Virtual environment for integration between Distance Education and University Libraries of the institutions participating in the open university of Brazil

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ABSTRACT
Introduction: The development of Distance Education in Higher Education Institutions requires a series of adaptations to this educational modality, which also affects university libraries as information support units for teaching, research and extension. Distance learning becomes the target audience of these units, requiring products and services, especially technological ones, to support the teaching-learning process. Objective: To identify actions aimed at providing environments/platforms for distance learning services in libraries of institutions that are part of the Open University of Brazil. Methodology: This is a descriptive study with a qualitative and quantitative approach. The institutions were consulted through the SisUAB system, and data were collected by applying an online questionnaire with library managers of these institutions. Results: It can be seen that out of the 76 responding institutions, only three identified integration actions through an environment/platform for distance learning, and the service to this public is mostly centered on making virtual libraries and databases available. What stands out is the professionals’ view that there is no need for differentiated services for distance and face-to-face audiences, with the maxim that all services are available to all audiences. Conclusion: The initiatives are few in relation to the universe of institutions investigated, so that actions to mitigate this information gap need to be increased and made more effective.

KEYWORDS
University library. Distance education. Information services. Information systems.

Ambiente virtual de integração entre a educação a distância e as bibliotecas universitárias das instituições participantes da Universidade Aberta do Brasil

RESUMO
Introdução: O desenvolvimento da Educação a Distância nas Instituições de Ensino Superior demanda uma série de adaptações para atender a esta modalidade educacional, que alcança
também as Bibliotecas Universitárias como unidades de apoio informacional ao ensino, à pesquisa e à extensão. A EAD torna-se público-alvo dessas unidades, requerendo produtos e serviços, sobretudo tecnológicos, para apoio ao processo ensino-aprendizagem. **Objetivo:** Identificar ações voltadas para a disponibilização de ambientes/plataformas de serviços para a EAD em bibliotecas de instituições integrantes da Universidade Aberta do Brasil. **Metodologia:** O estudo é de caráter descritivo e de abordagem quali-quantitativa. As instituições foram consultadas no Sistema SisUAB e a coleta dos dados foi realizada por meio da aplicação de questionário on-line com gestores de bibliotecas destas instituições. **Resultados:** Constata-se que das 76 instituições respondentes, em apenas três identificaram-se ações de integração por meio de ambiente/plataforma para a EAD, sendo que o atendimento a esse público está centrado, em sua maior parte, na disponibilização de bibliotecas virtuais e em bases de dados. Destaca-se a visão dos profissionais quanto à ausência de necessidade de atendimento diferenciado para o público a distância e presencial, com a máxima de que todos os serviços estão disponíveis a todos os públicos. **Conclusão:** As iniciativas são poucas frente ao universo das instituições investigadas, de forma a demandar um aumento e uma efetividade de ações para mitigar essa defasagem informacional.

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1 INTRODUCTION

Teachers, students, coordinators, tutors, and other members of Distance Learning (DL) are also part of the academic community of Higher Education Institutions (HEI). The Universidade Aberta do Brasil (UAB) has promoted the implementation, regulation, and expansion of official DL courses in Brazil, resulting in the growing and exponential development of courses and programs in this teaching modality.

In this context, the distance learning community is the direct target of the university libraries operating in these institutions, generating a demand for human and financial resources, structures, products, and services that are not always considered or effectively implemented in the university libraries.

In this context, the distance learning community is directly the target audience of the University Libraries operating in these HEIs, generating a demand for human and financial resources, structures, products, and services that are not always considered or implemented effectively in the University Libraries.

Research carried out in different periods shows that, despite progress in theoretical discussions about the products and services to be made available to the distance learning public, actions aimed at practical initiatives in University Libraries are still in their infancy (Costa, 2020; Freitas, 2018; Nascimento; Sá, 2016). In general, most university libraries understand that all products and services are intended for all types of users, without paying attention to the specificities of the distance learning audience, which has needs that require differentiation or specific actions. As a result, serving this audience often boils down to providing a virtual collection.

Offering the same products and services in the same way to all types of users will not always allow effective access for all of them, especially given the specificity that may exist between these users, as is the case with distance learning. The main characteristic and peculiarity of the distance learning public is geographical distance, as most students live in the interior of the States, far from the capitals where the higher education institutions are located. In addition, the teaching-learning process relies mainly on information and communication technologies.

