civil society."</li> <li>"an intellectual work is defined as all Fiocruz's scientific, technical, technological, cultural, and didactic-educational production."</li> <li>"The fulfillment of the deposit in the Arca Institutional Repository will provide the attribution of advantages to authors in the competition of internal notices or other mechanisms of Fiocruz's own resources."</li> <li>"The Management Committee of the Arca Institutional Repository is the body responsible for the coordination, management, operation, participation and adhesion to the Repository in articulation with the NAACs. Its objective is to define the lines of action, work plan and operation of the Arca Institutional Repository and ensure operational alignment among the units."</li> <li>"The digital objects in the Arca Institutional Repository can contain text, images, and audio."</li> <li>"is structured in communities for the organization of information and scientific production."</li> <li>"Must have the capacity to integrate with national and international systems that automatically enable the inclusion and collection of the relevant intellectual production, observing in particular the protocols and standards defined in the Open Archives Initiative (OAI) model."</li> <li>"Self-archiving will be preferably adopted, when authors wil</li></ul>
		·
		·

Source: Source: Prepared by the author, based on information contained in Fiocruz's Open Access Policy (FIOCRUZ, 2014).

Chart 2. FAPESP's Open Access Policy: extracted context units.

Chart 2.1 At 251 3 Open Access 1 oncy. extracted context onits.	
Recording unit	Context unit
Open Access	<ul> <li>"making available in universal and open access repositories of published articles or other types of scientific communication;"</li> <li>"the open access movement, which considers scientific knowledge recorded in scientific publications as a public good and advocates that scientific papers be published on the Web and have universal and open access, especially when research is publicly funded (Varmus H (2008)."</li> <li>"By taking the decision to launch the Open Access Policy that expands and strengthens the transmission and advancement of scientific knowledge generated in Brazil, FAPESP promotes that publicly funded research has its results published in universal and open access."</li> </ul>
Journal	"Most commercial publishers or scientific societies that edit relevant scientific journals have mechanisms to facilitate the open access availability of the articles they publish. Some charge an additional fee to publish articles that will be released in open access; others allow the author to deposit their version of the approved article in open access repositories soon after publication by the journal or with an embargo of a few months, usually 6 or 12 months."
Repository	<ul> <li>"with the objective of contributing to broaden and strengthen the visibility of Brazilian research and increase its impact, establishes that the full texts of articles or other types of scientific communication, originating from research and projects funded partially or totally by it and published in international journals be deposited in an institutional repository of scientific works, following the policy for open access availability of each journal, as soon as the manuscripts are approved for publication or in the shortest time compatible with the restrictions of each journal."</li> <li>"the work of management, guidance to researchers, indexing and making available in the institutional repository is done by the support service of the institutional libraries, being essential to FAPESP that it does not burden the researcher's time."</li> </ul>

Source: Prepared by the author, based on information contained in FAPESP's Open Access Policy (FAPESP 2011).

Chart 3. Open Access Policy at UNICAMP: extracted context units.

Recording unit	Context unit
Open Access	"consists in making freely available to any interested party, online and free of charge, the complete content, including metadata, of all intellectual and scientific production of all teaching and non-teaching staff, undergraduate and graduate students, and other researchers linked to Unicamp, assured all the rights and obligations related to copyright and embargoes foreseen in the current legislation."
Journal	"extends the principles of free access to all institutional portals for the dissemination of journals and other publications, in full content, to any interested party, online and free of charge, assured all the rights and obligations related to copyright and embargoes provided for in the current legislation."
Repository	<ul> <li>"all UNICAMP's intellectual and scientific production must be deposited in digital format in the following open access repositories:         <ul> <li>I - Repository of UNICAMP's Scientific and Intellectual Production: created by Resolution GR-013/2015 and tasked as an official instrument to store content in the form of articles, books, book chapters, theses, dissertations, and other publications;</li> <li>II - Research Data Repository (REDU): to be created by the Central Research Commission and qualified as an official instrument tasked to store digital content in the form of software, raw research data, audio, and video recordings, questionnaires, computer codes, photographs and images, spreadsheets, among others."</li> </ul> </li> </ul>

Fonte: Prepared by the author, based on information from UNICAMP's Open Access Policy (UNICAMP, 2020).

From the analysis, the following inferences about the categories were consolidated: open access, journal, and repository.

