INDEXING POLICIES FOR KNOWLEDGE ORGANIZATION AND REPRESENTATION: A CASE STUDY IN A LIBRARY SYSTEM IN THE BRAZILIAN AMAZON REGION

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Abstract: The aim of this research was to investigate the elements of indexing policy used by professional catalogers in a university library system in the Amazon region. The methodology was exploratory and a case study, using a questionnaire as an instrument and applied to 36 university libraries at a federal institution. The results obtained from the 12 participating libraries identified the elements of the policy: human resources, clientele, subject coverage, selection and acquisition of source documents, indexing process, documentary language, level of completeness, search strategy and evaluation of the system, as well as the absence of an indexing policy formalized in an indexing manual. It concluded that drawing up an indexing policy for the library system can help to systematize the indexing process and optimize retrieval, proposing reflections on indexing policy in the Brazilian Amazon context.
Keywords: Indexing policy; university libraries; knowledge organization; brazilian amazon.

Título: POLÍTICA DE INDEXACIÓN PARA ORGANIZAR Y REPRESENTAR EL CONOCIMIENTO: ESTUDIO DE CASO EN UN SISTEMA DE BIBLIOTECAS DE LA REGIÓN AMAZÓNICA BRASILEÑA.
Resumen: El objetivo de esta investigación fue investigar los elementos de la política de indización utilizados por los catalogadores profesionales en un sistema de bibliotecas universitarias en la región amazónica. La metodología es exploratoria y de estudio de caso, utilizando un cuestionario como instrumento y aplicado a 36 bibliotecas universitarias de una institución federal. Los resultados obtenidos de las 12 bibliotecas participantes identificaron los elementos de la política: recursos humanos, clientela, cobertura temática, selección y adquisición de documentos fuente, proceso de indización, lenguaje documental, nivel de completitud, estrategia de búsqueda y evaluación del sistema, así como la ausencia de una política de indización formalizada en un manual de indización. Se concluye que la elaboración de una política de indización para el sistema de bibliotecas podría ayudar a sistematizar el proceso de indización y optimizar la recuperación, proponiendo reflexiones sobre la política de indización en el contexto amazónico brasileño.
Palabras clave: Política de indización; bibliotecas universitarias; organización del conocimiento; amazonia brasileña.

1 INTRODUCTION

Knowledge Organization is a subarea of Information Science, which, in the strict sense, encompasses the activities of indexing, classification, abstracting, cataloging and knowledge organization systems, aiming to organize and retrieve knowledge in the context of information units (Hjorland, 2008).

Indexing can therefore be seen as a subjective activity (Gomes; Lima, 2021a) that encompasses cognitive, logical and linguistic procedures (Silva; Fujita, 2004) and contributes to the organization, representation and retrieval of recorded knowledge. In addition, indexing procedures, such as subject analysis and translation (Lancaster, 2004), need to be standardized, as they can be carried out in different ways and by different professionals within the same institution. This standardization of indexing procedures can be achieved by developing an indexing policy.

According to fundamental literature in the area (Carneiro, 1985; Rubi, 2004, 2008, 2009; Dal' Evedove & Fujita, 2015; Fujita, 2016; Fujita & Santos, 2016; Garcia, Redigolo & Benchimol, 2018; Garcia et al., 2019; Fonseca & Redigolo, 2020; Golub et al., 2020; Gomes & Lima, 2021b), the indexing policy is understood as a set of guidelines that

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systematize indexing procedures within information units, and optimize information retrieval. However, the absence of a indexing policy can generate noise and silence in information retrieval (Chaumier, 1988).

In this way, the development of an indexing policy must be planned by those who execute, analyze, evaluate and use the information and provide access through indexing, such as managers and information professionals based on the searches made by the institution's internal and external users (Fujita et al., 2023). According to Fonseca and Redigolo (2020), the more autonomy the user demonstrates over the system, the greater the concern with the representation of information by professionals.

Oliveira et al. (2020) explains that the indexing policy can help in the assignment of terms during the indexing process, providing clarity in the selection and retrieval of information. In addition to reducing uncertainties in the practice of indexing, the indexing policy acts to systematize the requirements, elements and variables that are part of its composition, being an administrative tool in the organizational and socio-cultural environment of information units (Fujita; Santos, 2016; Fujita et al., 2023).

Thus, indexing policy can go beyond a set of rules to be followed by information professionals, it can function as an organizational philosophy, which contains administrative aspects combined with knowledge organization procedures (Rubi, 2004, 2008). In addition, the formulation of policies must be consistent "[...] with their reality, adapting in the best way to the needs of the users who will use the products resulting from subject indexing [...]" (Oliveira; Vieira; Martínez-Ávila, 2020, p. 14, our translation).

In the context of university libraries (ULs), which often function as part of a broader library system, indexing practices may be decentralized, that is, each information unit independently carries out its own thematic information treatment. Given this scenario, the development of guidelines is essential to guide indexing tasks, minimizing errors in information retrieval, thereby reducing uncertainty and complexity in the indexing process through the effective management of the subject analysis and translation stages.

In the Amazon region, the implementation of an indexing policy is fundamental due to the unique linguistic landscape of the Amazonian culture, characterized by a hybrid vocabulary, “which composes and demonstrates the region's own characteristic as an element of formation of Amazonian identity” (Rodrigues, 2012, p. 19, *our translation*). Such instrument is relevant to assist in the indexing process and standardization of natural language into a documentary language.

The central question of this study is: How can an indexing policy contribute to knowledge organization and representation in university libraries in the Amazon? The objective of this study is to investigate the indexing policy elements used by professional catalogers in a university library system in the Amazon region.

The article begins with an introduction of the research problem and its objectives. Following, the second section explores the theoretical framework, focusing on the indexing policy and its elements. The third section outlines the methodology used in the study. Subsequently, the fourth section presents a discussion of the results obtained. The final section addresses the considerations and conclusions. The next section discusses the theoretical underpinnings of the research in detail.

2 INDEXING POLICIES IN THE AMAZON CONTEXT: ATTRIBUTIONS AND DEFINITIONS

Document indexing is viewed as a subjective practice (Hjorland, 2018; Gomes; Lima, 2021a), as it encompasses the cognitive processes of information professionals, including documentary reading, identification and selection of terms for representation and retrieval of documents by subject. The development of clear guidelines, such as an indexing policy, to standardize this practice among information professionals is crucial.

Thus, an indexing policy is understood as a set of guidelines that guide and standardize indexing activities in the organizational context of an information unit, in this case, university libraries. Oliveira (2022, p. 4, *our translation*) explains that the indexing policy “[...] regulates the act of subject indexing, enabling its development in a structured and standardized way”. Furthermore, an indexing policy optimizes information retrieval, and is an essential item for information systems (Rubi, 2004, 2008).

For Oliveira, Cunha and Vieira (2018, p. 10), an indexing policy cannot be seen as a set of guidelines for a technical process, however, it must be viewed “[...] from a managerial perspective, since the information unit is an organization

[...]". Therefore, an indexing policy governs both administrative and knowledge organization functions in the organizational context of university libraries from horizontal and vertical axes.

Carneiro (1985) and Fujita (2012) state that the horizontal axis encompasses administrative activities, human resources, financial and material resources, and the institution's users. And the vertical axis is associated with the activities of knowledge organization and representation, the elements of the indexing policy and the variables of exhaustiveness, specificity, choice of language, recall and precision (Fujita, 2012).