However, the aim of this article is to identify actions aimed at providing service environments/platforms for DL in the libraries of UAB member institutions. In this article, service environments/platforms refer to virtual spaces for integration between DL students, teachers, and tutors and the university library to make better use of its products and services.

2 THE UNIVERSITY LIBRARY IN THE CONTEXT OF DL

Distance learning was established as an educational modality within the Public Institutions of Higher Education (IPES) with the establishment of the UAB program, based on Decree No. 5,800 of June 8, 2006.

The aim of the UAB system is to increase the number of DL courses and, above all, to internalize the offer of higher education, bringing the chance of education to places where it is not possible to establish universities, while at the same time allowing students to remain in their region or locality without having to migrate to large centers. As Mill (2011, p. 282) states,

Rather than proposing the creation of a new higher education institution, the UAB System seeks to link existing public institutions, making it possible to bring quality public higher education to citizens living in Brazilian municipalities that do not have higher education courses or whose courses do not adequately cater for all those interested in the region.
Also according to Decree 5.800 (Brazil, 2006), the UAB System prioritizes the initial and continuing training of basic education teachers through degree courses, training for basic education managers, seeking to reduce the inequality in the supply of higher education between regions, as well as promoting the institutional development of this type of teaching.

The concept underlying the UAB project is that of the Open University, which has several meanings in the term "open": a social sense, since an Open University is aimed at all social classes, allowing individuals to have the possibility of completing their education; a pedagogical sense, which seeks to guarantee access to "all" audiences interested in the content conveyed by information technologies, more specifically the World Wide Web (Mendonça et al., 2020, p. 165).

Institutions wishing to offer higher education courses in the distance learning modality must be accredited by the Ministry of Education (MEC) and join the UAB system, following certain requirements. In the same way as they offer face-to-face courses, institutions must have the physical and technological structure and adequate human resources to offer DL courses. The courses must also follow the National Curriculum Guidelines of the National Education Council (NEC) and submit to the National Higher Education Evaluation System (NHEES) to guarantee quality parameters and full student participation (Brasil, 2017a, 2017b).

In the context of higher education institutions, the formation of multidisciplinary teams is essential for the development of DL courses, according to the guidelines and indicators of the MEC's Instrument for the Evaluation of Undergraduate Courses on Campus and at a Distance. The multidisciplinary team should be composed of professionals from different fields of knowledge, who will be responsible for planning and organizing technologies, methodologies and educational resources for DL (Brasil, 2017c).

Silva, Diana and Spanhol (2020), when discussing the guidelines for the design of DL courses, present the elements and information necessary for the construction of the instructional project, highlighting that the process requires an interdisciplinary practice, recognizing the participation of a multidisciplinary team with experience and knowledge in offering courses in this modality for its effective organization. These teams can form centers or centers for distance learning, involving teachers, content designers, educational and graphic designers, proofreaders, information technology professionals, plagiarism analysts, managers, among other professionals.

Although Silva, Diana and Spanhol (2020) do not mention the librarian as a professional who should work in the multidisciplinary team, it is understood that this is also a field of activity for this information professional. This is because librarians have the competence and ability to oversee the production and dissemination of information resources that will support the teaching-learning process.

With the possibility of expanding distance learning courses through the UAB system, the supply and demand for courses within universities has increased. According to data from the latest DL Census (2020/2021) published by the Brazilian Association of DL (2022), 44.7% of responding institutions offer fully regulated DL courses. This significant uptake by higher education institutions means that Brazilian university libraries need to pay attention to the distance learning community, as it is a real and potential user of university library systems, as explained by Freitas (2018, p. 55):

In the context of distance learning, the university library has a role to play in meeting the information needs of this audience. Information units must support the methodology, developing services and resources so that distance learning teachers and students have the same conditions of access and use as libraries in face-to-face teaching.
The author reiterates that it is not enough to provide access to the collection through virtual libraries, remote access to databases, delivery of physical materials by mail, provision of libraries in hubs. It is also necessary for the librarian to offer services through email, social networks and other tools, strengthening reference services, such as guidance on how to use products and services.

