

The use of Design Thinking in the library of the Institute of Psychology of UFRGS: an innovation proposal for users benefiting from Indigenous Affirmative Action policies¹

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Abstract

The study analyzes the impact of social, technological, and political transformations on the management of Information Units, with an emphasis on University Libraries, highlighting the need to reconfigure services and products in response to the expansion and diversification of their user base, particularly as a result of Affirmative Action policies. It proposes the adoption of Design Thinking as a strategic approach to foster innovation and adapt services to contemporary educational demands, with specific attention to Indigenous students, grounded in the principle of substantive (material) equality as opposed to the traditional liberal concept of equality of opportunity. The research is characterized as basic and qualitative, developed through a field study with in loco interviews, aiming to understand how the use of Design Thinking enhances innovation processes in University Libraries in relation to Indigenous undergraduate students. The results reveal a low frequency of Indigenous users in the library, with attendance predominantly associated with thematic events, as well as the absence of Indigenous bibliographic production in the collection. Although no formal distinction in service provision was identified, the findings indicate the need to improve institutional communication, expand knowledge regarding Indigenous cultural specificities, and enhance infrastructure and collection diversity.

Keywords: Affirmative Action; university libraries; design thinking; service innovation; indigenous users.

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O uso do Design Thinking na biblioteca do Instituto de Psicologia da UFRGS: uma proposta de inovação para os usuários beneficiados pelas Ações Afirmativas Indígenas

Resumo:

Aborda o impacto das transformações sociais, tecnológicas e políticas na gestão das Unidades de Informação, com foco nas Bibliotecas Universitárias. Ressalta a importância de adaptar serviços e produtos para atender a um público cada vez mais diverso, influenciado principalmente pelas políticas de Ações Afirmativas. Propõe a implementação do Design Thinking como uma abordagem eficaz para inovar e melhor adaptar os serviços das Bibliotecas Universitárias às novas demandas educacionais, considerando os estudantes indígenas. O objetivo é explorar como a inovação pode ser impulsionada para melhor atender às necessidades específicas desses grupos, apoiando-se no princípio de igualdade substancial ou material em contraste com o conceito liberal tradicional de igualdade de oportunidades. Trata-se de pesquisa básica e qualitativa, realizada por meio de estudo de campo com entrevistas in loco, a fim de compreender como o uso do DT amplia as possibilidades de inovação nas BUs junto a acadêmicos indígenas. Os resultados evidenciam baixa frequência de usuários indígenas na biblioteca, com presença predominantemente vinculada a eventos temáticos, além da inexistência de produção bibliográfica indígena no acervo. Constatou-se que, embora não haja distinção formal no atendimento, há demanda por aprimoramento da comunicação institucional, ampliação do conhecimento acerca da cultura indígena e qualificação da infraestrutura e da diversidade do acervo.

Palavras-chave: Ações Afirmativas; bibliotecas universitárias; design thinking; inovação em serviços; usuários indígenas.



El uso del Design Thinking en la biblioteca del Instituto de Psicología de la UFRGS: una propuesta de innovación para los usuarios beneficiados por las Medidas de Discriminación Positiva a favor de los indígenas

Resumen:

El estudio examina el impacto de las transformaciones sociales, tecnológicas y políticas en la gestión de las Unidades de Información, con énfasis en las Bibliotecas Universitarias, destacando la necesidad de readecuación de servicios y productos ante la creciente diversificación del público, especialmente como resultado de las políticas de Acciones Afirmativas. Se propone la adopción del Design Thinking como un enfoque estratégico para promover la innovación y adecuar los servicios de las Bibliotecas Universitarias a las nuevas demandas educativas, con atención específica a los estudiantes indígenas, fundamentándose en el principio de igualdad sustancial o material, en contraposición a la concepción liberal tradicional de igualdad de oportunidades. La investigación se caracteriza como básica y cualitativa, desarrollada mediante un estudio de campo con entrevistas realizadas in situ, con el fin de comprender cómo el uso del Design Thinking amplía las posibilidades de innovación en las Bibliotecas Universitarias en relación con los estudiantes indígenas. Los resultados evidencian baja frecuencia de este público en la biblioteca, presencia mayoritariamente asociada a eventos temáticos y ausencia de producción bibliográfica indígena en el acervo. Aunque no se identifica distinción formal en la atención, se constata la necesidad de mejorar la comunicación institucional, ampliar el conocimiento sobre las especificidades culturales indígenas y cualificar la infraestructura y la diversidad del acervo.

Palabras clave: Acciones Afirmativas; bibliotecas universitarias; design thinking; innovación en servicios; usuarios indígenas.



Introduction

The transformations occurring in society, whether in social, technological, and/or political contexts, ignite discussions within organizations regarding the process of innovation in products and services. These discussions aim to prepare organizations to meet the new demands arising from such transformations, which includes Information Units (IUs). Although they do not directly aim for profit, these units are organizations that cannot operate at a loss. Therefore, they must serve new users in an egalitarian and high-quality manner, thus maintaining their environments in constant evolution.

Given the diversity of people who use IUs, especially University Libraries (ULs), it becomes fundamental to offer new or improved information services and products to meet diverse and increasingly plural needs and demands.

The plurality of user groups in ULs has changed, particularly in the last decade, due to the implementation of Affirmative Action policies, also known as the quota system in higher education. According to Gaspar and Barbosa (2013), Affirmative Actions are public and private policies that aim to guarantee rights historically denied to minority groups, such as Black people, low-income individuals, Indigenous people, and people with disabilities, among others.