Carneiro (1985) lists 7 elements to compose an indexing policy, according to the institution's objectives:

- Subject coverage: central and peripheral subjects covered by the information retrieval system;
- Selection and acquisition of source documents: types of documents present in the collection and covered by the information retrieval system;
- Indexing process: subject analysis and translation, as well as the variables of exhaustiveness, specificity, choice of language, precision and recall;
- Search strategy: assisted or not;
- Output format: format of the retrieved results;
- System response time;
- System assessment: measures user satisfaction with the system.

Identifying and defining the aforementioned elements significantly aids professional during the thematic representation of documents. These elements not only guide the indexing practice but also influence the number of terms used to represent the content of the document, which can be general and/or specific, and is tailored to meet the information needs of the institution's users.

It is important to note that in university libraries, the professional responsible for indexing is often referred to as a cataloger, as indexing is carried out in cataloging, therefore, referred to as subject cataloging. This close relationship between indexing and subject cataloging is due to the shared aspect of subject analysis in both procedures, and, as such, indexing professionals are also termed as catalogers (Redigolo, 2014; Carvalho; Fonseca; Redigolo, 2021). Consequently, catalogers must adhere to all the guidelines formalized in the indexing policy, focusing on the indexing process, which stands as the main element of the policy.

In a region as culturally rich as the Amazon, where the customs of traditional peoples predominate, developing an indexing policy to assist professionals in defining the documentary language for libraries in the northern region is essential. Rodrigues (2012, p. 19) highlights that "the Amazon culture comprises a linguistic hybrid of indigenous, European and African languages, which makes up and reflects the region's own characteristics [...]". In this way, adapting the natural language into a documentary language that resonates with the academic community of the Amazon region is necessary to reduce ambiguities and polysemy in document representation through indexing, avoiding the occurrence of noise and silence in information retrieval (Chaumier, 1988).

According to Garcia and Redigolo (2020, p. 5), indexing and retrieval have a cause-and-effect relationship, given that "[...] good indexing will enable adequate information to be retrieved [...]". To give this adequate effect in information retrieval, the documentary language must be determined in the indexing process in cataloging, taking into account the user's profile in the institution. In this way, the role of documentary languages is to synthesize:

> *[...] authors' ideas present in the document contents for terms that enable the elaboration of search strategies that satisfy the users' investigative needs in the information retrieval in automated systems* (Boccato, 2011, p. 11, our translation).

Still on this theme, Boccato (2011) emphasizes that documentary languages act as a switching instrument in the representation of document content and in the user's search, through search strategies in the information retrieval system. Based on this, it is significant to develop guidelines and define controlled vocabularies for terminological standardization and optimization of information retrieval systems.

Considering that the construction of an indexing policy can aid in defining a controlled vocabulary, which is agreed with the context the user is inserted (Lima, Fujita, Redigolo, 2021), contributing to the determination of the documentary language during the cataloging activity of subject and information retrieval, the indexing policy main objective is to "[...] reduce subjectivity in the indexing process, delimiting interpretations in its numerous variables" (Fonseca; Redigolo, 2020, p. 5).

This delimitation in interpretations can occur from the establishment of the indexing requirements, elements and variables in the policy, transforming itself into a philosophy in the organizational context of information units (Rubi, 2008). The next section details the methodological path of the research.

3 METHODOLOGY

The methodological path of the research consists of exploratory research and a case study, with the application of questionnaires and qualitative data analysis. That said, the subjects participating in the study were cataloging professionals from a network of university libraries, located in the Brazilian Amazon region.

For this reason, the university libraries were chosen because they are centers for documenting scientific works produced by their academic community. The library system (SIBI) is composed of 36 information units, divided into 9 areas of knowledge, according to the CAPES Classification of Knowledge Areas, divided into: 4 libraries in the area of Applied Social Sciences; 5 libraries in the area of Health Sciences; 4 Linguistics, Literature and Arts libraries; 4 Physical and Earth Sciences libraries; 1 Biological Sciences library; 3 Human Sciences libraries; 1 Engineering and Technology library; 1 in the area of Agricultural Sciences; and 13 libraries in the Multidisciplinary area.

For data collection, a questionnaire was used. It was designed based on the research by Fujita and Santos (2016) and applied to a cataloging librarian of each information unit in the library system to achieve the proposed objective of this research. This study did not meet the criteria to be submitted to the Research Ethics Committee-CEP/CONEP. Therefore, this research falls within the sole paragraph of Resolution No. 510 of 2016, as "research that aims to deepen the theoretical perspective of situations that emerge spontaneously and contingently in professional practice, as long as they do not reveal data that could identify the subject" (Brazil, 2016, p. 44, our translation).

The instrument used for data collection was the research questionnaire by Fujita and Santos (2016). To achieve the objective proposed by this research, adaptations were made as shown in the table below:

Category	Adaptation
Diagnostic Study	The general data category was subdivided into three subcategories: **"Knowledge Area and Participating Subjects"**; **"Collection Development"**; and **"Continuing Training".** In addition, questions 4, 5 and 6 were added in the "**Collection Development**" subcategory and question 10 in the "**Continuing Training**" subcategory. And the three subcategories were grouped together by thematic approaches, composing the "Diagnostic Study" category.
Indexing/Subject Cataloging and Indexing Policy	All wording of the questions in this category were adapted and the subcategories are: **"Practice of Subject Indexing or Cataloging"**; **"Indexing Quality"**; **"Tools for Subject Indexing or Cataloging"**; and **"Assessment of Subject Indexing or Cataloging"**. And for a better visualization of the indexing practice and assessment, questions 11, 12, 13, 14 and 15 were added in "Practice of Subject Indexing or Cataloging". Questions 25, 26, 27, 28 and 29 were added in the subcategory "Assessment of Subject Indexing or Cataloging". The subcategories were adapted and allocated in this category by thematic approach.

Table I. Adaptations to the questionnaire by Fujita and Santos (2016). Source: Prepared by the authors (2024).

According to the adaptations shown in the chart above, the questionnaire contains questions (open and closed), divided into two categories and seven subcategories (see annex). The table below shows the new configuration of the questionnaire.

Subcategory	Objective	N. of questions
Category – Diagnostic Study Objective: Identify the horizontal aspects of the indexing policy based on the diagnostic survey of libraries		
Area of knowledge and participating subjects	Identify and organize participating libraries by areas of knowledge.	1, 2 e 3
Collection development	Check the history of the institution, the subject coverage of the collection, the typology of documents in the collection.	4, 5 e 6
Continuing training	Identify the number of library professionals and their training, the information system used, etc.	7, 8, 9 e 10
Category - Subject Indexing/ Cataloging and Indexing Policy Objective: Verify items on the vertical plane of the indexing policy based on the analysis of subject indexing/ cataloging		
Practice of subject indexing or cataloging	Identify elements and variables of the indexing policy based on the process of subject indexing or cataloging, etc.	11, 11.1, 12, 13, 14 e 15
Indexing quality	Investigate the specificity, exhaustiveness, time dedicated to the indexing process, use of national and international standards, etc.	16, 17, 18 e 19
Tools for subject indexing or cataloging	Investigate the use of automatic correction of terms/subjects, controlled language, natural language, types of KOS, etc.	20, 21, 21.1 e 22
Assessment of subject indexing or cataloging	Observe the occurrence of periodic assessment of indexing practices, conducting user studies, type of search and information system, etc.	23, 24, 25, 26, 27, 28 e 29;

Table II. Configuration of the research questionnaire. Source: Prepared by the authors (2024).