In his dissertation, Freitas (2018) also presents international guidelines for the general operation and standards to be followed by university libraries in the context of DL, such as: i. Association of College and Research Libraries (ACRL) Guidelines; ii. Canadian Guidelines; iii. Indian guidelines; iv. and Kenyan guidelines. Among the guidelines contained in these documents, the following can be highlighted:

a) Provide resources and services for the development of academic skills;
b) Provide direct access to unit staff, even in remote locations;
c) Include distance learning in the library's strategic plan;
d) Have professionals available for library activities focused on DL;
e) Enable the librarian to participate in the planning of distance learning courses;
f) Encourage the specific development of the collection with distance learning in mind;
g) Provide the library with financial resources to serve the DL community;
h) have exclusive service channels for the DL community; and
i) provide tutorials and guides for the use of the library.

These guidelines are also consistent in the national context, as Nascimento and Sá, in an article published in 2016 on the provision of information services and products for DL students in universities, highlight proposals such as:

a) the planning of service policies and the inclusion of DL students as a target group for libraries;
b) A study of the DL community;
c) Include distance learners in library policies;
d) the development and adaptation of information services and products for this target group and the use of technological means of interaction;
e) synchronous reference services with the librarian;
f) promoting the library and its services and products directly to distance learners; and
  g) promotion of online educational and information services.

In 2020, based on his research, Costa points out the need for interaction between university libraries and DL users, and also establishes some guidelines for a management plan that includes actions for

a) Provide a support area or service for DL students;
b) Establish a DL resource center for DL students;
c) Provide contact channels with librarians;
d) Establishing a marketing plan for the library;
e) institutionalizing access policies for DL services; and
f) structuring training plans for DL staff and others.
It is also important that these tools, content, and services to support DL students, such as the development of library guides and manuals, are planned with accessibility issues for people with disabilities in mind.

This is an important direction for university libraries in relation to DL, especially in terms of providing services and tools that can bring this audience closer to the library, as well as stimulating and facilitating the use of information resources available in libraries.

3 METHODOLOGY

This study is descriptive in nature, as it presents the characteristics of the situation under study and establishes relationships between its variables. It uses a qualitative-quantitative approach, collecting information in a quantified form and subjectively analyzing the data collected, integrating the information to interpret the results (Creswell, 2010; Gil, 2002).

The institutions that participated in the research were identified in August 2023, using SisUAB, the information system of the Open University of Brazil, which aims to collect information about the institutions that are part of the UAB, such as courses, centers, the responsible team, among others. When consulting SisUAB, the search strategy was to include all Brazilian regions, federation units, academic organization and administrative dependency. A total of 146 SisUAB member institutions were retrieved, which formed part of the population of this research.

Data was collected by applying an online questionnaire, sent via e-mail to the managers of the Library Systems. In the absence of systems, the questionnaire was sent to the librarian responsible for the library of the institutions that are part of the UAB System. Data collection took place between September 12 and October 11, 2023, covering one month.

4 RESULTS AND DISCUSSION

Of the 146 institutions registered with SisUAB and included in the survey, responses were received from 76 (52%) federal and state universities and institutes. Some institutions, although accredited in the UAB system, did not fill in the questionnaire, stating that they had
not yet started to offer courses or that they still needed to meet the requirements required by the system.

Among the professional librarians in charge of libraries/library systems, the majority were women (73.7%), aged between 30 and 49 (77.6%). The professionals surveyed also had a high level of education, with the highest percentage having a Master's degree or Ph.D. (52.6%).

First, an attempt was made to observe the existing interaction between the university library and DL at the institutions. Of the respondents, 53 (69.7%) indicated that there was some kind of integration between the library and the DL sector for activities aimed at DL courses and students.

The next question asked which type of integration is most present in the library's activities related to DL. It should be noted that respondents could select more than one alternative in this question. Of the options listed in the questionnaire, the main activities indicated were aimed at providing information resources, which included the acquisition of collections, the provision of virtual libraries for these courses, and online support for DL. According to Nascimento and Sá (2016), the provision of online materials and services provided by email appears to be sufficient to meet the demand for DL, given the geographical distance from which these users are located. While this type of service manages to cover DL users more effectively, it is important to expand it to include the different types of products and services that can be provided by university libraries.