The UL is a supplementary organ of the university that interacts directly with the new profile of students attending higher education. Therefore, it is also responsible for providing services to the academic community, including those with specific demands, whether regarding mobility, accessibility of materials, representation/cultural diversity, or intellectual and financial needs, among others (Pupo; Melo; Pérez Ferrés, 2006).

In light of this new reality, Stroparo and Moreira (2016) reinforce that ULs must offer services and products that serve these groups of students—whether they are Indigenous, people with physical disabilities, refugees, or low-income Black individuals—so that their needs, not only informational, are satisfied in a way that develops a sense of belonging to the university environment.



In this context, an alternative for ULs to innovate and adapt their services to new demands is to adopt the approach known as Design Thinking (DT) in the innovation process. According to Brown (2008), DT is a discipline that uses the designer's sensibility and innovation methods to align people's needs with what is technically possible and financially viable for the organization, thus creating value for the users of a service, which, in the case of ULs, are informational services.

Thus, the objective of this study was to analyze how the DT approach can assist ULs in innovating their information products and services, considering Indigenous students benefited by the affirmative action system. Regarding these students, the innovation process is even more challenging due to the particularities of this group, especially concerning the way they appropriate information.

These actions surrounding service innovation are based on the principle of substantial or material equality, which differs from the equality professed by French and North American liberalism based on a formal conception of equal opportunity. This perspective is supported by the premise that mere equality of rights is not sufficient to guarantee equal access to higher education, the labor market, and, consequently, a dignified and quality life (Gaspar; Barbosa, 2013).

The article is structured as follows: after this introduction, a theoretical reflection is proposed on the themes of DT (concept and applicability in Information Science) and University Library (characterization and innovative information services), followed by a discussion on Affirmative Actions and the profile of Indigenous university students. Subsequently, the methodological procedures adopted in this theoretical-practical study are presented. In this study, a field study was conducted (Marconi; Lakatos, 2003) at the Library of the Institute of Psychology of the Federal University of Rio Grande do Sul (UFRGS) using the DT approach, in which a pilot service innovation project was developed. Finally, the results are demonstrated, followed by final considerations and suggestions for future research.



Design Thinking: concept and applicability

DT is an innovation tool; a predominantly management approach that makes use of techniques that designers use to solve long-standing problems in an innovative way (Nitzsche, 2012). DT “[...] is based on the ability to be intuitive, recognize patterns, develop ideas that have an emotional meaning beyond the functional [...]” (Brown, 2020, p. 10).

In this sense, DT seeks to present a product or service that is relevant to the user and provides satisfaction, being considered a mental model that involves creativity and promotes learning through practice.

The term has its origin in the Innovation Design Engineering Organization (IDEO), a global design company that develops innovations for various segments and aims to create revolutionary ideas shared by multidisciplinary professionals who possess a common goal: to improve people’s lives (IDEO, 2024). In this context, “As an inclusive approach, design can also be seen as a powerful social tool that helps unite communities” (Proserpio, 2022, p. 23). Thus, the three values of design emerge: empathy, collaboration, and experimentation. These values complement each other to generate a result that meets the desires of the consumers of a given service. Therefore, knowing how to put oneself in another’s place (empathy) is to perceive feelings and understand the difficulties imposed on people.

Collaboration is important because teamwork helps develop better solutions through different perceptions and experiences. Experimentation aims to put ideas into practice with the purpose of building, testing, and learning from mistakes to deliver the product appropriate to the requested demand. According to Brown (2008), the DT implementation process consists of seven phases as presented in Chart 1.



Chart 1 – Seven phases of the DT approach

Phases of the DT Process	Description
Understanding	Comprises the analysis of the context through the collection of all existing data, without being tied to patterns (divergence of thought). This is the research preparation stage.
Observation	The moment to go into the field, talk, and observe (convergence of perspective and empathy), noticing human aspects and seeking answers to understand the needs of those involved in the institution. For this, the use of triangulation is important (interviews, participation, ethnographic perspective).
Point of View	With the collected data (convergence of thought), it is the moment of organization and comprehension of the whole to finalize ideas. The empathy map or persona are used to define a user and create the appropriate solution, but they must be conceived from research data (not randomly invented) and aim to understand the individual's goals, desires, and difficulties.
Ideation	Phase in which the research points toward strategic directions and tangible solutions (divergence of thought) through brainstorming.
Prototyping	Generation of more conceptions, expansion of understanding (divergence); aims to build a model to visualize the functioning of the idea. It can be a paper prototype, scale models, storyboards, videos, etc.
Testing	Validation of the purpose/prototype, revealing to the creators and the people who will implement it whether it is relevant.
Iteration	Refinement of solutions with the intent of improving them through feedback that will help originate a product or service of value. A Chart with positive or negative points can be used to improve it. In this phase, returning to the beginning of the process may occur, generating necessary changes, as DT is not a ready-made approach and, for innovation to occur, "inspiration, ideation, and implementation" are required.

Source: Adapted from Brown (2008, p. 89).

According to Brown (2008), although the DT approach presents phases that must be fulfilled for the process to be successful, for innovation to actually occur, the posture of the people involved in the different phases is important. According to the author, these individuals must have a Design Thinker profile, which involves empathy and integrative thinking. Empathy, as already



mentioned, is identified in the person who has the capacity to put themselves in another's place; and Integrative Thinking, the designer must have the ability not only to focus on analytical processes but also to be capable of questioning and seeing everything that is important to achieve the desired improvement (Bernal Ramírez; Zaninelli, 2017).

In this sense, DT represents the accumulation of knowledge and skills acquired by designers over many years in the search for solutions to human needs based on available resources. Thus, the diversity of methodological possibilities and applications of DT makes it a promising method for developing research in various areas, including Education, Information Science, and related fields.