The categories and subcategories of the questionnaire were prepared following the horizontal and vertical axes of the indexing policy. The Diagnostic Study category was created following the horizontal axis of the indexing policy and the subcategories that compose this category: Areas of knowledge and participating subjects; Collection development; and Continuing training.

Thus, the vertical axis is represented by the Subject Indexing/Cataloging and Indexing Policy category and the analysis subcategories are: Practice of subject indexing or cataloging; Indexing Quality; Tools for subject indexing or cataloging; and Assessment of subject indexing or cataloging.

Regarding the categories elaborated through the axes of the indexing policy, elements of the policy itself can be identified and determined through the objectives of the categories and subcategories of analysis. The questionnaire was sent to the email of 36 university libraries affiliated to SIBI, with the support of the system's coordinating library, from November/2021 to January/2022. The following section highlights the data obtained during collection.

4 RESULTS AND DISCUSSION

This section discusses the results of data collection carried out in a library system in the northern region. It presents the requirements, elements and variables of the indexing policy identified through the study of the questionnaires. Therefore, out of the total of 36 libraries, only 12 information units agreed to participate in the research. Regarding the analysis of the questionnaires, it is noteworthy that one of the libraries responded to the collection instrument twice, however, by different professionals, which led to considering both responses for analysis, as the professionals have different opinions about the same unit of information. Consequently, 13 questionnaires were analyzed in their entirety.

The libraries were named UL1, UL2, UL3, …, UL12, for a better understanding of the results. And professionals from the same library were identified as UL7 and UL7.1. Furthermore, the discussion of the results is divided into the questionnaire analysis categories, as demonstrated in the following paragraphs. Following, the first category of discussion is Diagnostic Study.

4.1 Category - Diagnostic study

In this category of analysis, three subcategories are discussed: Areas of knowledge and participating subjects; Collection development; and Continuing training. Through these subcategories, it was possible to verify relevant

elements of the indexing policy, mainly regarding the horizontal axis of the indexing policy. The first subcategory analyzed was “Area of knowledge and participating subjects”.

4.1.1 Area of knowledge and participating subjects

In this subcategory, the number of SIBI libraries by area of knowledge was identified, following CAPES Classification of Knowledge Areas as well as the number of professionals and their functions performed in the information units. See the table below:

Area of knowledge	UL	# of profissionals per UL	Respondent’s position
Multidisciplinary	UL1	1	Direction
	UL22	1	Coordination
	UL33	3	Librarian
	UL44	6	Head of the Information Processing Division
Linguistics, Literature and Arts	UL55	1	Management
	UL66	1	Direction
Health Sciences	Ul7	2	Librarian
			Direction
Biological Sciences	UL8	1	Direction
Physical and Earth Sciences	UL9	2	Reference librarian
Human Sciences	UL10	1	Librarian
Applied Social Sciences	UL11	2	Direction
Engineering and Technology	UL12	3	Management

Table III. Identification and number of university libraries (UL) and their professionals. Source: Prepared by the authors (2024).

In table III, the areas of knowledge the study identified were: Multidisciplinary (4); Linguistics, Literature and Arts (2); Health Sciences (1); Biological Sciences (1); Physical and Earth Sciences (1); Human Sciences (1); Applied Social Sciences (1); and Engineering and Technology (1). The libraries belonging to the Agricultural Sciences area did not respond to the questionnaire, which is why the area of knowledge is not included in table III.

Regarding the number of professionals per library, all the respondents perform indexing activities in a decentralized manner, regardless of whether the library has one, two, three or more professionals. Furthermore, out of the total of 13 professionals, nine work in management positions in UFPA's university libraries, and in libraries that have only one librarian, the professionals perform both the role of the manager and the cataloger. This fact reveals that the information units contain specialized human resources, as all participants have a degree in Librarianship.

Carneiro (1985), Rubi (2008), Dal'Evedove and Fujita (2015) highlight the importance of acknowledging the number of professionals available for indexing practices within an institution as this knowledge contributes to structuring an indexing policy. Human resources, considered a key component of the information unit’s infrastructure alongside financial and material resources, play a vital role in this context. Thus, Human Resources is the element identified in this subcategory. The following section discusses the Collection Development subcategory.

4.1.2 Collection Development

This subcategory enabled the verification of the subjects covered by the libraries and the undergraduate and graduate courses served by their collections, as well as the types of documents within the libraries' collections.

In this sense, the information units form their collections according to undergraduate and graduate courses, reinforcing the division of libraries by major areas of knowledge, following the CAPES Classification of Knowledge Areas. See Table IV:

Area of knowledge	UL	Subjects covered in the Collection	Users
Multidisciplinary	UL1	Human Sciences, Applied Social Sciences, Engineering, Physical Sciences, Health Sciences and Linguistics, Literature and Arts	Undergraduate and Graduate courses
	UL2	Applied Social Sciences, Human Sciences, Linguistics and Arts	Undergraduate and Graduate courses (supplementary unit)
	UL3	Engineering, Human Sciences and Physical and Earth Sciences	Undergraduate and Graduate courses
	UL4	Subjects from all areas of knowledge	Undergraduate and Graduate courses
Linguistics, Literature and Arts	UL5	Social Sciences, Human Sciences, Linguistics, Literature and Arts	Graduate courses
	UL6	Arts and their Interfaces	Undegraduate and Technical Courses (High School)
Health Sciences	UL7	Health Sciences (Medicine, Nursing and Nutrition)	Undergraduate and Graduate courses
Ciências Biológicas	UL8	Biological Sciences and Health Sciences	Undergraduate and Graduate courses
Biological Sciences	UL9	Mathematics, Science and Education	Undergraduate and Graduate courses
Physical and Earth Sciences	UL10	Psychology and Education	Graduate courses
Human Sciences	UL11	Applied Social Sciences (Administration, Archival Science, Library Science, Accounting Sciences, Economic Sciences, Tourism and Social Work)	Undergraduate and Graduate courses
Applied Social Sciences	UL12	Engineering, Applied Social Sciences, Physical and Earth Sciences and Agricultural Sciences	Undergraduate and Graduate courses

Table IV. University libraries' subjects included in the collection by area of knowledge. Source: Prepared by the authors (2024).

The table reveals a diverse range of subjects within the collections of the information units. These subjects correspond to both the major area of knowledge the library is categorized (central) and the subjects from other areas of knowledge (peripheral). For instance, library UL8 indicates that its collection includes subjects not only from the area of Biological Sciences, but also from the area of Health Sciences.

This division by areas of knowledge and identification of courses served by the libraries helped in identifying the subject coverage element, given that the subjects included in the collections of the participating libraries determine the thematic coverage of the information system (Carneiro, 1985; Fujita, 2016).

In addition to subject coverage, the active users of the libraries are students of undergraduate, graduate and secondary level courses (technical courses) (see chart 4). According to Carneiro (1985, p. 223), "identifying users becomes a prerequisite for planning any information system", as this factor aids in assessing the products and services offered by the library (Fonseca; Redigolo, 2020).