Regarding Open Access, it is possible to notice the recurring use of expressions such as: "free access", "public good", "impact" and "visibility". In the institutional documents analyzed, it is understood that the option to use these expressions is a way to justify the need for implementation and as a clarification for the institutional community that may still be unaware of the strategy of unrestricted access to scientific knowledge. When conceptualizing open access, the policies point out the main goal of the policy, building the concept together with the narrative of democratization and universalization of knowledge and that through action, dissemination, and accessibility are practiced. It is noteworthy that the analyzed policies belong to public institutions, a fact that reflects the national funding system of Science and Technology, mostly coming from public resources (NEGRI, 2021). Thus, the organic insertion of this narrative of democratization and universal access to scientific knowledge as a public good is observed, collaborating with a scenario more favorable to the adherence of researchers Explanations concerning copyright preservation may also make the to Open Access. initiatives attractive to researchers, since the unrestricted availability of content may generate fear in the respective authors. Concerning the second categorization of the study, in general terms, it is noted that the documents preferentially address the indication of publication of intellectual production in open-access scientific journals. This perspective also points to the need for journal articles to be deposited in an institutional repository in a mandatory manner, but, in cases of embargoes, it is emphasized that the restrictions imposed by contractual periods must be followed. It was observed that only one document makes reference to institutional journal portals.

In the last category of analysis, aiming to identify fundamental aspects of open access in its representations present in Brazilian institutional policies, it was visualized in the documents mainly about the function and objectives concerning the Repository, in particular the institutional one. Similar to what occurs in the first category delimited in this study, the policies seek to reinforce in the textual construction the significant justifications in the perspective of sensitizing their institutional community to undertake self-archiving of scientific production in a repository. From this, expressions such as "visibility", "strengthening" and "increased impact" were found, all linked to the advantages for researchers and the institution. In this content analysis it was noticed that the documents bring aspects about the repository's structure, punctuating the types of digital objects to be stored and also clarifying the managerial divisions, where in the latter they mention management committees and the technical attribution linked to the institution's libraries. When dealing with the hosting, structure, storage, and integration of research results, the policies situate the repositories as management instruments for the intellectual production of the respective institutions.

Another perceived point is that in one of the policies the repository of research data is included in the open access pathway. However, according to the Open Science taxonomy developed by Silveira *et al* (2021), "open data" is presented in an independent aspect of open access. Concerning this, it is understood that the inclusion of the term "scientific publication" reinforces what specifically covers the productions corresponding to the scientific communication process, which on the other hand excludes open data. For, in our understanding, these are not presented as a scientific publications, but as potential instruments of use for the development of future research and the transparency and reproducibility of research, guaranteeing scientific validity. However, it is relevant to point out that in the construction of the ramifications of this same taxonomy we did not identify the inclusion of data repositories.

#### **5 FINAL CONSIDERATIONS**

From the inferences made, it is observed in the perspective of Brazilian institutions a recognition of the importance of open access as a strategy for the democratization and

universalization of knowledge, considered a public good for society. Moreover, open data, digital preservation, and copyright are considered in the policies as intrinsic issues to open access, so it is worth reflecting on the situation and relationship of these terms in this field of knowledge.

The policies contemplated in this study belong to institutions of different natures: a university, a development foundation, and a health research center. Even so, convergence was observed as to the understanding of the analyzed registration units at a certain level. To consolidate, open access demands the participation of several fronts, and a certain harmony is observed regarding the understanding and importance of the movement by the players in this study.

The analysis of the policies found reinforced journals and repositories as fundamental categories for the domain of open access from the institutions' perspective. The relationship between these categories must also be considered, since the policies contemplate the deposit of journal production in repositories, including journals that are not open, but whose production can become open in repositories, respecting the embargo.

Despite the several Brazilian initiatives for open access, such as a large number of open journals and repositories in the country, there are still few institutions in Brazil that have formalized policies guiding free access to scientific literature. About this, it is understood that there is a direct relation with the absence of governmental policies, including the inexistence of effective participation of funding agencies towards a national policy of open access. The analysis of the policies found shows that these documents are important to align the understanding of fundamental concepts and guide open access practices, strengthening the initiatives that aim at the dissemination of scientific knowledge produced by institutions.

The study allowed the identification of categories, terms, and possible relationships important for the domain of open access from the perspective of research and development institutions in Brazil. It is expected that the exposed results may contribute to the understanding of the domain and consequent intellectual and social organization of the area.