Since 2014, on one hand, there has been a significant increase in research related to DT, with exponential growth in publications starting in 2017. On the other hand, there is no in-depth exploration of the applicability of the DT approach in the context of research in the fields of Education and IS. However, DT proves to be *suiChart* for meeting complex methodological needs in research conducted in Education, IS, and library-type organizations.

In this regard, the potential of DT as an approach capable of offering innovative, creative, and viable solutions to technological-informational problems is evident. Therefore, it is essential to encourage in-depth research on its use, techniques, and procedures to consolidate DT in studies within the fields of Education and IS, and within the scope of the development process of informational products and services offered by libraries, especially in higher education.

Thus, the use of DT, especially in the face of new demands for technological development, offers potential contributions to the understanding of complex problems and the search for innovative solutions. It is understood that the fields of Education and IS must incorporate new methodologies that meet the conceptual, epistemological, and technological demands of contemporary reality, and DT can serve as a tool for such (Apocalypse; Jorente, 2022).



University Library: characterization and innovative information services in higher education

The UL, as a promoter of scientific knowledge, organization, and access to information and knowledge, holds a prominent place in society. As an information unit linked to, maintained by, and located within a university or a public or private Higher Education Institution (HEI), it offers information services to support teaching, research, and outreach (the three pillars of the university), as well as academic activities in general. It meets the specific needs of the academic community to which it belongs and contributes to the university's mission.

According to Nunes and Carvalho (2016), ULs were created in the Middle Ages with the emergence of the first universities. However, Santos and Peixoto (2018) emphasize that their origin is also rooted in the libraries of religious orders that provided the foundation for the creation of universities; the first ones emerged mainly as extensions of the Dominican and Franciscan orders. The authors further state that, created to meet the needs of higher education institutions, these libraries were restricted-access spaces with the function of preserving knowledge.

Characterized by restricted access and rare loans, the medieval library essentially held religious and theological works, in addition to manuscripts copied by monks and scribes. In the Renaissance, the advent of the printing press by Johannes Gutenberg in the 15th century enabled a change in this scenario. Gutenberg's invention of the movable-type printing press allowed for the large-scale production of books, bulletins, etc., increasing the affordability of book production and the consequent dissemination of knowledge (Santos; Peixoto, 2018). "From the invention of the printing press, the proliferation of printed works occurred, which contributed to the creation and expansion of libraries, a fact that directs us to the concept of the modern library, focused on meeting the needs of its users" (Santos; Peixoto, 2018, p. 1143).

(continua)



Martins (2001) summarizes four evolutionary stages of libraries that occurred slowly and continuously with the emergence of the publishing industry: secularization, democratization, specialization, and socialization, the latter of which distinguishes libraries today as a space for information dissemination and knowledge socialization:

The modern library broke ties with the Catholic Church, extending the possibility of access to books to all men; thus, it needed to specialize to meet the needs of each reader or community, ceasing to be passive, reaching out to the reader, seeking to understand them and bring them to the library (Martins, 2001, p. 324).

In this context, López Yepes (2000) considers the University as a focus for the socialization of knowledge and the UL as an instrument for this through the use of new documentary formats and the expansion of the range of users it intends to serve in favor of the economic and social development of communities. Following this dynamic, Fujita (2005) establishes the three basic functions of the UL (Chart 2).

Chart 2 - Basic functions of the university library

Library Functions	Description
Knowledge Storage	Collection development, memory of scientific and technological production, preservation, and conservation.
Knowledge Organization	Quality of thematic and descriptive processing that favors the exchange of records between libraries and their retrieval.
Access to Knowledge	The demand for information transcends value, place, and form and requires access. One must think beyond providing information to enabling simultaneous access for all.

Source: Adapted from Fujita (2005, p. 100).

It is noted that fulfilling the aforementioned functions involves the advent of the internet in the 1990s and the insertion of Information and Communication Technologies (ICT) in universities, which boosted process automation, the creation of digital libraries, internet access, online reference services, and the



collaboration and sharing of information and knowledge. ICTs have a significant impact on libraries and enable the offering of more efficient, accessible, and personalized services, meeting user needs.

In this sense, Santos and Peixoto (2018) confirm that a large part of the services offered by the UL makes use of technology, such as: informational materials registered in collection management software; material circulation services (loans, returns, reservations) that use computers with internet access; access to databases via computers located at the university or remote access. Furthermore, as a contribution of the library to the environment to which it is linked, the authors point out some more recurrent products and services such as online catalog consultation, home lending of informational materials, access to the standards of the Brazilian Association of Technical Standards (ABNT), access to the Journals Portal of the Coordination for the Improvement of Higher Education Personnel (CAPES), training for library use, issuance of cataloging records, acquisition of informational materials, etc.

The configuration of products and services offered by the UL converges toward a conceptualization of the UL itself as a dynamic process:

University libraries are higher education institutions and are aimed at meeting the needs of all members of the academic community of which they are part, but in a dynamic process, where each of its activities is not developed in a static and mechanical way, but with the intention of acting interactively to expand access to information and contribute to the university's mission (Nunes; Carvalho, 2016, p. 179).

This dynamism allows the library to remain relevant, identifying and adapting information services to the constantly changing needs and expectations of the user profile, seeking to innovate and adapt, engaging with the academic community in collaborative activities aimed not only at providing information but also at creating an environment of interaction and joint learning that encourages the user's library use and sense of belonging to it.

In this sense, it is emphasized that innovation in libraries is everything that integrates the creation and insertion of modifications with the aim of



improving an information service or obtaining a competitive advantage among other institutions (Bernal Ramírez; Zaninelli, 2017). Therefore, ULs must also implement innovation strategies in their services and exercise creativity in the institution to obtain a competitive advantage and offer valuable services to their users, ensuring their role of social importance through their services (Bieraugel, 2015).