That said, the types of documents in the library collection and in greater number, according to the documents listed by Fujita (2016) are: books, journals, theses, dissertations, final papers, research reports, cassette tapes, video tapes, cds, dvds, cd-roms, music scores, vinyl records, among others. From this wide variety of documents that compose the library collection, a selection development policy is necessary to assist professionals in making decisions regarding the acquisition and selection of documents, in line with the profile of the institution's users (Carneiro, 1985).

Thus, the elements identified, according to Carneiro (1985), Fujita (2016), Fonseca and Redigolo (2020), in this subcategory were: **Selection and Acquisition of Source Documents**, **Subject Coverage** and **Clientele**. Subsequently, the findings belong to the subcategory "Continuing training".

4.1.3 Continuing training

This subcategory investigated whether professionals received training on indexing at the institution. In addition, this subcategory learned about the information system used, and the number of professionals allocated to this activity in libraries.

Regarding the number of professionals dedicated to the practice of subject cataloging, the previous subcategory identified that, regardless of the number of professionals working in the library, they all carry out subject cataloging in a decentralized manner, from which **Human Resource** requirement was identified in the indexing policy. Furthermore, the professionals unanimously responded that the used information retrieval system is Pergamum.

Furthermore, regarding continuing education, which deals with training for SIBI cataloguers, both for beginners and veterans in the activity, it was found that out of the total of 13 participants: five explained that they did not receive training/qualification when started working as catalogers; and eight said they received theoretical/practical training on subject indexing/cataloging.

Following, out of the total of 13 professionals: nine reported they do not receive ongoing training on indexing; and two professionals that the last training offered was on Dewey Decimal Classification, Thematic Treatment of Information and updating the Pergamum system. Continuing training and qualifications focused on indexing is recommended due to the "[...] complexity of the indexing task and its importance for information retrieval [...]" (Fujita; Santos, 2016, p. 66, our translation).

Continuing training on indexing for cataloging professionals is fundamental, even if they all have a degree in Librarianship. The training ensures an understanding on indexing procedures and variables, thus providing quality in information representation and retrieval (Fonseca; Redigolo, 2020). Therefore, the item identified in this subcategory is Human Resources requirement, in this case, SIBI professionals in charge of subject cataloging practices. The next section presents the analysis category "Subject indexing/ cataloging and Indexing policy".

4.2 Category - Subject indexing/cataloging and Indexing policy

This category addresses subcategories that sought to find elements of the vertical axis of the indexing policy based on the practice of subjects indexing or cataloging and related themes. Therefore, the subcategories discussed in this section are: Subject Indexing or Cataloging Practices; Indexing Quality; Tools for Subject Indexing or Cataloging; and Assessment of Subject Indexing or Cataloging. Based on that, the first subcategory of analysis addresses the "Practice of subject indexing or cataloging".

4.2.1 Practice of subject indexing or cataloging

The subcategory examined the methods of indexing carried out in SIBI libraries. Catalogers reported that they frequently use databases to consult records to aid in selecting the appropriate documentary language and to check how documents are cataloged in other institutions' database.

The databases mentioned by the professionals are: Library of Congress (LC) (8), National Library (NL) (7), Pergamum Network Catalog (5), Health Sciences Descriptors (DeCS) (3), SIBI list of authorities (2), Anglo-American Cataloging Code (AACR2) (1); Medical Subject Heading (MeSH) (1), Dewey Classification (CDD) (1), Online Computer Library Center (OCLC) (1); and the National Collective Catalog of Serial Publications (CCN) (1).

Regarding the indexing practice during cataloging, the professional catalogers explained how the indexing procedures are carried out. However, out of the total of 13 professionals, only one explains that he/she uses the retrospective conversion of bibliographic records, as he/she only performs the subject analysis stages (documentary reading, identification and selection of terms) and translation (Fujita, 2003; Lancaster, 2004), only when the document cannot be found cataloged in databases.

The table below contains excerpts from the professionals' responses on the application of the subject analysis and translation stages, according to Fujita (2003).

Area of knowledge	UL	Description of subject analysis and translation by professionals	Status of the process
Multidisciplinary	UL1	"The process rarely occurs, as records from the National Library (NL) are generally copied, at least the indexing part. When the NL does not bring, and I can't find anywhere, I read the title, abstract, summaries, sometimes the introduction and references. If the doubt remains, I do research in databases, such as DeCS or in documents on the internet to learn more about the concepts".	Incomplete
	UL2	"The catalog card and summaries of each work are used and then directed to the topic that concerns them".	Incomplete
	UL3	"Technical reading of the material to be indexed".	Incomplete
	UL4	"The process is carried out based on the technical reading of the document, identification and selection of concepts and translation of these concepts into terms of the indexing language".	**Complete**
Linguistics, Literature and Arts	UL5	"Documentary reading, identification of the main subject and secondary subjects, selection of terms, and checking of terms in the Pergamum System authority database. When necessary, new terms are inserted into the system from the authority catalog of the National Library or Library of Congress".	**Complete**
	UL6	"Librarians in the Library System follow the standards established by the Central Library in the Pergamum System. We index only the terms that are already developed in the System and, when the terms are not in the system, these are sent to the Central Library cataloging team for analysis and future inclusion in the System".	Incomplete
Health Sciences	UL7	"It is done by the title, added to the table of contents, summary and catalog card if there is one".	Incomplete
	UL7.1	"Documentary reading, identification of concepts that are in line with the Pergamum system".	Incomplete
Biological Sciences	UL8	"Reading and extracting candidate terms for descriptors in the following points of the document: abstract, introduction, summary. If necessary, some chapters from the body of the work and conclusion are also used. After identifying and selecting concepts, databases are consulted to select authorized forms. In the case of the Institutional Repository, some terms not authorized by the authority catalogs are inserted, verifying their importance for information retrieval, these terms are normally identified as popular names of medicinal plants from the Amazon and some animals from this region".	**Complete**
Physical and Earth Sciences	UL9	"Reading-extraction of concepts, after document identification and analysis, the aforementioned documents existing in the databases are consulted".	Incomplete
Human Sciences	UL10	"The library is specialized in Psychology, so we check which branch of Psychology the work is made up of and searches for the various terms used for the topic".	Incomplete
Applied Social Sciences	UL11	"Technical reading, abstract, summary, introduction, reference. The LC subject heading (LCSH) is used".	Incomplete
Engineering and Technology	UL12	"Document reading, identification of concepts and checking the predominance of subjects in the document".	Incomplete

Table V. Stages of subject analysis and translation by SIBI catalogers. Source: Prepared by the authors (2024).

According to the procedures set out in chart 6, only three professionals carry out all stages of the subject analysis and then translate the concepts into documentary language. Therefore, the use of all stages of indexing contributes to "[...] efficient use of subject analysis and translation of concepts [...]" (Carvalho; Fonseca; Redigolo, 2021, p. 8, our translation).

Given that the recurrent use of retrospective conversion, as mentioned by a cataloger, and the suppression of stages in the indexing process, as seen in chart 6, can lead to the appearance of noise and silence in information retrieval (Chaumier, 1988; Garcia; Redigolo, 2020). It is necessary to develop specific guidelines for the retrospective conversion of bibliographic records and database use.

Furthermore, it was possible to verify that professional B8 does not seek neutrality during the selection of concepts, adapting the documentary language according to the subjectivity of the local context. Although the indexing process is simultaneously technical and subjective, "[...] it is understood that subjectivity cannot be neglected or camouflaged

under the discourse of neutrality and/or impartiality [...]" (Gomes; Lima, 2021b, p. 212, our translation). Therefore, seeking or creating knowledge organization systems that meet the vocabulary of the academic community can be a way of avoiding being neutral in determining documentary language.