## **REFERENCES**

ALBAGLI, S.; CLINIO, A.; RAYCHTOCK, S. Ciência Aberta: correntes interpretativas e tipos de ação. **Liinc em Revista**, Rio de Janeiro, v.10, n.2, p. 434-450, nov. 2014. Available at: <a href="https://doi.org/10.18617/liinc.v10i2.749">https://doi.org/10.18617/liinc.v10i2.749</a>. Access on: 04 set. 2020.

ALBORNOZ, D. *et al.* FramingPower: Tracing Key Discourses in Open Science Policies. *In*: ELPUB, 22., jun 2018, Toronto. **Proceedings** [...]. Lyon: HAL, 2018. DOI 10.4000/proceedings.elpub.2018.23. Available at: <a href="https://hal.archives-ouvertes.fr/hal-01816725">https://hal.archives-ouvertes.fr/hal-01816725</a>. Access on: 11 maio 2022.

AMORIM, I. S.; CAFÉ, L. Os conceitos de comunidade discursiva, domínio e linguagem na análise de domínio hjørlandiana. *In*: ENCONTRO NACIONAL DE PESQUISA EM CIÊNCIA DA INFORMAÇÃO, 17., 2016, Salvador. **Anais...** Salvador: UFBA, 2016. Available at: https://brapci.inf.br/index.php/res/v/190585. Access on: 22 ago. 2021.

BARDIN, L. Análise de conteúdo. São Paulo: Edições 70, 2016.

BOAI. Budapest Open Access Initiative. **Dez anos da Iniciativa de Budapeste em Acesso Aberto**: a abertura como caminho a seguir. Budapest: Open Society Foundations, 2012. Traduzida para português brasileiro. Available at: <a href="https://www.budapestopenaccessinitiative.org/boai10/portuguese-brazilian-translation/">https://www.budapestopenaccessinitiative.org/boai10/portuguese-brazilian-translation/</a>. Access on: 07 set. 2020.

COSTA, M. P.; LEITE, F. C. L. Repositórios institucionais da América Latina e o acesso aberto à informação científica. Brasília: IBICT, 2017. Available at: https://repositorio.unb.br/handle/10482/23202. Access on: 06 set. 2020.

DECLARAÇÃO DE BERLIN. Conference on Open Access to Knowledge in the Sciences and Humanities. Berlin, 2003. Available at: <a href="https://openaccess.mpg.de/Berlin-Declaration">https://openaccess.mpg.de/Berlin-Declaration</a>. Access on: 06 set. 2020.

DECLARAÇÃO DE BETHESDA. **Meeting on Open Access Publishing**. Bethesda, 2003. Available at: https://legacy.earlham.edu/~peters/fos/bethesda.htm. Access on: 06 set. 2020.

DIAS, C. C. A análise de domínio, as comunidades discursivas, a garantia de literatura e outras garantias. **Informação & Sociedade**, João Pessoa, v. 25, n. 2, 2015. https://periodicos.ufpb.br/ojs2/index.php/ies/article/view/7. Access on: 05 ago. 2021.

FREITAS, L. M.; ALBUQUERQUE, A. C. As abordagens da análise de domínio como aporte metodológico para a classificação arquivística. **Tendências da Pesquisa Brasileira em Ciência da Informação**, João Pessoa, v. 10, n. 2, ago./dez. 2017. Available at: <a href="https://revistas.ancib.org/index.php/tpbci/article/view/424">https://revistas.ancib.org/index.php/tpbci/article/view/424</a>. Access on: 22 ago. 2021.

FUNDAÇÃO DE AMPARO À PESQUISA DO ESTADO DE SÃO PAULO. Conselho Técnico-Administrativo. **Portaria CTA nº 01/2019. Anexo I - Política para Acesso Aberto às Publicações Resultantes de Auxílios e Bolsas FAPESP**. Alterado pela Portaria CTA n. 37, de 27 de outubro de 2021. São Paulo: FAPESP, 2019. Available at: <a href="https://bit.ly/3RwPdeX">https://bit.ly/3RwPdeX</a>. Access on: 10 abr. 2021.

FUNDAÇÃO OSWALDO CRUZ. Presidência. **Portaria 329/2014-PR retificada por 382/2014-PR**. Institui a Política de Acesso Aberto ao Conhecimento, visando garantir à sociedade o acesso gratuito, público e aberto ao conteúdo integral de toda obra intelectual produzida pela Fiocruz. Rio de Janeiro: Fiocruz, 2014. Available at: <a href="https://bit.ly/3ReOOhy">https://bit.ly/3ReOOhy</a>. Acesso em 29 ago. 2021.

GUIMARÃES, J. A. C. Análise de domínio como perspectiva metodológica em organização da informação. **Ci. Inf.**, Brasília, DF, v. 41 n. 1, p.13-21, jan./abr., 2014. DOI 10.18225/ci.inf.v43i1.1415. Available at: <a href="https://revista.ibict.br/ciinf/article/view/1415">https://revista.ibict.br/ciinf/article/view/1415</a>. Access on: 30 jul. 2021.

HARNAD, S.; BRODY, T. Comparing the Impact of Open Access (OA) vs. Non-OA Articles in the Same Journals. **D-Lib Magazine**, Virginia, USA, v. 10, n. 6. jun. 2004. DOI 10.1045/june2004-harnad. Available at: http://www.dlib.org/dlib/june04/harnad/06harnad.html. Access on: 06 set. 2020.

HJØRLAND, B. Domain analysis in information science: eleven approaches—traditional as well as innovative. **Journal of Documentation**, Bingley, United Kingdom, v. 58, n. 4, p. 422-462, 2002.

HJØRLAND, B. Fundamentals of knowledge organization. **Knowledge Organization**, Edmonton, Canada, v.30, n.2, p.87-111, 2003. Available at: <a href="https://www.ergon-verlag.de/isko-ko/downloads/ko3020032e.pdf">https://www.ergon-verlag.de/isko-ko/downloads/ko3020032e.pdf</a>. Acesso em 28 ago. 2021.

LEITE, F. C. L. Como gerenciar e ampliar a visibilidade da informação científica brasileira: repositórios institucionais de acesso aberto. Brasília: IBICT, 2009.

NEGRI, F. Políticas públicas para ciência e tecnologia no brasil: cenário e evolução recente. Brasília: IPEA, 2021. (Nota Técnica. Diset, 92). Available at: <a href="https://bit.ly/3QkfThU">https://bit.ly/3QkfThU</a>. Access on: 3 ago. 2022.

OPEN SCIENCE SPAIN. **Políticas MELIBEA**: directorio y estimador de políticas em favor del acceso abierto a la producción científica. [2021]. Available at: <a href="https://politicas.opensciencespain.org/">https://politicas.opensciencespain.org/</a>. Access on: 02 ago. 2022.

RIOS, F. P.; LUCAS, E. R. O.; AMORIM, I. S. Manifestos do movimento de acesso aberto: Análise de Domínio a partir de periódicos brasileiros. **Revista Brasileira de Biblioteconomia e Documentação**, São Paulo, v. 15, n. 1, p. 148-169, 2019. Available at: <a href="https://rbbd.febab.org.br/rbbd/article/view/1152">https://rbbd.febab.org.br/rbbd/article/view/1152</a>. Access on: 29 jul. 2021.

SILVEIRA, L. *et al.* Ciência aberta na perspectiva de especialistas brasileiros: proposta de taxonomia. **Encontros Bibli: revista eletrônica de biblioteconomia e ciência da informação**, Florianópolis, v. 26, p. 1-27, 2021. Available at: <a href="https://doi.org/10.5007/1518-2924.2021.e79646">https://doi.org/10.5007/1518-2924.2021.e79646</a>. Access on: 30 jul. 2021.

SUBER, P. **Open Access overview**. 2013. Available at: http://legacy.earlham.edu/~peters/fos/overview.htm. Access on: 06 set. 2020.

UNIVERSIDADE ESTADUAL DE CAMPINAS. **Deliberação CONSU-A-050/2020**, **de 06 de outubro de 2020**. Institui a Política Institucional de Acesso Aberto à Produção Intelectual e Científica da Universidade Estadual de Campinas e estabelece os repositórios oficiais de depósito das produções. Campinas: UNICAMP, 2020. Available at: <a href="https://www.pg.unicamp.br/norma/23869/0">https://www.pg.unicamp.br/norma/23869/0</a>. Access on: 29 ago. 2021.

UNIVERSITAT DE BARCELONA; CSIC; UNIVERSITAT DE VALENCIA; MINISTERIO DE ECONOMIA Y COMPETITIVIDAD. **El proyecto de investigación Open Science Spain**. [2021]. Available at: <a href="https://opensciencespain.org/es/investigacion/">https://opensciencespain.org/es/investigacion/</a>. Access on: 04 ago. 2021.