Still regarding innovation, to be achieved, it is not enough to just have a creative idea; it is necessary to put it into practice and develop it in the form of a service (Bieraugel, 2015). In the case of applying innovative proposals within the information environment, commitment is necessary to realize that idea so it can add value to the user's needs. Without exception, one must think of the user and how this service will be useful and facilitating, and that it will indeed be used by the library user.

The promotion of creative ideas makes the library a space that allows for innovation, as organizations capable of allowing innovation in their environments are better able to stimulate the user experience with the information environment (Bieraugel, 2015). Innovation also leads to the adoption of new technologies to assist in the creation of new innovative services or new products used by users.

However, it is not enough to just create a favorable and stimulating environment to develop innovative services. What often moves libraries is their human capital, and in many ULs, it is the only available resource. It is fundamental that these professionals present in the library possess competencies for creativity and the implementation of innovations, as the innovation process can only occur with preparation (Bragança et al., 2016).

Based on the above and given the variations in the profile of users in ULs, especially in the last decade due to Affirmative Action policies, the UL management team needs to (re)think the services they offer and propose innovations considering the new profile and the heterogeneity of students entering higher education.



Affirmative Action and the profile of Indigenous university students

Affirmative Action² has become a reality within the university context and has been transforming society's relationship with Higher Education in Brazil. In this context, the most vulnerable social groups, through inclusion policies, have accessed quotas for vacancies in Higher Education. The quota policy has been implemented through various strategies for the inclusion of specific social groups. Among them is access through the National High School Exam (ENEM) and the Unified Selection System (SISU) in the specific case of public undergraduate education: “[...] which initiated the implementation of admission through the reservation of vacancies for public school students and self-declared Black students from public schools [...]” (UFRGS, 2019).

It was a pioneering inclusion program, both due to its impact on the distribution of vacancies across all courses and the very nature of public policies, which introduce new concepts and new paradigms of public responsibilities (UFRGS, 2019).

In the ethnographic scope, Indigenous populations are included in this context of Affirmative Action. However, they possess their own specificities, including historical-social issues that reflect their trajectory within our continent—issues rooted in our culture regarding social, economic, and cultural exclusion. Affirmative Actions are political measures that attempt to equalize these distinctions. Nevertheless, experiences focused on this user profile are still considered recent and subject to change. These changes are related to the institutional and administrative spheres through public policies. However, there is already a trajectory regarding the issue of Affirmative Action in Federal Universities.

Even if the results pointed out so far are sufficient to celebrate the success of this inclusion policy, there is a long way to go toward the consolidation of programs and actions that act more effectively on the presented diagnoses. The connection between admission and retention actions, as well as the articulations between academic monitoring



policies and material supports, constitute permanent institutional challenges (UFRGS, 2019).

These historical-social snapshots of the inclusion of Indigenous populations bring to light questions related to the profile of these students admitted through Affirmative Action—a profile that does not aim to incorporate common sense or prejudices established by historical-social issues.

In these terms, by employing DT tools, it was possible to establish an approach to surveying these university students through an ethnographic lens, highlighting incoming students benefited by Indigenous Affirmative Action as users of the information services available at the University: “Ethnographic design aims to understand the future users of a design project, such as a specific service” (Dijk, 2014, p. 110).

In this study, the services of the library of the Faculty of Social Psychology and Social Work at UFRGS were analyzed. In the search to understand the profile of Indigenous students through the eyes of the staff who serve such users, a team was formed by students from the Graduate Program in Information Science (PPGCIN) at UFRGS, in the DT course (1st semester of 2023), to identify the profile of these users. Through searching and researching information provided by the university and reports and testimonies of experiences from those involved in providing services at the unit in question, it was possible to trace an initial profile of the Indigenous students, even without initial direct contact with them.

Based on the information obtained during the DT course, the indicated bibliography, and supplementary materials, as well as the performance of classroom exercises, a process structured by the user perspective was developed with the objective of creating a profile that met all the requirements of the approaches studied and discussed. After this moment, it was possible to schedule the field visit for data collection in search of material capable of elucidating questions related to the Indigenous user and the information units in question.



According to the information collected, Indigenous students attend various courses at the university. Eleven enrolled Indigenous students were identified (Brasil, 2023) at the Institute of Psychology, Social Work, Health, and Human Communication at UFRGS. They are potential users of information services and the library space.

Thus, four subjects were interviewed: three staff members working at the library and one staff member at the entrance desk, in order to detect issues related to interaction with Indigenous students on the university campus and their use of the library, taking into account their culture, habits, and Indigenous ethnography, as well as the entire structure offered by the information unit. The details of the methodological procedures adopted will be reported in depth in the following section.

Methodological Procedures

The objective of this study was to analyze how the DT approach can assist ULs in innovating their information products and services, considering the students benefited by the Indigenous Affirmative Action system. Thus, it is a basic (Marconi; Lakatos, 2003) and qualitative research, since the goal was to understand how the use of DT expands the possibilities for innovation in the context of ULs centered on Indigenous academics.

The method adopted was a field study through *in loco* interviews with three librarians who work directly with the students at the Library of the Institute of Psychology of UFRGS and one staff member who works at the unit's entrance and also interacts directly with the Indigenous students.

Although the innovation proposal presented in this study involves the provision of information services for Indigenous users, it is emphasized that, initially, no direct contact was established with the students, given the group's time limitations to develop the pilot project. That said, while on one hand, not collecting information directly from the students constitutes an initial limitation for the innovation proposal, on the other hand, given the extensive experience



and daily contact of the interviewees with these students, it was possible to outline an initial profile for the projection of a pilot service to be futurely evaluated and tested directly by the Indigenous students.

In this sense, this research is characterized as basic, with a qualitative approach, and field research was the method adopted. The tools used in the data collection process were suggested by the DT approach—tools that systematize problem detection to subsequently present innovative solutions.

The method was field research, in which data collection is performed *in loco* through observations and interviews. The data collection instrument, the interview, consisted of ten open-ended questions aimed at identifying the opinions and forms of conduct of the librarians regarding the development of new services, considering the informational needs of Indigenous users.

The research was conducted at the Sectoral Library of the Institute of Psychology, Social Work, Health, and Human Communication (BIBPSICO), which is part of the UFRGS Library System. Geographically located on the university's Health Campus, BIBPSICO serves the Psychology, Social Work, and Speech-Language Pathology courses and has a total of four (4) librarians, two (2) administrative technicians, and one (1) scholarship student.

In the context of the services offered by BIBPSICO are the lending of books and journals, assistance with scientific research in field databases, guidance on the standardization of undergraduate theses, master's theses, and doctoral dissertations, among other services. The library also features a physical space for group study, computers for academic use, individual study spaces, as well as sofas for students to rest.

Data collection was carried out over one week in June 2023, *in loco*, with the objective of understanding the interviewees' perspectives regarding their experiences with the Indigenous users who frequent the unit. A question guide was prepared to direct the interview, which was conducted with the aid of a voice recorder, following prior authorization from the interviewees via an informed consent form.



There were five interviewees: three librarians (one from the reference sector, one from technical processing, and the library manager); one scholarship student; and the unit's doorman, who has daily contact with the students. The interviewees shared their perceptions and aspirations regarding the need to increasingly bring Indigenous users closer to the library space.

From the compilation of the data, it was possible to perform a triangulation that enables “[...] adopting a reflexive-conceptual and practical behavior toward the research’s object of study from different perspectives [...]” (Marcondes; Brisola, 2014, p. 206). Data triangulation is the tool suggested in the DT approach. In this way, it was feasible to idealize a service innovation that could add value to the library’s services, thinking specifically of Indigenous users. It is noted that the aforementioned innovation can be implemented by the psychology library team without requiring high costs, since the DT proposal is to suggest timely innovations for each situation, with low cost and rapid implementation.

Results and Discussion

ULs play a fundamental role within the university community by providing access to information, promoting inclusive education, driving research and innovation, preserving knowledge, and fostering global awareness. In this sense, the DT approach has been utilized in the context of innovations in information services, especially in libraries, and the literature has highlighted successful cases—not only in the United States, through the Chicago Public Library, but also in Brazil, with the Library of the State University of Santa Catarina, and in Colombia, with the Bogotá Library System (Bernal Ramirez; Zaninelli, 2017).

In the specific context of BIBPSICO, there is a group of 11 potential Indigenous users (the focus of this study) enrolled in Psychology and Social Work courses. To understand the needs and characteristics of this user group from the perspective of the unit’s librarians and staff who have direct contact



with the students, the DT approach was used to improve the services offered by the library to this group.

Thus, to observe the profile of Indigenous students and their relationships with the library environment and services, the first step was a site visit. The objective of the visit was to observe and record, through photographs, the first impressions of the library's physical environment, intending to identify the users' transit spaces and their respective interactions with library collaborators—including librarians, administrative technicians, interns, or other staff members working in the space.

During this first visit, it was possible to meet the staff, learn about the operating hours, the collection, the information services provided, and other characteristics that helped provide a brief overview of the space and its frequent users. From this first visit, the stages related to the approach proposed by DT were constructed in search of solutions related to service innovation focused on Indigenous users.

BIBPSICO has an outreach project called *Biblioteca Viva* (Living Library), also known as *BibViva: Creativity Laboratory*, coordinated by librarian Célvio Derbi Casal. This program aims to involve the community surrounding the library, promoting discussion and interaction activities on topics relevant to society, making this library one of the most engaged with external communities and inclusion projects within the entire UFRGS library system (Casal, 2019).

Librarian Célvio, responsible for several other inclusive projects, helped reflect on the challenge represented by the following question: “How can we improve the experience of Indigenous users at BIBPSICO by creating services that are more attractive, inclusive, and effective?”

With this question, not only the reference librarian but also other librarians and staff contributed to the data collection process regarding the profile of Indigenous users and how this group utilizes library services. Following the approach proposed by DT, Chart 3 below presents the phases developed in this project.



Chart 3 – Stages of the DT project in the context of BIBPSICO

DT Phases	How it was conducted	Obtained Results
Understanding	Interviews with three librarians; interview with a staff member acting as the unit's doorman; interview with a scholarship student.	Indigenous users rarely enter the library; there is a lack of literature in the field written by Indigenous people or in their native languages; Indigenous users attend the library during events related to their themes; social interactions differ between Indigenous and "white" people; there is cultural shock regarding unit usage hours; Indigenous users are always with family and perform activities with their children (Indigenous women); Indigenous users are more shy and introspective..
Observation	Site visits through observation on different days and times; recording the physical environment through photographs; the team used the unit's space and services for a few days.	Observed at the library: sofas for resting; computers for use; users waiting to use computers; Charts for personal laptop use; ample study space; two group study rooms; resting space; collection aligned with the pedagogical political plan; promotion of activities on the website and social media (Instagram and Facebook); user flow; absence of Indigenous users.
Point of View	The Indigenous users' perspective was captured through interviews during the understanding phase. Direct contact was not possible, as social management with this group requires interaction time to develop the DT steps.	No distinction in user service; the library team wants to improve communication with Indigenous users; the team wants to bring Indigenous users closer to the library while respecting and not interfering with their culture; there is a need for communication and knowledge regarding Indigenous culture and way of life—improvement of infrastructure and creation of a diverse collection.
Ideation	This stage consisted of idealizing an integration service for Indigenous people within UFRGS. The Psychology library should be a protagonist in implementation and help develop a sense of belonging to the library space and the university as a whole.	Creation of the following services: Personalized guided tours for new Indigenous students to present library services, the physical environment, and how to use information services; creation of videos promoting Indigenous culture made in partnership with the students themselves; making library services tangible, especially those in the physical environment, contributing to the awakening of a sense of belonging in that environment.
Prototyping	Signage for information services in the native language of the Indigenous users.	See figures 1, 2, and 3 presented later in the text.
Testing	This phase is in the process of execution, along with the implementation of the idea.	Testing has not yet been conducted with Indigenous students for validation and implementation. This phase will be carried out in the next stage of the research.