Still from this perspective, librarian professionals report that they use automatic and semi-automatic indexing, but do not specify which tools. Additionally, there is a divergence between the responses of catalogers regarding the existence of manuals that assist in indexing.

That said, out of the 13 participating catalogers, 11 professionals responded that SIBI does not have an indexing policy, and two participants responded positively. Regarding the distinction of responses, it was possible to identify an observation from a professional explaining that SIBI has a cataloging policy, which guides professionals during the descriptive representation.

It is therefore understood that the non-standardization of subject analysis and translation procedures observed in chart 6 may be caused by the absence of a formalized indexing policy in an indexing manual. Authors Carvalho, Fonseca and Redigolo (2021, p. 17) describe "[...] the indexing policy is an important ally for optimizing information retrieval systems and the subject cataloger in decision making".

According to Fujita (2003), Lancaster (2004), Carvalho, Fonseca and Redigolo (2021), and Gomes and Lima (2021b), the elements identified in this subcategory were: **Indexing Process** and the **Indexing Policy** itself. The next subcategory presented is Indexing Quality.

4.2.2 Indexing quality

In this subcategory, we analyzed the use of specificity and exhaustiveness variables, the time dedicated to the indexing activity, and the use of national and international indexing standards.

During the analysis on exhaustiveness and specificity, 11 professionals clarified that there are no specific guidelines that guide the use of variables; a professional said they are partially pre-established; and one said they contain guidelines.

Based on most professionals' responses, failure to establish guidelines for specificity and exhaustiveness may hinder information retrieval. In SIBI graduate libraries, as they are more specialized libraries, representation should be more specific, with high precision in retrieval (Rubi, 2009; Garcia; Redigolo, 2020).

When asking professionals about the number of concepts that are attributed in the representation, there was a distinction in the answers regarding the concepts. The number of concepts for representing information refers to the exhaustiveness variable (Lancaster, 2004; Garcia; Redigolo, 2020), as shown in the figure below:

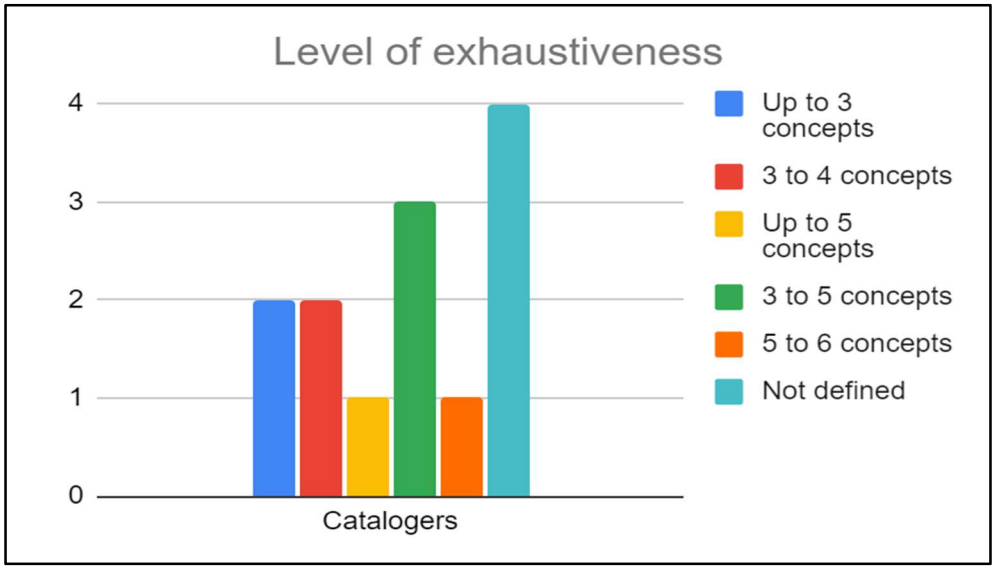

Figure 1. Quantification of concepts by cataloging librarians. Source: Prepared by the authors (2024).

The figure shows the number of concepts defined by the catalogers, given that four professionals clarified that there is no defined number of concepts; two catalogers use up to three concepts; two use three to four concepts; one uses up to five; and one uses five to six concepts. It is noteworthy that one of the professionals who uses three to four concepts, in addition to the one who uses up to five concepts (blue and yellow in the graph), refers to professionals UL7 and UL7.1. There is no consensus among health professionals from the same library on the number of concepts.

Concerning the time spend on indexing, 11 professionals indicated that they do not have a predetermined time to carry out the practice, two respondents reported that they indexing is performed during their regular working hours: one professional manages to index five documents over a 6-hour workday, while one makes an average of seven books a day, depending on the content of the documents.

As for the use of national and international standards to assist in the indexing practice: two professionals use the ABNT 12.676 (1992) standard, the Brazilian standard that guides on the practice of indexing and its stages; two professionals said they do not use standards; and nine professionals cited the following instruments: LC, Library of Congress Subject Heading (LCSH) and Pergamum Network, Marc-21, AACR2, Thesaurus and the National Library. The instruments cited are not national and international indexing standards, but rather methodological instruments that help in the descriptive treatment and choice of documentary language (Redigolo, 2014).

It was therefore noted in the professionals' responses that there is a lack of standardization in the number of concepts defined for information representation, which can directly influence information retrieval. Consequently, the need to establish guidelines that define the level of exhaustiveness is highlighted, considering the specificities of the subjects covered in the collections and the academic community (Rubi, 2009).

According to authors Rubi (2009), Garcia and Redigolo (2020), the element identified in this subcategory was the **Exhaustiveness Level**. The following subsection discusses the subcategory of “Tools for Subject Indexing or Cataloging”.

4.2.3 Tools for subject indexing or cataloging

The subcategory discussed the use of validation/correction systems to ensure consistency, the use of natural or controlled language by professionals in the 6xx field of Marc-21, whether libraries use semantic interoperability or participate in any project, and the instruments they use to determine documentary language.

Regarding natural or controlled language, eight professionals responded that they use controlled language, two professionals use natural language and three use both forms. From the professionals' responses, it was understood that the two catalogers who use natural language also use controlled language, as they search for concepts consulting databases and lists of authorities.

According to Carneiro (1985, p. 223, our translation), the use of controlled language is more recommended for collections with specialized subjects, giving “greater consistency in indexing, which makes it more suitable for an information retrieval system that operates on a cooperative basis”.

The documentary language is determined through consultations of database catalogs, such as: Pergamum Network Catalog, LCSH, NL and DeCS. Regarding semantic interoperability, the cataloguers' responses indicated that none of the professionals participate in projects on interoperability. Thus, the indexing policy element identified in this subcategory was Documentary Language; and the next subcategory discussed is Subject Indexing/Cataloging Assessment.

4.2.4 Assessment of subject indexing/cataloging

This subcategory addresses the occurrence of indexing assessment, carrying out user studies and user satisfaction with documentary language.

During the analysis of the responses, it was found that only one cataloger carries out periodic assessment of indexing, but reports on the assessment are not published; the other respondents indicated that they do not carry out indexing assessments. Garcia and Redigolo (2020) emphasize that carrying out assessments in the indexing process allows adjustments, improvement in the indexing practice and the choice of documentary language by catalogers, ensuring better access to the collection available in the information retrieval system.