Graph 1. Main activities offered by libraries for Distance Learning

Graph 1 shows that the participation of librarians in multidisciplinary DL teams is still a little explored reality in higher education institutions, being mentioned in only 6 (11.3%) of the responses. The presence of this professional in DL is essential to promoting this integration and enabling all the other actions that support the teaching-learning process. As a member of the multidisciplinary team, the librarian can act as a tutor; assist in the preparation, standardization, and revision of educational resources for courses; provide guidance on copyright; and organize physical and virtual libraries, whose direct users are professionals such as the DL coordinator, the lecturer, the teacher trainer, the tutor, the instructional designer, and the DL students themselves, as shown in the research by Nobrega, Farias and Silva (2023).

In the "other" option, integration through access to virtual libraries was reiterated, and inter-campus lending of bibliographic materials was mentioned as an integration action to support DL.
We also investigated whether the coordinators, teachers, tutors, and students of the institution's DL courses require specific services from the university libraries. In this regard, 45 (59.2%) libraries/library systems answered "yes" and 31 (40.8%) answered "no". There is still a high percentage of institutions where there is no effective communication between those involved in DL and the library, indicating that the DL team still does not understand or recognize the university library as a sector that can facilitate the process of educating students in DL, as well as the work done by the other members of this team. This result may be reflected in the lack of publicity about the possibilities for the library and the librarian to work in the context of DL. It is important to consolidate the publicity of the library and create a two-way street through which the library, based on listening to the DL community, can adapt and plan the products and services to be made available to this audience. Furthermore, It is necessary that this collaboration between librarians, coordinators, teachers, and tutors is continuous to provide feedback on the library's products and services.

Among the 45 (59.2%) respondents who indicated that they are requested by the EaD team and students, one of the most recurrent services is "Accompaniment during the MEC visit to recognize courses" - 36 (76.6%) of the respondents (Figure 2). Although the centers have rooms with information resources, they are not libraries. Therefore, during the evaluation carried out by the MEC, the coordinators turn to the university library at the headquarters of the institution when the courses are implemented and recognized, since this is an element of the institution's structure that is used as an indicator during the evaluation. Often the contact with Distance Learning is only in the bureaucratic stages of the academic processes, or when students need some documentation from the library to complete the course, and there is no support relationship throughout the training process.

Matos Filha and Cianconi (2015) point out that in the documentation and evaluation processes of DL courses, the criteria involving the library are limited to the availability of bibliographies and physical space, leaving aside indicators that could help improve the integration between the library and DL. In the tool provided by SINAES, there is no indicator to evaluate the cooperation actions between the University Library and the Libraries of the Centers, as well as the resources and services provided to the DL team.

**Graph 2. Main demands of DL for libraries**

Among the most representative needs of DL course coordinators, "training on information search and retrieval strategies in databases for students and faculty" also stands out,
followed by "purchasing information resources such as books and journals. Training is an example of an activity for faculty and students that can be scheduled remotely to optimize the time of those involved. Although it is specific to students in terms of their geographic location, it is important for university libraries to provide access to physical collections because the information resources available at the centers do not always fully meet the needs of students and faculty. For example, institutions that are unable to provide a courier service for sending information resources can work with different loan periods for this audience.

Respondents were asked to indicate other actions required of libraries, and the following responses were received: "Access to ABNT technical standards, My Library, Institutional Repository", "Ebooks", "Guided face-to-face visits for students from neighboring centers", "Mandatory supervised internships", "Access to physical and virtual collections". Although the need for a guided face-to-face visit to the libraries was mentioned by only one respondent, it should be clarified that this is an important service for the integration of students into the university environment and for their sense of belonging to the institution.

The existence of libraries at the hubs is one of the requirements for the implementation of UAB courses, but as previously reported, many hubs do not have such an environment. We took the opportunity to ask about the integration between the university libraries and the libraries at the hubs. The results indicated that 53 (69.7%) of the institutions did not have any integration: 23 (30.3%) of the institutions indicated that there was integration, either with "acquisition/arrangement/registration of collections for the libraries at the hubs" or "providing training for staff at the hubs" (Graph 3).

In the option to indicate other collaborative activities, the following were mentioned: collection delivery, faculty and student training, and virtual collection delivery.

It should be made clear that in order to integrate and provide more efficient services to DL, university libraries need to have librarians on their staff who can dedicate themselves specifically to serving this audience and even make up the staff working directly with this teaching and learning format, which is not the case in most of the institutions surveyed.

Hiring a librarian dedicated to online and DL is one of the first guidelines outlined in the Association of College and Research Libraries (ACRL) document Standards for Distance and Online Learning Library Services. This document was revised in February 2023 in the staffing standard, which states: "The library shall maintain sufficient staff to meet the needs of
the distance and online learning community. Of the respondents to this survey, 58 (77.3%) institutions indicated that the library system does not have a librarian and/or a dedicated area to support DL courses. One response was invalid because the respondent did not select an option.

When the respondents were asked if the university library had an information access policy or policies specifically aimed at DL courses and students, 53 (69.7%) of them answered "no". The result revealed a scenario close to that found by Costa (2020), since in the institutions analyzed by the researcher, there was no sector or librarian, as well as no policies that addressed issues specific to DL. The study by Costa (2020) also revealed differences of opinion in the libraries whether these actions were necessary or not, since some respondents to Costa's (2020) survey considered these actions to be strategies for speeding up activities and making better use of the resources and services offered by the library, while others considered them unnecessary, since the service should be the same for both modalities - face-to-face and DL.

This understanding of the availability of a specific service for DL students is still identified in this way in the view of some professional librarians, as found in this research - "There is no such specificity"; "Distance learning students follow the same information access policies as face-to-face students"; "The user service policy for both face-to-face and DL courses is the same [...]".

This finding may be related to the situation in most university libraries, especially in smaller institutions with limited human and financial resources. In these institutions, a single professional librarian usually meets several demands at the same time, which makes it difficult to carry out specific actions for the DL public.

Distance learning is an educational modality that allows the teaching-learning process to take place regardless of the geographical location of the participants. Regarding the technological environment(s)/platform(s) designed to serve DL courses and students, 49 (64.5%) of the respondents said they did not have any and 27 (35.5%) said they had some kind of environment for DL.
Regarding how these environments are made available, 7 (21.2%) respondents marked two options each - "a module or part of the library's website or management system" and "an independent system with no connections or links to the virtual environment or the library's system". Among the respondents, the options "an independent system connected to the DL virtual environment or to the library's website or management system" and "a module or part of the virtual environment used in DL" were marked by 6 (18.2%) and 5 (15.2%) respondents, respectively. As a complement to the environment(s)/platform(s), when asked how they are accessed, it was found that users only access the vast majority regularly enrolled in DL courses, 26 (76.5%).

Regarding the 27 (35.5%) respondents who indicated that they have a technological environment(s) or platform(s) dedicated to the DL course(s), they were asked to provide the access link. Almost all the respondents referred to the website of the libraries/library systems themselves; the environments for consulting the catalog of the collection in the library management system; e-mail contact and the social networks of the libraries; digital platforms such as virtual libraries, journal portals, technical standards platforms, institutional repositories, and, above all, the institution's own virtual learning environment.

Although these environments can serve DL, they are not an exclusive environment for specifically serving this audience in terms of the information resources that will support the teaching-learning process or the integration between the library and DL, as investigated in this research. Based on the responses provided, three initiatives were identified that can be identified as environments for integrating the library and DL.

1. Universidade Federal da Bahia (UFBA) - Nucleon SIBI-EAD: consists of an environment created by the Library System within the institution's virtual learning environment and accessed by students regularly enrolled in DL courses. The environment is designed to present the library, its services, offer sources of information and training. Among the sub-environments are: regulations; guides; tutorials; general guidelines for the use of SIBI/UFBA libraries; interaction space (forums and chats); virtual reading club; information competence development space (training); thematic videos and tutorials; and research support space (information sources). It should be noted that the Center also has a physical space with two professionals working in the sector.
2. Federal Institute of Brasilia (IFB) - IFB Libraries Space: the environment consists of a library space within the institution's Virtual Learning Environment page. The aim of the environment is to make it easier for UAB students to access the products and services offered by the libraries, as well as enabling more efficient communication through forums with the library teams. In the environment, users can access virtual rooms relating to their specific campus and obtain information about the services available in the libraries, as well as general information about the Library System. To access the rooms, you need to log in to the institutional virtual environment.

Source: survey data (2023)
Some actions were also identified in the context of libraries aimed more specifically at DL, such as:

a) Student guide for DL courses at the Library of the Universidade Federal de Santa Catarina (BU/UFSC) - makes available in its services area a guide with instructions for DL students, tutors, and teachers for the use of the library’s physical and virtual resources;

b) Bookings platform of the Central Library of the State University of Santa Catarina (UDESC) - offers an environment for scheduling virtual, individualized services, aimed at face-to-face and DL users;

c) Integration of anti-plagiarism tools into the institution’s virtual learning environment, provided by the library of Universidade Estadual Paulista (Unesp).

The communication channel used in the absence of specific platforms for serving DL students is e-mail (93.4%), followed by the social networks Instagram (42.1%), WhatsApp (40.8%) and Facebook (27.6%), as well as chat, the "Talk to the librarian" feature, telephone and institutional systems.

Other University Libraries point out that there are no specific actions for Distance Learning audiences. According to those investigated, this is because these users already have all the services that are aimed at the face-to-face public, and there is no need for a differentiated service. Below are some respondents’ explanations.

"There are no specific services aimed at DL students. The digital resources available to other students are also available to DL students (e.g., BV Pearson, Portal de Periódicos Capes)."

"Service identical to face-to-face courses".

"All service channels are available to all users of the system".
"The resources for DL courses are shared with face-to-face courses, and there is no distinction between DL and face-to-face students."

"There is no specific system for DL, students use the platforms available to the entire academic community [...]".

"Our Library System has a wide range of virtual products and services for the whole community, and we don't distinguish between DL and face-to-face students."

It is clear that DL services are primarily focused on providing virtual collections, but it is essential that university libraries plan and include specific actions for DL in their policies and management documents. Offering products and services similar to those provided to on-campus students does not guarantee that the services will reach the DL audience effectively. Although these students have the same right to collect them in person at the institution's main campus or hub as face-to-face students, the service will not be used with the same frequency by DL students due to the geographical location of their homes in relation to the hub or the institution's main campus. In these cases, some specific actions will be necessary, such as sending printed information resources by mail to the respective centers.

Library professionals working in institutions that offer DL courses need to be aware of the fairness of the products and services to be made available to this audience. Adapting and/or providing special conditions that enable access to and effective use of products and services can promote greater library involvement and participation in the education of DL students. This is consistent with the principle of equitable access, whereby all distance and online learners at an institution are entitled to the services, resources, and collections of the institution's library, and is the basis for the Standards for Distance and Online Learning Library Services (Association of College and Research Libraries, 2023).

5 CONCLUSION

The DL community is large and has its specificities, which complicates it to provide library products and services to this audience - students, tutors, and teachers—as well as to the entire team that contributes to the success of this type of teaching-learning environment - the team of centers and DL centers. The results of the survey showed that, in the context of the university libraries surveyed, there has been little or no provision of service environments/platforms for the DL public to date, resulting in a misperception that DL students are being served by the products and services provided by the institution's libraries to the face-to-face public.

Of the 76 responding institutions, only three identified a more effective integration through environments/platforms that make available, in the virtual environment of Distance Learning, the websites of the Distance Learning Centers, the library, its products and its services. The lack of differentiated services for distance learners makes them invisible to university libraries. However, Distance Learning students are not always aware that they belong to the institution, nor that they have rights when it comes to using library products and services. To follow a solid path in serving these users, it is necessary to:

a) size up the DL community to be served;

b) assess the capacity of the Library/Library System to serve this audience and their specific needs;

c) plan actions, even initial ones, to serve these users;

d) sensitize institutional management to specific investments in libraries, thus making it possible to serve this audience.
It is concluded that the objective proposed for this study was achieved; however, it is suggested that further research be carried out to monitor possible changes or consolidation of actions in environments/service platforms for DL in libraries of institutions that are members of the Open University of Brazil.

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