(Continued on the next page)



(Continued)

Iteration	The involved team “re-turned” several times to look at the initial data.	Interactions occurred multiple times throughout the process of developing the idea and prototyping.
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Source: Developed by the authors, based on Brown (2008).

During the interviews, issues addressing interactions between Indigenous people and the “white man” were highlighted. The interviewees reinforce that interactions between both are marked by violence, whether symbolic or physical—there are communication barriers, barriers related to social context, Indigenous thought, and the Westernized thought of the white man. Thus, the *Biblioteca Viva* program attempts to bridge, welcome, and disseminate the customs and ways of life of Indigenous peoples within the university context, further noting that “[...] there is no attentive gaze toward Indigenous users by the UFRGS institution” (Casal, 2019).

The interviewees also point out that, although the Indigenous student housing is located on the Health campus near the library, the origin of the occupation of that space occurred against the university and during the pandemic, without the integration of the university community with the Indigenous students. According to the librarian coordinating the *Biblioteca Viva* project:

[...] there is no identification of the Indigenous person – how to interact with Indigenous people without being paternalistic or welfare-oriented, without a charity gaze – there is a concern within our team here at the library to interact without it being another act of violence toward the Indigenous user (Casal)³.

Based on Chart 3, the library intends to develop innovations through service offerings to assist in the welcoming process and the development of a sense of belonging for Indigenous students in the university environment. Supported by DT, the proposed prototype to make the ideas tangible will be the creation of signage where information is written in the native language of the Indigenous people at that unit, who are of the Kanhgág ethnicity.



The Kanhgág, also known as Kaingang, are the most populous people in Southern Brazil and among the most numerous Indigenous peoples in the country. This ethnicity belongs to the Jê linguistic family, of the Macro-Jê stock, with an estimated population of 45,620 people living in more than 40 Indigenous Lands (Gaudêncio et al., 2021). The people have their own language, specific social organization, and a set of traditional knowledge related to the territory and collective coexistence.

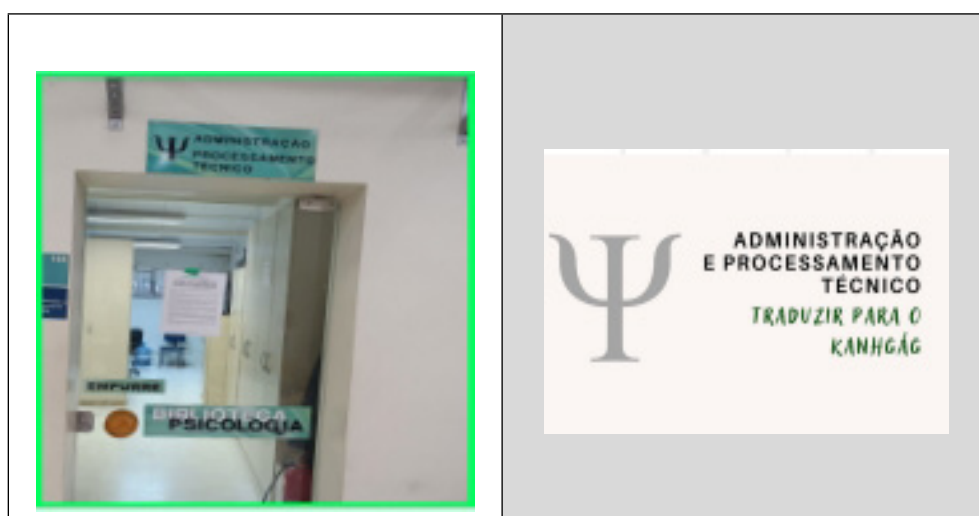
Figures 1, 2, and 3 below show the library with translation suggestions. It is intended to invite Indigenous students to perform the translation during the prototype validation.

Figure 1 – Prototype of informational posters before entering the library written in Kanhgág



Source: Prepared by the authors (2023).

Figure 2 – Prototype of the signage indicating the administration room and technical processing for Kanhgág.



Source: Prepared by the authors (2023).

Figure 3 – Prototype of the signage and ambient decoration translated into Kanhgág.



Source: Prepared by the authors (2023).

The last prototype (Figure 4) involves the proposal to create an artistic thematic space within the library with the objective of referencing Indigenous culture, prepared with the help of Indigenous students/users and developed in collaboration with other non-Indigenous students, in order to stimulate integration among them, move the library space, and offer all users a space for leisure, entertainment, and discussion, dissemination of knowledge, and, consequently, make the place dynamic, plural, and at the service of the university community.

Figure 4 – Prototype of the Indigenous thematic space.





Source: Prepared by the authors (2023).