Regarding the use of documentary language by users in the search, five catalogers reported that users are satisfied with the documentary language, six catalogers mentioned that users experience difficulties when searching in the information system, one cataloger explained that the language does not serve users because LCSH is outdated; and one argued that the SIBI library should carry out studies with its members.

Lancaster (2004) explains that the vocabulary adopted by the library should be in line with the language used by the academic community. However, if the documentary language does not satisfy the user's needs, there may be "inconsistent and incomplete metadata and blending of controlled vocabularies [...]" (Golub et al., 2020, p. 1198), which are common problems when searching by subject, according to the authors.

Regarding user studies, five professionals say that they carry out studies with users, and eight explain that they do not. Carneiro (1985) states that user studies are important to verify whether the services and products offered by libraries are satisfying the needs of the academic community, since "user assessment is directly related to the assessment element of the system of information retrieval" (Fonseca; Redigolo, 2020, p. 16, our translation).

Additionally, regarding the types of searches conducted in the information system: four catalogers indicated that the search is open-ended, users apply their own search strategies; four mentioned that the search is assisted, with the librarian conducting the search on behalf of the user; and five professionals reported they are both assisted and open-ended searches. Even if the search is assisted or not, it is emphasized that it is important to provide training to users of the system, since the search strategy applied by the users works as an assessment of the information representation, and also, have greater autonomy when accessing the information system catalog (Fonseca; Redigolo, 2020).

It is therefore inferred that the elements seen in this subcategory, according to Fonseca and Redigolo (2020) and Garcia and Redigolo (2020), were: Search Strategy and System Assessment by the user.

From all the subcategories discussed in the categories of Diagnostic Study and Subject Indexing/Cataloging and Indexing Policy, elements of the indexing policy were found, despite not being formalized in an indexing manual. The elements identified through the analysis of the findings are part of the horizontal and vertical axis of the indexing policy.

The table below shows the requirements, elements and variables that compose an indexing policy, identified from the cataloguers' responses.

Element	Terminological variation for each element	Participating Subjects											
		UL1	UL2	UL3	UL4	UL5	UL6	UL7;UL7.1	UL8	UL9	UL10	UL11	UL12
Human Resources	Profissional catalogers	X	X	X	X	X	X	X	X	X	X	X	X
Clientele	Todos		X		X								
	Undergraduation/Graduation	X		X			X	X	X	X			X
	Graduation					X					X	X	
	Techincal (High School)						X						
Subject coverage	Areas of knowledge	X	X	X	X	X	X	X	X	X	X	X	X
Selection and acquisition of source documents	Types of documents	X	X	X	X	X	X	X	X	X	X	X	X
Indexing Policy	Yes	X						X					
	No		X	X	X	X	X		X	X	X		X
Indexing Process	Complete				X	X			X	X			
	Incomplete	X	X	X			X	X			X	X	X
	Use of database	X	X	X	X	X	X	X	X	X	X	X	X
Exhaustiveness	Up to 3 concepts								X	X			
	3 to 4 concepts							X				X	
	Up to 5							X					
	3 to 5 concepts			X	X	X							
	5 to 6 concepts	X											
Documentary language	Open-ended/controlled	X		X				X					
	Controlled		X		X	X	X		X	X	X	X	X
Search strategy	Open-ended			X					X	X		X	
	Assisted		X			X	X				X		
	Open-ended/Assisted	X			X			X					X
Assessment of the system	User Studies	X		X	X	X		X					
	Indexing assessment				X								

Table VI. Elements identified by catalogers in the library system. Source: Prepared by the authors (2024).

The table provides the elements of the indexing policy from the daily experience of catalogers. In this way, the elements of human resources and clientele, requirements of the horizontal axis of planning an indexing policy, were identified in the Diagnostic Study category (Fujita, 2012). The human resources requirement appeared in all SIBI member libraries, the professional cataloging librarians.

The elements identified in the Subject Indexing/Cataloging and Indexing Policy category were: subject coverage, selection and acquisition of source documents, indexing process, documentary language, level of exhaustiveness (recall), search strategy and system assessment.

These elements integrate the vertical axis of the indexing policy, which are directly related to the indexing process and which influence the performance of the information retrieval system. However, the elements not found in both categories were output form, level of specificity (precision), response time, financial and material resources.

Some elements are worked on systematically (in green in the table), and in different ways across all SIBI libraries. The different strategies for using indexing policy elements across libraries is due to the absence of a formalized indexing

policy in an indexing manual, as stated by most professionals (in red in the table). The absence of an indexing policy in the Amazon SIBI may be the cause of the simplification of the indexing process by catalogers, as well as the non-systematization of elements across the information units.

Furthermore, during the analysis of the responses, it was noticed that there is a disagreement among librarians about what an indexing policy is, therefore, it is interesting to reinforce training and qualifications to conceptualize and demonstrate the relevance and contribution of the indexing policy to SIBI. Following, the next section brings the final considerations of the research.

5 CONCLUSIONS

The research aimed to investigate the elements of indexing policy in a library system in the Amazon region, demonstrating the possible contributions of an indexing policy to a network of libraries, such as the subarea of Knowledge Organization and Representation in the Brazilian Amazon.

From the analysis of the questionnaires, responded by SIBI da Amazônia catalogers, the absence of a registered indexing policy was observed. However, some requirements, elements and variables of the indexing policy, which are not used systematically by catalogers in libraries were identified: subject coverage, selection and acquisition of source documents, indexing process, documentary language, search, system assessment, exhaustiveness level (recall), human resources and clientele.

In addition to identifying the elements, it was found that cataloguers use the elements of the indexing policy in different ways (see Table VI), and there is no systematization of use among cataloging librarians in the library system investigated. For example, when applying the indexing process, not all catalogers carry out the stages of indexing, according to Fujita (2023): subject analysis (documentary reading, identification and selection of concepts) and translation (see Table V). The indexing process is therefore considered incomplete.

For this reason, the use of databases for retrospective conversion of bibliographic records or for consulting descriptors has become recurrent among cataloging professionals at SIBI, as well as the discontinuity of the indexing process, seen as the main element of the indexing policy.

Therefore, it is noteworthy that SIBI in the Amazon region can develop guidelines to support catalogers regarding the indexing process, and that these guidelines can be added to SIBI's own cataloging policy, consequently, ensuring assistance to professionals in indexing activities. Furthermore, carrying out training and training on indexing and its variables benefits the library system's catalogers, providing security in carrying out the procedures, as indexing is understood as a subjective process that requires greater attention from the professional who conducts it.

In this conception, the investigation suggests that an indexing policy be drawn up for the library system, as the guidelines contribute to the systematization of elements across the SIBI libraries, and also, in the use of instruments and methodologies that assist in indexing, reflecting on the information retrieval system.

Therefore, this study can serve as a starting point for developing the indexing policy, as well as an incentive for future research focused on the topic of indexing policy in the organizational context of university libraries, aiming to further collaborate with the subarea of Knowledge Organization, respectively, with Information Science, in the context of the Brazilian Amazon.

7 BIBLIOGRAPHY

BRASIL. Ministério da Saúde. Resolução nº 510, de 07 de abril de 2016. Dispõe sobre as normas aplicáveis a pesquisas em Ciências Humanas e Sociais. Diário Oficial [da] República Federativa do Brasil, Brasília, DF, 24 maio de 2016. Seção 1. p. 44-46. Availabe in: <http://conselho.saude.gov.br/resolucoes/2016/Reso510.pdf> [Consultation: 22 sep. 2022]

BOCCATO, V.C. Linguagem documentária na representação e recuperação da informação pela perspectiva sociocognitiva em ciência da informação. En BOCCATO, V.R.C. and GRACIOSO, L.S. (Org.). *Estudos em linguagem em ciência da informação*. Campinas, SP: Editora Alínea, 2011, p. 9-34.

CARNEIRO, M.V. Diretrizes para uma política de indexação. *Revista da Escola de Biblioteconomia da UFMG*, 1985, vol. 14. nº 2, p. 221- 241.

CARVALHO, R.A.; FONSECA, L.D.P.A. and REDIGOLO, F.M. Diálogo sobre indexação na biblioteconomia e museologia. *Informação em Pauta*, 2021, vol. 6, nº 00, p. 1-24. Available in: <http://periodicos.ufc.br/informacaoempauta/article/view/61322> [Consultation: 01 sep. 2022]

CHAUMIER, J. Indexação: conceitos, etapas e instrumentos. *Revista Brasileira de Biblioteconomia e Documentação*, 1988, vol. 21, nº ½, p. 63-79. Available in: <https://www.brapci.inf.br/index.php/article/download/19202#:~:text=O%20processo%20de%20indexa%C3%A7%C3%A3o%20em,thesauri%22%20como%20instrumentos%20de%20indexa%C3%A7%C3%A3o> [Consultation: 21 set. 2022]

FONSECA, L.D.P.A. and REDIGOLO, F.M. Política de indexação em bibliotecas universitárias da área da saúde. *Brazilian Journal of Information Science: Research trends*, 2020, vol. 14, nº 3. Available in: <https://revistas.marilia.unesp.br/index.php/bjis/article/view/10237> [Consultation: 21 jul. 2022]

FUJITA, M.S.L. A política de indexação para representação e recuperação da informação. En GIL LEIVA, I. and FUJITA, M.S.L. (Eds.). *Política de indexação*. São Paulo: Cultura Acadêmica; Marília: Oficina Universitária, 2012, p. 17-28.

FUJITA, M.S.L. (Org.). *Política de indexação para bibliotecas: elaboração, avaliação e implantação*. Marília: Oficina Universitária; São Paulo: Cultura Acadêmica, 2016.

FUJITA, M.S.L. and SANTOS, L.P. Política de indexação em bibliotecas universitárias: estudo diagnóstico e analítico com pesquisa participante. *Transinformação*, 2016, vol. 28, nº 1, p. 59-76. Available in: <https://www.scielo.br/j/tinf/a/K6wKdXKG3pbPVkcLChr7FtL/?format=pdf&lang=pt> [Consultation: 01 sep. 2022].

FUJITA, M.S.L. *et al*. The indexing policy in the practices of Brazilian institutional repositories: A diagnostic study from the perception of managers and indexers. *Journal of Librarianship and Information Science*, 2023, vol. 00, p. 1-19. Available in: <https://journals.sagepub.com/doi/epdf/10.1177/09610006221145544> [Consultation: 19 feb. 2024]

GARCIA, V.C.; REDIGOLO, F.M. and BENCHIMOL, A. Estudo bibliométrico da produção científica sobre políticas de indexação no banco de teses e dissertações da capes. *RICI: Revista Ibero-Americana de Ciência da Informação*, 2018, vol. 11, nº 3, p. 729-750.

GARCIA, V.C. and REDIGOLO, F.M. Indexação e recuperação da informação: uma relação de causa e efeito. *Tendências da Pesquisa Brasileira em Ciência da Informação -ANCIB*, 2020, vol. 3, nº 1. Available in: <https://revistas.ancib.org/index.php/tpbci/article/view/510> [Consultation: 22 sep. 2022]

GARCIA, V.C. *et al*. Política de indexação e seus sentidos: um estudo a partir da análise do discurso. *Informação & Informação*, 2019, vol. 24, nº 1, p. 169-189. Available in: <https://brapci.inf.br/index.php/res/v/110726> [Consultation: 28 oct. 2020]

GOLUB, K. *et al.* Subject indexing in humanities: a comparison between a local university repository and international bibliographic service. *Journal of Documentation*, 2020, vol. 76, nº 6, p. 1193-1224.

GOMES, R.F. and LIMA, G.A. Importância da política de indexação para as unidades de informação: uma revisão sistemática da literatura. *Em Questão*, 2021a, nº online. Available in: <https://brapci.inf.br/index.php/res/v/150852> [Consultation: 14 sep. 2022]

GOMES, R.F. and LIMA, G.A. A política de indexação nos estudos publicados na área de Biblioteconomia e Ciência da Informação: uma revisão sistemática de literatura. *Em Questão*, 2021b, vol. 27, nº 1, p. 210-236. Available in: <https://www.seer.ufrgs.br/index.php/EmQuestao/article/view/103507> [Consultation: 25 oct. 2022]

HJORLAND, B. Indexing: concepts and theory. *Knowl. Org*, 2018, vol. 45, nº 7, p. 609-639. Available in: <https://www.researchgate.net/publication/329449826_Indexing_Concepts_and_Theory> [Consultation: 22 sep. 2022]

HJORLAND, B. What is knowledge organization? *Knowledge Organization*, 2008, vol. 35, nº 2/3, p. 86-101. Available in: <https://tinyurl.com/ycbgk92q> [Consultation: 12 jun. 2020]

LIMA, G.A. de; FUJITA, M.S.L. and REDIGOLO, F.M. A importância do contexto para a indexação. *PontodeAcesso*, 2021, vol. 15, nº 3, p. 283-302. Available in: <https://brapci.inf.br/index.php/res/download/169385> [Consultation: 22 sep. 2022]

OLIVEIRA, L.P.; CUNHA, T.M. and VIEIRA, A.P.F. A política de indexação nas produções científicas brasileiras em ciência da informação. *Revista Brasileira de Biblioteconomia e Documentação*, 2018, vol. 14, nº 2. Available in: <https://rbbd.febab.org.br/rbbd/article/view/640> [Consultation: 21 de jul. 2022]

OLIVEIRA, L.P. O ensino de política de indexação na graduação em Biblioteconomia: enlace teórico e prático. *REBECIN*, 2022, vol. 9, nº especial, p. 1-14. Available in: <https://portal.abecin.org.br/rebecin/article/view/325> [Consultation: 21 jul. 2022]

OLIVEIRA, L.P. *et al.* Política de indexação em periódicos da Ciência da Informação: um estudo das diretrizes para atribuição de palavras-chave aos artigos. *Perspectivas em Ciência da Informação*, 2020, vol. 25, nº 4, p. 140-169. Available in: <https://periodicos.ufmg.br/index.php/pci/article/view/26936> [Consultation: 19 feb. 2024]

OLIVEIRA, L.P.; VIEIRA, S.C. and MARTÍNEZ-ÁVILA, D. Política de indexação na prática: a dinâmica de planejamento e constituição atrelada ao ensino em biblioteconomia. *Múltiplos Olhares em Ciência da Informação*, 2020, vol. 10, p. 1-17. Available in: <https://periodicos.ufmg.br/index.php/moci/article/view/20202> [Consultation: 19 feb. 2024]