The idea of this space and these services aims to provide an environment that values cultural diversity within universities. Following the validation of the prototypes by Indigenous academics, the space may also be used for artistic exhibitions, cultural presentations, talking circles, thematic workshops, and educational and integrative activities focused on Indigenous knowledge, traditions, and expressions. In this way, the initiative may contribute to strengthening intercultural dialogue and also to the integration process among the different groups of students who currently attend the university environment, largely as a result of affirmative action policies in higher education.

Final Considerations

In general, various types of libraries have undergone changes that transcend the impact caused by Information and Communication Technologies (ICT) on the physical structure and the typology of the collection. However, in the case of University Libraries (ULs) serving higher education students, it was the significant change in the student profile over the last decade—driven by affirmative action policies—that made users more heterogeneous, with new informational needs and demands for specific services that go beyond the traditional support provided by the UL in research, teaching, and outreach.



A recent study conducted by Zaninelli, Caldeira, and Fonseca (2022) regarding the needs of academic users has already evidenced new expectations of students concerning the use of the library space, which go beyond access to high-quality information. These include comfortable spaces for rest and sleep, places for eating without the need to leave belongings unattended, thematic environments for discussions of specific interests—such as LGBTQIAPN+ issues, gender identity, single mothers, Indigenous causes, mental health—as well as locations for fairs and exhibitions, and service desks for the Pro-rectories of Undergraduate Studies and Social Assistance, among other services.

In this context, and considering that ULs frequently lack funds for investment in new and modern services, DT emerges as an effective approach that can be successfully applied by these units by proposing value-driven innovations for the user community in a rapid manner and without the need for large financial investments.

In the study in question, the focus was on Indigenous users, one of the student groups benefited by affirmative action policies in higher education. This group possesses very particular characteristics and needs, which require special attention and care, as they involve cultural, historical, and communicational issues, among others. In this context, DT can and should be employed in various projects aimed at different user groups with similar characteristics, such as low-income students, Black students, people with disabilities, administrative technicians, professors, the external community, among others.

It is important to emphasize that this project was developed within the scope of the course “DT for Information Units and Services” of the PPGCIN at UFRGS. The team involved in the design process consisted of five master’s students, co-authors of this article, under the guidance of the faculty members responsible for the course. The innovations represented by the prototypes are in the implementation phase at the information unit focus of the research, BIBPSICO. In the coming months, they will be implemented and tested with the Indigenous students who frequent the unit. The implementation and validation



phase of the prototypes has not yet been completed, as research involving Indigenous groups requires approval by a specific protocol and committee. This process is currently underway under the supervision of the Pro-rectory of Student Affairs at UFRGS (PRAE/UFRGS).

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References

APOCALYPSE, Simão Marcos; JORENTE, Maria José Vicentini. O Método Design Thinking e a pesquisa em Ciência da Informação. **Encontros Bibli: Revista Eletrônica de Biblioteconomia e Ciência da Informação**, Florianópolis, v. 27, n. 1, p. 1-21. 2022. DOI: <https://doi.org/10.5007/1518-2924.2022.e85281>.

BERNAL RAMÍREZ, Diana Marcela; ZANINELLI, Thais Batista. O uso do design thinking como ferramenta no processo de inovação em bibliotecas. **Encontros Bibli: Revista Eletrônica de Biblioteconomia e Ciência da Informação**, Florianópolis, v. 22, n. 49, p. 59-74. 2017. DOI: <https://doi.org/10.5007/1518-2924.2017v22n49p59>.

BIERAUGEL, Mark. Managing library innovation using the lean startup method. **Library Management**, Bradford, v. 36, n. 4/5, p. 351-361. 2015. DOI: <https://doi.org/10.1108/LM-10-2014-0131>

BRAGANÇA, Fábio Ferreira Coelho; *et al.* Marketing, criatividade e inovação em unidades de informação. **REMark: Revista Brasileira de Marketing**, São Paulo, v. 15, n. 2, p. 37-245. abr./jun. 2016. DOI: <https://doi.org/10.5585/remark.v15i2.3277>.

BRASIL. Controladoria-Geral da União. **Fala.BR**: Plataforma Integrada de Ouvidoria e Acesso à Informação. Brasília: CGU, 2023. Available at: <https://falabr.cgu.gov.br/web/home>. Access in: Feb. 16 2026.



BROWN, Tim. Design thinking. **Harvard Business Review**, [S. l.], v. 86, n. 6, p. 85-92, 2008.

BROWN, Tim. **Design Thinking**: uma metodologia poderosa para decretar o fim das velhas ideias. Rio de Janeiro: Alta Books, 2020.

CASAL, Celvio Derbi. Biblioteca viva: laboratório de criatividade. In: CADERNO DE RESUMOS, 20., 2019, Porto Alegre. **Anais eletrônicos [...]**. Porto Alegre: UFRGS: PROEXT, 2019. p. 21-25. Available at: <https://lume.ufrgs.br/handle/10183/215565>. Access in: Feb 16 2026.

DIJK, Geke Van. Design etnográfico: em busca da inspiração na vida cotidiana. In: STICKDORN, Marc; SCHNEIDER, Jakob (org.). **Isto é Design Thinking de serviços**: fundamentos, ferramentas e casos. Porto Alegre: Bookman. 2014. p. 110-119.

FUJITA, Mariângela Spotti Lopes. Aspectos evolutivos das bibliotecas universitárias em ambiente digital na perspectiva da rede de bibliotecas da UNESP. **Informação & Sociedade: Estudos**, João Pessoa, v. 15, n. 2, p. 97-112, 2005.

GASPAR, Lúcia; BARBOSA, Virgínia. **Ações afirmativas e política de cotas no Brasil**: uma bibliografia, 1999 – 2012. Recife: Ministério da Educação, 2013. Available at: https://www.gov.br/fundaj/pt-br/composicao/dimeca/biblioteca/acervos/inventarios-documentais-e-indices/acoes_afirmativas_e_politicas_de_cotas_brasil.pdf. Access in: Feb. 16 2026.

GAUDÊNCIO, Jéssica; *et al.* Conhecimento tradicional Kaingang: o uso de ervas medicinais. **ODEERE: Revista Internacional de Relações Étnicas**, Jequié, v. 6, n. 2, p. 35–53, 2021. DOI: <https://doi.org/10.22481/odeere.v6i2.9793>.

IDEO. **About**. 2024. Available at: <https://www.ideo.com/about>. Access in: Feb. 16, 2026.

LÓPEZ YEPES, José. Universidad y socialización del saber: ventajas y retos del formato electrónico. **Scire**: representación y organización del conocimiento, Zaragoza, v. 6, n. 1, p. 11-30, en./jun. 2000. DOI: <https://doi.org/10.54886/scire.v6i1.1122>.



MARCONDES, Nilsen. Aparecida Vieira; BRISOLA, Elisa Maria Andrade. Análise por triangulação de métodos: um referencial para pesquisas qualitativas. **Revista Univap**, São José dos Campos, v. 20, n. 35, jun. 2014. Available at: <https://revista.univap.br/index.php/revistaunivap/article/view/228/210>. Access in: Feb. 16, 2026.

MARCONI, Marina de Andrade; LAKATOS, Eva Maria. **Fundamentos de metodologia científica**. 5. ed. São Paulo: Atlas. 2003.

MARTINS, Wilson. **A palavra escrita**: história do livro, da imprensa e da biblioteca. 3. ed. rev. e atual. São Paulo: Ática, 2001.

NITZSCHE, Rique. **Afinal, o que é design thinking?** São Paulo: Rosari, 2012.

NUNES, Martha Suzana Cabral; CARVALHO, Kátia de. As bibliotecas universitárias em perspectiva histórica: a caminho de desenvolvimento durável. **Perspectivas em Ciência da Informação**, Belo Horizonte, v. 21, n. 1, p. 173-193, jan./mar. 2016. Available at: <https://periodicos.ufmg.br/index.php/pci/article/view/23050>. Access in: Feb. 16, 2026.

PROSERPIO, Juliana. **O Poder do design**: uma série com 5 capítulos sobre como o design pode criar novas realidades e futuros desejáveis. São Paulo: Echos, 2022. Available at: https://atilauno.com.br/wp-content/uploads/2022/09/O_poder_do_design.pdf. Access in: Feb. 16, 2026.

PUPO, Deise Tallarico; MELO, Amanda Meincke; PÉREZ FERRÉS, Sofia. **Acessibilidade**: discurso e prática no cotidiano das bibliotecas. Campinas: Unicamp. 2006. Available at: https://eurydice.nied.unicamp.br/portais/todosnos/nied/todosnos/artigos-cientificos/livro_acessibilidade_bibliotecas.pdf.1.pdf. Access in: Feb. 16, 2026.

SANTOS, Andréia Pereira; PEIXOTO, Suzane Gonçalves Duarte. As bibliotecas universitárias: contexto histórico e aspectos conceituais. *In*: SEMINÁRIO NACIONAL DE BIBLIOTECAS UNIVERSITÁRIAS, 20., 2018, Salvador. **Anais eletrônicos** [...]. Salvador: UFBA, 2018. p. 1139-1153 Available at: <https://repositorio.ufba.br/handle/ri/27708>. Access in: Feb. 16, 2026.



STROPARO, Eliane Maria; MOREIRA, Laura Ceretta. O papel da biblioteca universitária na inclusão de alunos com deficiência no ensino superior. **Educação**, Santa Maria, v. 21, n. 1, p. 209-222, jan./abr., 2016. DOI: <https://doi.org/10.5902/1984644417430>.

UFRGS - UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL. **Ações Afirmativas UFRGS**: relato histórico sobre as principais etapas para a implantação e o desenvolvimento do Programa de Ações Afirmativas da UFRGS. Porto Alegre: UFRGS, 2019. Available at: <https://www.ufrgs.br/acoesafirmativas/2019/01/21/relato-historico-sobre-as-principais-etapas-para-a-implantacao-e-o-desenvolvimento-do-programa-de-acoes-afirmativas-da-ufrgs/>. Access in: Feb. 16, 2026.

ZANINELLI, Thais Batista; CALDEIRA, Giseli; FONSECA, Diego Leonardo de Souza. Veteranos, baby boomers, nativos digitais, gerações X, Y e Z, geração polegar e geração alfa: perfil geracional dos atuais e potenciais usuários das bibliotecas universitárias. **Brazilian Journal of Information Science: Research Trends**, Marília, v. 16, p. e02143, 2022. DOI: <https://doi.org/10.36311/1981-1640.2022.v16.e02143>. Available at: <https://revistas.marilia.unesp.br/index.php/bjis/article/view/12991>. Access in: Feb 16, 2026.

Notes

- 1 Translation performed with the assistance of AI-GEMINI
- 2 The term Affirmative Action refers to a set of public policies of a given society for the protection of minorities and groups discriminated against in the past. Affirmative action aims to remove barriers, both formal and informal, that prevent certain groups from accessing the labor market, universities, and leadership positions.
- 3 Celvio Derbi Casal. Librarian at BIBPSICO. Interview granted by the coordinating librarian of the Biblioteca Viva project to the authors of this article in June 2023.



The use of Design Thinking in the library of the Institute of Psychology of UFRGS: an innovation proposal for users benefiting from Indigenous Affirmative Action policies

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