REDIGOLO, F.M. *O processo de análise de assunto na catalogação de livros em bibliotecas universitárias: aplicação do protocolo verbal*. 2014. 262 f. Tese (Doutorado em Ciência da Informação) - Faculdade de Filosofia e Ciências, Universidade Estadual Paulista, Marília, 2014. Available in: <https://tinyurl.com/yaggqdql> [Consultation:12 sep. 2022]

RODRIGUES, A.L.C. A complexidade da cultura amazônica e seu reflexo para a organização e representação da informação. *AtoZ: novas práticas em informação e conhecimento*, Curitiba, 2012, vol. 1, nº 2, p. 10-25, jan./dez. Available in: <https://revistas.ufpr.br/atoz/article/view/41309/25222> [Consultation: 21 jul. 2022]

RUBI, M.P. *A política de indexação na perspectiva do conhecimento organizacional.* 2004. 135 f. Dissertação (Mestrado de Ciência da Informação) – Faculdade de Filosofia e Ciências, Universidade Federal Paulista, Marília, 2004. Available in: <https://www.marilia.unesp.br/Home/Pos-Graduacao/CienciadaInformacao/Dissertacoes/rubi_mp_me_mar.pdf> [Consultation: 12 sep. 2022]

RUBI, M.P. *Política de indexação para construção de catálogos coletivos em bibliotecas universitárias.* 2008. 169 f. Tese (Doutorado em Ciência da Informação) - Faculdade de Filosofia e Ciências, Universidade Estadual Paulista, Marília, 2008.

RUBI, M.P. Os princípios da política de indexação na análise de assunto para catalogação: especificidade, exaustividade, revocação e precisão na perspectiva dos catalogadores e usuários. En FUJITA, M.S.L., (Org.)., *et al*. *A indexação de livros: a percepção de catalogadores e usuários de bibliotecas universitárias.* Um estudo de observação do contexto sociocognitivo com protocolos verbais. São Paulo: Editora UNESP; São Paulo: Cultura Acadêmica, 2009. p. 81-93.

SILVA, M.R. and FUJITA, M.S.L. A prática de indexação: análise da evolução de tendências teóricas e metodológicas. *Transinformação*, 2004, vol. 16, nº 2, p. 133-161. Available in: <https://www.scielo.br/j/tinf/a/cNngvqQdWfBGrJtLSdLRKnP/?format=pdf&lang=pt> [Consultation: 20 jun. 2022]

ANNEX I: QUESTIONNAIRE APPLIED TO LIBRARIANS OF THE LIBRARY SYSTEM

INITIAL INFORMATION:
Library Email:
Completion date:
Do you agree to participate as a research subject: ( ) Yes. ( ) No.

CATEGORY - DIAGNOSTIC STUDY
Objective: Identify the aspects of the horizontal plan of the indexing policy based on the diagnostic survey of libraries.

Subcategory: Area of knowledge and participating subjects. Objective: Help identify and organize participating libraries by areas of knowledge.

1-Name of the Library and the Institute or Center (for analysis purposes by area of knowledge):
2- Specify your job position: 3-Date of Completion: __/_ _/_ __.
Subcategory: Collection development. Objective: Verify the history of the institution, subject coverage of the collection, typology of documents in the collection.
4-What areas of knowledge compose the collection?
5- What types of documents are present in the collection?
( ) Books; ( ) Journals; ( ) Theses; ( ) Dissertations; ( ) Final Papers; ( ) Monographs; ( ) Memorials; ( ) Maps; ( ) Photographs;( ) Music scores; ( ) Catalogs; ( ) Patents; ( ) Molecular models; ( ) Psychological tests; ( ) Reprints; ( ) Leaflets; ( ) Internship reports; ( ) CDs; ( ) DVDs; ( ) CD-ROMs; ( ) Cassette tapes; ( ) Videotapes; ( ) Vinyl's Discs; ( ) Slides; ( ) Microfilms; ( ) Others:_____.
6-What undergraduate and postgraduate courses does the Library serve?

Subcategory: Continuing training. Objective: Identify the number of library professionals and their training, the information system used, etc.

7-Total number of professionals that the library has, and number of professionals dedicated to subject indexing/cataloging tasks:
8-Do indexers/catalogers receive specific courses on subject indexing/cataloging when they start performing this task? If so, the type of course, duration, etc.
9-Do indexers/catalogers receive continuing training? If so, type of course, duration?
10-Do you have any information system (software) for organizing and retrieving information? If so, which one?

CATEGORY - SUBJECT INDEXING/CATALOGING AND INDEXING POLICY
Objective: Verify items on the vertical plane of the indexing policy based on the analysis of the subject indexing/cataloging.

Subcategory: Subject Indexing or Cataloging Practice. Objective: Identify elements and variables of the indexing policy based on the process of subject indexing or cataloging, etc.

11-Do you perform subject indexing/cataloging of documents based on records from a catalog or database? ( ) Yes. ( ) No.11.1- Subjects indexing/cataloging of records in a catalog or database, inform the source:
12-Do you have a manual/guideline of procedures for subject indexing/cataloging? If so, comment if it was published or if it is available for consultation by the team. If not, comment if it is available for catalogers.
13-Does the institution have a regulated indexing policy? If so, has it been published or is it available for consultation by the team?
14-How is the indexing process carried out? (documentary reading, concept identification and concept selection). Explain the procedures used in the library.
15-During the subject indexing/cataloging process, is any automatic or semi-automatic aid used to facilitate this operation? If so, list and describe.

Subcategory: Indexing Quality. Objective: Investigate the specificity, exhaustiveness, time dedicated to the indexing process, use of national and international standards, etc.

Note: Answer the questions even if the decisions are not described in a document.

16-Is the level of specificity and exhaustiveness in subject indexing/cataloging established? If so, which one?
17-What is the indication on the number of terms/subjects per document? If there is how many?

18-Is there an indication of time dedicated to this process? If so, how much?
19-Do you follow any national or international standards for subject indexing/cataloging? If so, which one?

Subcategory: Tools for Subject Indexing or Cataloging. Objective: To investigate the use of automatic correction of terms/subjects, controlled language, natural language, types of KOS, etc.

20-Do you use any validation/automatic correction system for terms/subjects to ensure consistency in the catalogue/database? If so, describe: list of authorities for both subjects and names (geographical, names of people, identifiers, series and titles).
21-Do you use terms/subjects without vocabulary control, that is, in natural language (field 6XX)? ( ) Yes ( ) No.
21.1-Describe the documentary languages used for indexing:
22-Do you participate or have you participated in compatibility/interoperability projects for controlled vocabularies? If so, list and describe:

Subcategory: Assessment of Subject Indexing or Cataloging. Objective: Observe the occurrence of periodic assessment of indexing, carrying out user studies, the type of search and the information system, etc.

23- Has the Library carried out any type of tests or trials for the periodic assessment of the subject indexing/cataloging practice? If so, what type?
24-Are there published or public reports of this assessment? If so, list and describe:
25-Does the documentary language used in the System's subject catalog serve the user satisfactorily? Explain.
26-Does the user carry out open-ended search strategies and/or assisted by the librarian? Explain.
27-Does the information system (software) serve the user satisfactorily? Explain.
28-Does the user undergo any training in using the library's information system? Explain.
29-Does the library carry out user studies? If so, how often? And how is this study carried out? (Ex: satisfaction survey).

Additional comments and observations: