Academic library services to support distance learning: what are we doing in post-COVID times?

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Abstract: During the pandemic situation brought about by COVID in 2020, higher education libraries promoted efforts to reach their readers in lockdown, demonstrating the adaptability of their services, products, and staff. The COVID-19 pandemic has driven social distancing around the world, closing universities, schools, and other services, and for that reason, the implementation of remote services has proved to be an adequate solution. Currently, after these intense alterations, it is essential to know what changes have remained in the provision of resources for distance learning. Did libraries take advantage of the lessons of COVID to transform and readapt themselves? This article analyses the support for distance learning higher education libraries in Portugal continue to provide, regardless of the teaching model offered by their institutions. To this end, a survey was carried out among Portuguese higher education librarians based on the *Standards for Distance Learning Library Services* (ACRL, 2016). This study seeks to obtain data on the availability of services to users, the contribution to academic excellence through equity, direct human access, distance training, the remote services' strategy, as well as the libraries' assessment in this context, and, finally, the online resources available. The results allow us to examine the strategic options of libraries in adapting their services to distance learning, revealing what sort of changes stood out in the recent period. An investigation like this is beneficial to understand and support the decision, not only in the selection of information resources to be purchased or allocated but also to define comprehensive strategies which, instead of looking for a drastic transition from a face-to-face model to an online one, should be complementary and maintain hybrid forms in the relationship with the libraries' users.

Keywords: Higher Education Librarians; Portugal; Distance learning; Remote services; online resources

1. Introduction

Distance learning is not a new method in higher education, with a long history of institutions of this nature operating all over the world (Yeung et al., 2019). However, it gained relevance by being taken as a model in its form, structure, and pedagogical methodology during the course of the pandemic for the so-called emergency remote teaching. Schools had to seek quick solutions within their physical and financial capacity to transform, even if temporarily, an in-person teaching environment into another total distance learning setting for all age groups. This format, imposed by unexpected pandemic circumstances, was the response adopted which allowed the integration of technologies, creating flexibility in the learning environment in a safe way in healthy terms, seeking to maintain stability in learning and ensure the best results, also at the university level. In this context, library services have developed solutions to facilitate learning support. Currently, how can we observe these transitions? Did they remain and prevail as valid services, even in the context of face-to-face learning?

The present investigation, which took place in October 2022, seeks to find out which devices and services higher education libraries in Portugal maintain to support distance learning. To this end, it uses the document *Standards for Distance Learning Library Services* (ACRL, 2016) as a source of inspiration for a survey design. Thus, the main objective is to observe the results obtained from this questionnaire survey, addressed to higher education librarians in Portugal, seeking to understand which transformations were preserved in learning support for distance students. A literature review is carried out to frame the research. We refer to the methodology used in this investigation and show the data obtained, and finally, we present and discuss the results and deliver the main conclusions.

2. Literature review

The COVID-19 pandemic had a significant impact on the education field. With the suspension of face-to-face classes, teachers were dismissed from education institutions to carry out academic activities at home and thus began to work in the emergency remote teaching method. Some authors explain how Emergency Remote Teaching (ERT) differs from Distance Education (DE) and e-learning in general (Barbour et al., 2020; Hodges et al., 2020). In this last method, the contents and pedagogical activities are well structured, and there is a support platform for learning management (learning management system), with pedagogical intentionality in the curricular design and the planning of synchronous and asynchronous sessions. In the first case, given the circumstances of emergency, there is no time for additional concerns with pedagogical methods or a real adaptation to technologies, essentially consisting of a temporary replacement, with the support of digital resources, for face-to-face learning.

Several international studies have sought to understand the impact of the pandemic on higher education systems and, associated with these, on their

academic libraries (Ashour, 2021; Marinoni et al., 2020; Zawacki-Richter, 2020). Furthermore, in the field of libraries, there was curiosity and numerous actions were taken around the world to see how these institutions were affected by the changes imposed. Investigation reveals the changes did not appear smoothly or without setbacks, severely affecting students in their physical access to the campus, international mobility, or forms of study, which stood significantly altered. There were also collateral impacts, as the circumstances of these changes affected the mental health of everyone involved (Sahu, 2020; Son et al., 2020). Recent research, with a significant sample of the academic community of the Arab world, reveals that many obstacles – pedagogical, technical, financial, and organizational – were imposed on teachers and students in fulfilling their objectives (Lassoued et al., 2020). It was also relevant that managing a greater workload as well as limited interaction with other students contributed to a negative impact on study habits (Aristeidou & Cross, 2021), although there has been significant adaptability in terms of assessment methods (Bisht et al., 2022).

The emergency changes also happened with librarians, who had to guarantee ways of working to support this at a remote regime, adopting new work practices and the provision of content, namely electronic ones. Several institutions and professional associations came together and organized initiatives to study COVID and its consequences, such as the misinformation fight, the new experiences shared, and all of this was made, in short, to provide instructions and preparedness in the face of the COVID-19 pandemic. Examples of these documents were compiled by Silvestre & Cunha (2022) and are presented in Table 1.

Table 1. Documents about libraries' COVID-19 preparedness*

Institution	Document
American Library Association (ALA)	*Pandemic Preparedness: Resources for Libraries* (ALA, 2020)
American Libraries (ALA official journal)	*How to Sanitize Collections in a Pandemic: conservators weigh in on the mysteries of materials handling during COVID-19* (Ewen, 2020)
International Federation of Library Associations and Institutions (IFLA)	*COVID-19 and the Global Library Field* (IFLA, 2020)
European Bureau of Library, Information and Documentation Associations (EBLIDA)	*Guidelines on access policies, personnel security, social distancing and sanitation of collections* (EBLIDA, 2020)
International Council of Museums	*Conservação, gestão e segurança de acervos: proteção de profissionais e atuação de instituições museológicas, arquivistas e bibliotecas em tempos de COVID 19*

	[Conservation, management and security of collections: protection of professionals and the action of museums, archivists and libraries in COVID 19 times] (International Council of Museums Brazil, 2020)
Associação Portuguesa de Bibliotecários, Arquivistas, Profissionais da Informação e Documentação (BAD)	*Tomada de posição: arquivos e bibliotecas durante a pandemia de COVID-19* [Taking a stand: archives and libraries during the COVID-19 pandemic] (BAD, 2020)
Canadian Federation of Library Associations (CFLA-FCAB)	*Fair Dealing Guidance for Canadian Libraries During the Time of COVID-19* (CFLA-FCAB, 2020)
Super library marketing	*Your Library is Reopening: How to Communicate New Rules to Your Staff and the Public During a Pandemic* (Hursh, 2020)
Confederation of Open Access Repositories (COAR)	*COAR recommendations for discovery of COVID-19 resources in repositories* (COAR, 2020)
REopening Archives, Libraries, and Museums (REALM) Research project from OCLC ALA	*Test 1: Natural attenuation as a decontamination approach for SARS-CoV-2 on five library materials* (OCLC ALA, 2020)
Library Journal JR	*Reopening Libraries: Designing for Health* (Rodgers, 2020)
Library Journal JR	*Reopening Libraries: Campus Concerns* (Dixon, 2020)
American Library Association (ALA)	*Guidelines for Reopening Libraries During the COVID-19 Pandemic* (CHMARA, 2020)
National Authorities on Public Libraries in Europe (NAPLE)	*Public Libraries in Europe and COVID-19: Re-opening Strategies Findings from NAPLE Members May-July 2020* ((NAPLE, 2020)

[*] *Adaptation of data presented by* Silvestre & Cunha (2022).

These recommendations, suggested by the various international institutions and authors, all coincide in the care taken to serve the user, the preservation of the collection, the reopening of libraries, and the dissemination of services through virtual platforms.

After the experience of emergency remote teaching and the decrease in COVID-19 cases in some regions, the education system gradually returned to face-to-face classes. This slow return to face-to-face classes was allowed following guidelines from the bodies responsible for health and education. As a result, new ways of working in education were gaining ground, and the hybrid or b-learning (blended learning) model became relevant, as it allows for a

combination of the best practices from face-to-face and online teaching. With the mixture of face-to-face and online classes, it became possible to teach and learn in different ways in multiple spaces. Nowadays, with the adaptation resulting from the experience, we are already witnessing the best practices from teachers and a progressive appropriation of digital media, which constitutes an enormous added value for the teaching and learning process. In fact, "the unexpected shift to e-learning became a unique opportunity for rethinking education and promoting innovation, through for example, the design of flexible teaching and learning programs, a skill-focused curriculum in which problem solving, critical thinking and reflection are prominent, and the use of effective and evidence-based pedagogical approaches" (Whitelock et al., 2021, p. 201).

On campus, as stated by Lassoued et al., (2020, p. 5), "the introduction of digital libraries and information systems helped the development of education from its collective form (within the classroom) to the individualization of education and has highlighted the importance of distance learning". Several studies have already been carried out on the adaptation of various libraries, mainly from the point of view of their users, both in terms of teaching about the accessibility of services (Owusu-Ansah & Bubuama, 2015), and in terms of literacy skills (Ramos Eclevia, 2022), as in assessing the needs of online students (Harlow, 2022), or even in information and knowledge access to digital libraries (Antunes et al., 2021), as well as concerning information on the use of printed or digital information (Melo et al., 2021). Likewise, the offer of online services by libraries and their acceptance by academic communities have been studied, particularly during the COVID-19 pandemic (Baker & Ellis, 2021). A comparative study between China and Italy was carried out to understand the measures taken by libraries during the pandemic crisis and, despite the positive experience in both countries, Chinese students proved to be better prepared to overcome the adverse effects of the pandemic due to their more favourable conditions and technologies (Zhou, 2022). Gibbs & Crago (2022) testify for the use of technologies to develop the virtual offer of information literacy and research support training in a range of different formats, including online tutorials using LibWizard, mixed-media webpages using LibGuides, YouTube videos, and running virtual workshop sessions using Zoom, concluding that challenging situations can lead to innovate in new and interesting ways.

In the studies addressed, the conclusions are consistent regarding the importance of creating services, training librarians, providing digital resources and collections, and funding libraries to create conditions that allow successful experiences for online students (Huwiler, 2015). There are even very pertinent indications from some universities which shape specific policies to support distance learning (City University London, 2016). Finally, the recent *Top trends in academic libraries* concerning COVID-related issues states (ACRL, 2022, p. 1):

> The impact of the COVID-19 pandemic on academic library services has been significant, and these changes, in many cases, are ongoing. (…) Libraries face a fundamental shift that will extend far into the future and beyond the pandemic. In early 2020, nearly all academic and

public libraries closed temporarily and shifted towards virtual services. Despite in-person closures, libraries continued online services, kept their communities informed, and adopted innovative collaborations and technologies to adapt to changing circumstances. These closures and the institutional changes that enabled them had a significant and diverse impact on librarianship, including rethinking long-held paradigms, increased professional stress around institutional budgets, and the ability to work remotely. The pandemic also surfaced long-standing issues of inequality and inaccessibility in libraries. Despite the challenges raised by closures, libraries continued to deliver core services and creative solutions, including virtual reference with increasing complexity, a renewed focus on digital literacy with the rise in online learning, and born-digital collection development.

Despite all the attention given to emergency remote teaching and the adaptation of libraries to this circumstance, no known research in Portugal questions librarians about the services available, and that prevail distance, to support higher education students' learning.

2. Objectives
The present work seeks to know the current reality of higher education libraries in Portugal regarding the offer of online services for distance learning, seeking the testimony of the librarians responsible for the area.

3. Methods
To this end, the data collection instrument was a questionnaire based on the document *Standards for Distance Learning Library Services* [https://www.ala.org/acrl/standards/guidelinesdistancelearning#provenance] (ACRL, 2016), with 8 closed questions concerning the libraries' services, and related to the availability of services to users; contribution to academic excellence throughout equity; the direct human access; distance training; remote services strategy; the libraries' assessment; available resources; and services provided. A final open question was added to allow contributions about what other strategies concerning distance learning are being held. This frame allows quantitative and qualitative analysis. The questionnaire was developed using the Google Forms tool and was distributed in the authors' social networks, on the pages of the libraries in which the authors work, and sent by email lists in university institutions, for one month. The following items, present in Table 2, are questioned:
- Availability of online services;
- Equitable access to face-to-face and online resources;
- Human resources with skills available to the community in distance learning;
- Accessible online training;
- Specific online activities;
- Online evaluation of services;
- Direct access to quality resources;

- Online library services; and
- Open question.
A Likert scale from 1 to 5 was used to obtain the answers, where 1 is equivalent to "Very little or not at all" and 5 "In a structured and consolidated manner".
Figures 1 to 7 show the survey questions corresponding to these items and the graphs with the data obtained.

Table 2. Identification of the questions*

Indicator	Description
1	Availability
2	Equity
3	Access
4	Instruction
5	Strategy
6	Assessment
7	Resources
8	Services
9	Others (open question)

* Authors' elaboration.

4. Results

The universe considered for this study was obtained with the support of the Directory of Higher Education Libraries (https://diretorio.bad.pt/?ait-dir-item-category=bes), managed by BAD – Associação Portuguesa de Bibliotecários, Arquivistas, Profissionais da Informação e Documentação. The messages were sent via email to 133 university and polytechnic libraries. The data was collected in the second quarter of 2022. The sample obtained consists of 27 responses, which corresponds to 20.3% of the universe considered. The respondents are library technicians, 11.1% men, and 88.9% women, distributed by the following age groups: 70.4% between 46 and 60 years, 18.5% over 60 years, and 11.1% between 36 and 45 years.

The distribution by scientific areas of the respondents is as follows: 48.1% social and human sciences; 22.1% other areas; 14.8% health sciences and 14.8% science and technology. The responses obtained are 88.9% from university education and 11.1% from polytechnic education.

The distribution of the size of the respondents' institutions is as follows: 40.7% more than 5001 persons; 33.3% between 2001 and 5000 persons; 11.1% between 1001 and 2000 persons; and 11.1% between 2001 and 1000 persons.

Regarding the results, we chose to follow the structure of the document which guided all the questions, elucidating, in each topic, the subject under consideration.

In this research, the tool used for data collection was a survey consisting of nine questions related to the support the library offers to the academic community working in distance education.

4.1. Availability for All Users

The library has the primary responsibility for making its resources, services, and personnel available to its users regardless of their physical location. Therefore, the library identifies, develops, coordinates, implements, and assesses these resources and services. The library's programs must be designed to meet not only standard informational and skills development needs but also the unique needs of the distance learning community. The requirements and desired outcomes of academic programs should guide the library's responses to defined needs. Innovative approaches to the design and evaluation of special procedures or systems to meet these needs, both current and anticipated, are encouraged (ACRL, 2016).

Concerning this topic, the first question was: Does your library identify, develop, coordinate, and implement online services, guaranteeing personnel and technological means to support distance learning students? Figure 1 shows the results of the availability of online services.
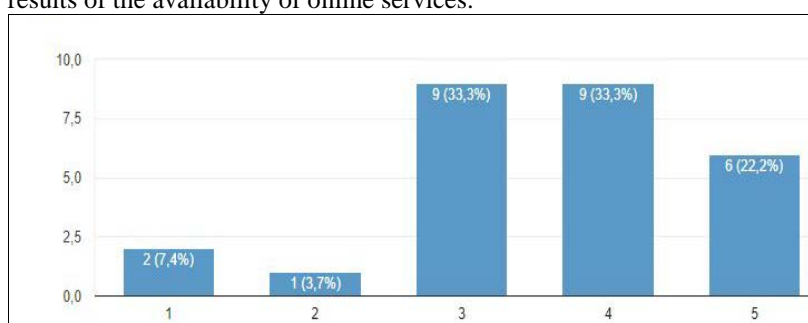

Figure 1. - Results of the availability of online resources and services

As can be seen, the majority of respondents continue to provide online services to support students who are not present in library spaces, with almost 90% indicating they make these services available on a regular and even structured and consolidated basis. Analysis of the data collected shows 88% of libraries develop and implement online services and have resources and staff available to support distance learning students. The distribution of availability is as follows: 9 have sufficient resources; 9 have good resources; and 6 have excellent resources.

4.2. Academic Excellence through equity

Access to appropriate library services and resources is essential for the attainment of superior academic skills in post-secondary education, regardless of where students, faculty, staff, and programs are located. Members of the distance learning community, including those with disabilities, must therefore be provided effective and appropriate library services and resources, which may

differ from, but must be equivalent to, those provided for students and faculty in physical campus settings (ACRL, 2016).

The second question tried to observe how equity was guaranteed: Does your library have its resources - in person and online - in an inclusive, effective, and appropriate way for members of the academic community?
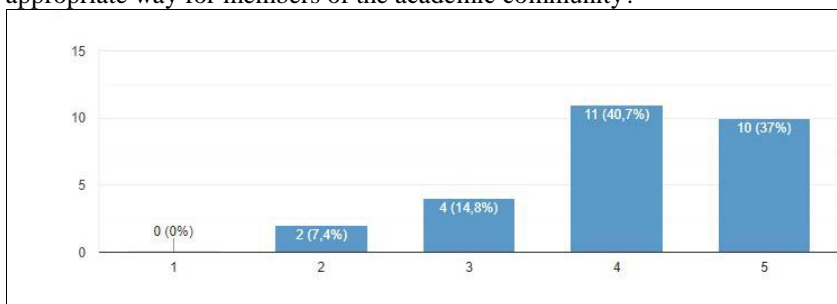

Figure 2 – Results concerning academic equity

Figure 2 shows the data regarding the equity of access to online and face-to-face resources. The data obtained shows that 92.5% consider there is equality of access, with 40.7% classified as good access and 37% as excellent access. The libraries which responded state they ensure this equitable accessibility at fairly high levels, with almost all responses being within the positive and very positive values on the scale.

4.3. Direct Human Access

Library personnel must be made directly available to the distance learning community through instruction, interaction, and intervention in the provision of library services and in facilitating the successful use of library resources, particularly electronic resources requiring computer and digital literacy, and information literacy skills (ACRL, 2016).

Here the question was: Is library staff available to the distance learning community i.e., to provide online training services and facilitate the use of electronic resources in distance learning? As can be seen in Figure 3, the perception of respondents regarding online access to training (or at least to online clarifications) is extremely positive, since practically 60% of respondents affirm that it is done in a structured and consolidated manner. About 92.6% of the respondents reported access to online services has staff available and facilitates training and support for the use of electronic resources with favourable (33.3%) and notable (59.3%) conditions. This question is important because it is through the availability of training users can be trained to use most of the library's resources. When it comes to electronic resources (be it the catalogue, databases, discovery system, or institutional repository), students must have the necessary skills to search autonomously to extract the best results for their research or academic work.
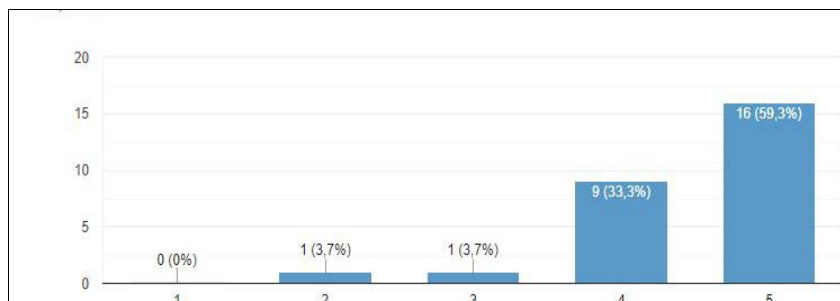
Figure 3. - Results regarding human resources with skills to provide access to training and facilitate the use of e-resources

4.4. Instruction

The library must provide information and digital literacy instruction programs to the distance learning community following the ACRL standards and other ACRL documents relating to information literacy. The attainment of lifelong learning skills through general bibliographic and information/computer/digital literacy instruction in academic libraries is a primary outcome of higher education, and as such, must be provided to all students. (ACRL, 2016)

Concerning the instruction programs provided by libraries, it was asked:

Does the library offer an online training program, following international standards, for teaching Information Literacy?
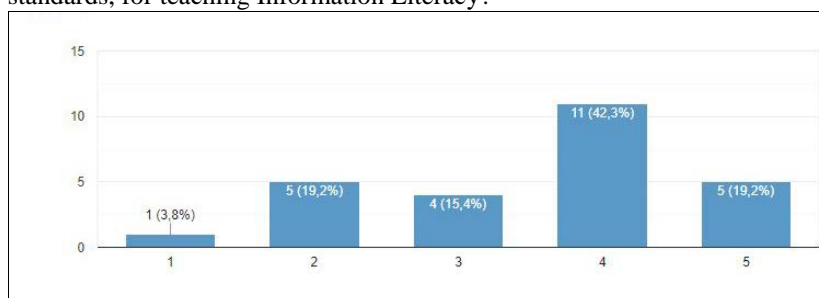

Figure 4. - Data on the quality standards of library training

When asked about the quality standards of online training (see Figure 4), respondents admitted there are international standards for teaching Information Literacy with the following levels: 15.4% sufficient; 42.3% good and 19.2% excellent. As can be seen, in this more specific type of activity, there is already some discrepancy in the answers, although the trend remains positive, with more than 60% of respondents positively assuring the teaching of these skills online consistently.

4.5. Strategic Planning

The library must maintain a current strategic plan and vision for serving distance learners, which ideally should be integrated into the overall library

strategic plan. Strategic planning should be an iterative process that includes evaluation, updating, and refinement. The library must likewise include distance learning library services in its mission statement and goals, which serve as a framework for all its activities. Further, the mission and goals should be compatible and consistent with those developed by the originating institution (ACRL, 2016).

Concerning strategic planning, the question was: Does the library include in its options and/or strategic documents a vision, mission, or objectives that include distance learners, and offering specific online activities?
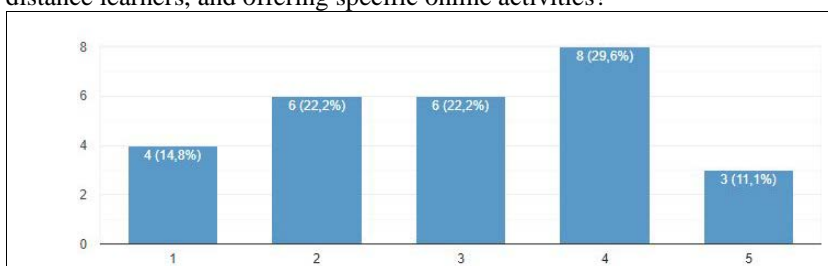

Figure 5. - Strategy data for online activities

Looking at the data in Figure 5, we can say, although a significant part states they do, this response shows about 35% of the respondents do not have a strategic vision in their guiding documents, either in terms of policies or administration. Thus, online activities, although they may exist, run the risk of being poorly consolidated or out of context depending on the appropriate circumstance and not as part of a plan with that goal in mind.

4.6. Needs and Outcomes' Assessments

The distance learning community must always be represented in the planning and assessment activities of the library. These include but are not limited to surveys, e.g., LibQual; focus groups; discussion forums and other formal and informal feedback mechanisms; usability studies; collection reviews; and instructional planning. The library must make needs and outcomes assessments a major component of distance learning library services. Needs assessments to measure how adequately these services are being provided within the context of current ongoing teaching and learning activities (ACRL, 2016).

To address this topic, the questionnaire included the following question:

Does the library promote ways of evaluating services which include online contributions or contributions from students who do not go to the library in person? In Figure 6 about 30% said no, another 30% said yes, although irregularly, and finally, another 30% stated they already have this evaluation practice structured and consolidated.
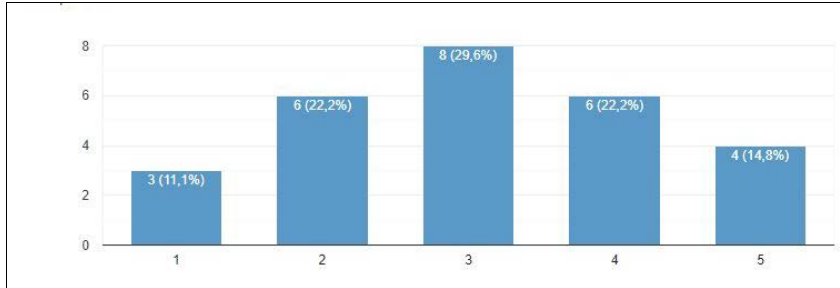
Figure 6. - Data on online strategies for service evaluation

4.7. Resources

The originating institution is responsible for ensuring that the distance learning community has access to library materials equivalent to those provided in on-campus settings. Thus, the institution must provide or secure convenient, direct access to library materials in appropriate formats that are of sufficient quality, depth, number, scope, and currency to:

- *meet all students' needs in fulfilling course assignments;*
- *enrich the academic programs;*
- *meet teaching and research needs;*
- *support curricular needs;*
- *facilitate the acquisition of lifelong learning skills;*
- *accommodate students with varying levels of technological access (i.e. low bandwidth);*
- *accommodate other informational needs of the distance learning community as appropriate.* (ACRL, 2016)

Finally, and in a very short way, the question about the online resources provided was: Does the library guarantee direct access to online resources of sufficient quality, depth, breadth, and timeliness?
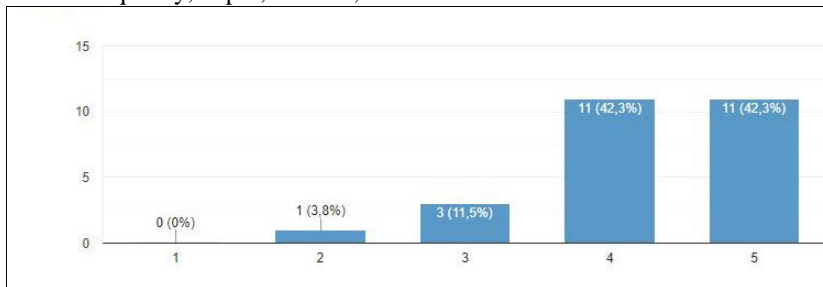

Figure 7. - Data on access to online resources

Looking at the data in Figure 7, access to quality specialized information resources appears to be the strength of higher education libraries. The responses to this question confirm academic library staff report being able to make a consistent, regular, and consolidated online offering - these are, of course, the resources subscribed to or acquired by higher education libraries which ensure

state-of-the-art access to scientific information. As can be seen in Figure 7, only one library does not have or does not offer these resources with sufficient quality, depth, breadth, and timeliness for its users.

4.8. Services

Library services offered to the distance learning community must be designed to meet a wide range of informational, instructional, and user needs, and should provide some form of direct user access to library personnel. The exact combination of service delivery methods will differ from institution to institution. (ACRL, 2016)

Although not necessarily exhaustive, a question was posed concerning a set of identified services, asking which ones the library provided.

This question refers to the various services offered by academic libraries online. It can be observed that "Availability of open access publications" (96.3%), "Accessible online training (use of catalogue, databases)" (96.3%), as well as "EIB and digital reproduction services in compliance with copyright laws" (92.6%) are the services of digital nature with the highest prevalence in the responding higher education libraries.

On the other hand, "Training in digital skills to support distance learning (e.g. use of Zoom)" (59.3%), "Promotion, dissemination and marketing of distance services" (63%), as well as the availability of "Scanning machines for user use" (63%) appear with the lowest scores. However, the significant percentage of libraries offering these services is surprising.

The data reveals practically all the services mentioned prior reach very significant values, confirming the virtualization of the generality of the services provided.

4.9. Other

To allow for more data not foreseen in the previous questions to be included, it was decided to add an open question, of a comprehensive nature, as follows:

What other actions or strategies does your library develop to promote distance learning?

The last question is an open question, "What other actions or strategies have been developed by your library to promote distance learning?"

The answers were as follows:

- Collaboration with lecturers for dissemination of services in classes.
- FAQs on video, but with some limitations because we lack some skills to produce these videos with higher quality.
- Thematic guides, regular bulletins.
- The Library, in collaboration with the Faculty's Pedagogical Council, is developing a repository of pedagogical materials to support independent study/learning.
- Chat for the online community.
- Repository.

In these answers there is some concern with establishing partnerships (collaboration with teaching staff and management structures), as well as with communication with users in real-time (chat) and more dynamic (video). These innovation trends are accompanied by more traditional or regular dissemination strategies, both within the services provided and the digital content made available (guides and bulletins, repository).

5. Discussion

To adhere to a change like this, which encourages librarians to continue offering online services, it is not enough to be pushed towards it. It must be incorporated into the structure, planning, services, and resources available. We know that the *Standards for Distance Learning Library Services* (ACRL, 2016), on which we were inspired for this study, advocate a culture of collaboration in the institutional defence of distance learning support. However, as previous studies tell us, such intentions are not simple to achieve, as there are still barriers and resistance to strategically guiding these changes (Breitkopf, 2018). Furthermore, there is another important feature to the success of library services to the university's distance education population - the need to be persistent with marketing efforts (Bonella et al., 2016). Considering the thousands of journals available online and the improvements made to ILL services concerning electronic document delivery and physical mailing of ILL material, remote users have most library resources at their disposal. In addition, chat and e-mail reference services, e-books, and other electronic resources are available at many libraries and are just a modest start to making the library fully accessible to the entire academic community it serves. Systems such as e-bookings give remote users the same tools available to their peers on the main campus. Technological advances have contributed to the creation of a true online library environment accessible from anywhere, as they minimize the gap between remote users and those on the main campus. All this facilitates the remote users' learning and research efforts (Tremblay & Wang, 2008). Nevertheless, difficulties can still persist. The findings of another research (Alqahtani & Rajkhan, 2020) indicated students must understand their role during the peak of the implementation of the social distancing measures, build their attitude and commitment, and find ways to self-motivate to gain successful learning outcomes. That is, although providing technologies, computers, and training support to students positively impacted the students' use of online resources, student characteristics played a large role in online educational systems implemented during COVID-19 times. Therefore, a mix of factors influences the success of distance learning, and the collaboration and support of libraries are only part of that success.

The respondents of the carried out survey are employees of higher education libraries, mostly women between 46 and 60 years of age. They were asked about the distance services they provide in their institutions. Around 88.9% stated that they make these services available in a regular, structured, and consolidated manner. Concerning the equality of in-person and online resources, 92.5% stated they are similar. As for human resources with the competence to support access to training and support the use of available electronic resources, around

96.3% reveal that there is a facility to respond positively to the needs of these services. This item is very important because it allows providing skilled users with easy access to available resources (catalogues, databases, and institutional repositories). The next question refers to the international training standards for teaching Information Literacy. 76.9% believe that they are ensured, at the level of sufficient, good, and excellent, the teaching of skills in distance learning online. Regarding the existence of pre-defined strategies in the vision, mission, and objectives of the library, about 62.9% of the respondents answered "yes" and 37% answered "no". Nowadays, it is essential to consider that online services are an integral part of the educational process in higher education institutions. When questioned about the assessment strategies of online services offered by libraries, around 33.3% do not have this procedure, while 66.6% admit carrying out this assessment. Currently, academic libraries have quality and comprehensive online information resources and this seems to be a very positive feature in these organizations, as 96% responded favourably to this question.

The last closed question in this study revealed that, in general, higher education libraries provide open-access publications (96.3%); accessible online training (use of the catalogue, databases, and institutional repositories) (96.3%); interlibrary loan services and digital reproduction in compliance with copyright laws (92.6%); training in digital skills to support distance learning (example, use of Zoom) (59.3%); promotion, dissemination, and marketing of distance services (63%); and scanning machines for use by users (63%).

Finally, in the open question, librarians pay attention to the establishment of partnerships with professors and researchers, communication with users through chat, and dissemination of information through videos.

It is evident Portuguese academic libraries have changed and developed towards the path of proactivity, as Buchanan (2000) states "(...) with the growing number of distance learners, the library should evolve into a proactive entity reaching out to students instead of a passive entity, awaiting visitors".

6. Conclusions

In 2020, the pandemic context originated by COVID-19 brought about acceleration in the use, by higher education students and teachers, of distance learning and access to the use of scientific information resources, via the Internet, to support the teaching and learning process. Institutions had to adapt to the new demands as quickly as possible. In academic libraries, a rapid change was noticed and solutions to the difficulties which arose during those times emerged.

So, what remained from this rapid change? In this study, we have investigated what is happening in Portuguese academic libraries. It is fair to mention higher education libraries have modernized rapidly and their staff has adapted to the impositions of the virtual component of distance learning. Technology, computerization of services, information, and staff are available for high-quality teaching. Whether all this contributes to the success of its users is a useful study that should be undertaken in the future to determine strategies to improve the

services provided. Today the academic library is hybrid, face-to-face and virtual, and users should take advantage of all the services available.

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References

ACRL. (2016). *Standards for Distance Learning Library Services*. Association of College and Research Libraries. https://www.ala.org/acrl/standards/guidelinesdistancelearning

ACRL. (2022). Top trends in academic libraries. *College & Research Libraries News*, *83*(6), 1–10. http://ezproxy.library.nyu.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=96403818&site=ehost-live%5Cnhttp://ezproxy.library.nyu.edu:2152/ContentServer.asp?T=P&P=AN&K=96403818&S=R&D=eue&EbscoContent=dGJyMNHr7ESeprY4y9f3OLC

Alqahtani, A. Y., & Rajkhan, A. A. (2020a). E-Learning Critical Success Factors during the COVID-19 Pandemic: A Comprehensive Analysis of E-Learning Managerial Perspectives. *MDPI Education Sciences*, *10*(216), 1–16. https://doi.org/10.3390/educsci10090216

Alqahtani, A. Y., & Rajkhan, A. A. (2020b). E-Learning Critical Success Factors during the COVID-19 Pandemic: A Comprehensive Analysis of E-Learning Managerial Perspectives. *MDPI Education Sciences*, *10*(216), 1–16. https://doi.org/10.3390/educsci10090216

Antunes, M. L., Lopes, C., & Sanches, T. (2021). Assessment of student satisfaction with libraries' resources in the COVID-19 era: a case study in Portuguese academic libraries. In D. Baker & L. Ellis (Eds.), *Libraries, digital information and COVID: practical applications and approaches to challenge and change* (pp. 119–133). Elsevier.

Aristeidou, M., & Cross, S. (2021). Disrupted distance learning: the impact of COVID-19 on study habits of distance learning university students. *Open Learning*, *36*(3), 263–282. https://doi.org/10.1080/02680513.2021.1973400

Ashour, S. (2021). *How COVID-19 is reshaping the role and modes of higher education whilst moving towards a knowledge society: the case of the UAE*. https://doi.org/10.1080/02680513.2021.1930526

Baker, D., & Ellis, L. (2021). *Libraries, Digital Information and COVID-19: practical applications and approaches to challenge and change*. Chandos Publishing, Elsevier.

Barbour, M. K., LaBonte, R., Hodges, C., & Moore, S. (2020). Understanding pandemic pedagogy: differences between emergency remote, remote, and online teaching. *State of the Nation: K-12 e-Learning in Canada*, *December*, 1–24.

Bisht, R. K., Jasola, S., & Bisht, I. P. (2022). Acceptability and challenges of online higher education in the era of COVID-19: a study of students' perspective. *Asian Education and Development Studies*, *11*(2), 401–414. https://doi.org/10.1108/AEDS-05-2020-0119/FULL/PDF

Bonella, L., Pitts, J., & Coleman, J. (2016). How Do We Market to Distance Populations, and Does It Work?: Results From a Longitudinal Study and a Survey of the Profession.

Journal of Library Administration, *57*(1), 69–86. https://doi.org/10.1080/01930826.2016.1202720

Breitkopf, M. (2018). But This Is How We Have Always Done It: Overcoming Resistance to Change in the Quest to Support Distance Learners. *Journal of Library & Information Services in Distance Learning*, *12*, 3–4. https://doi.org/10.1080/1533290X.2018.1498627

Buchanan, E. (2000). Going the Extra Mile: Serving Distance Education Students. *Online Journal of Distance Learning Administration*, 3(1), 1-8. http://www.westga.edu/~distance/buchanan31.html.

Cavalcanti, L. M. R., & Guerra, M. das G. G. V. (2022). The challenges of the public university in the COVID-19 post-pandemic: The Brazilian case. *Ensaio*, *30*(114), 73–93. https://doi.org/10.1590/S0104-40362021002903113

Chiappe, A., & Wills, A. E. (2022). Crowd-based Open Online Education as an alternative to the COVID-19 educational crisis. *Ensaio*, *30*(114), 32–51. https://doi.org/10.1590/S0104-403620210002903341

City University London. (2016). *Library Services : Distance Learning Support Policy*. City London University.

Flores, M. A., Barros, A., Simão, A. M. V., Pereira, D., Flores, P., Fernandes, E., Costa, L., & Ferreira, P. C. (2022). Portuguese higher education students' adaptation to online teaching and learning in times of the COVID-19 pandemic: personal and contextual factors. *Higher Education*, *83*(6), 1389–1408. https://doi.org/10.1007/s10734-021-00748-x

Gibbs, K., & Crago, H. (2022). *Innovative teaching in a new normal : creating new ways to deliver virtual information literacy and research support training*. *13*(1), 20–27.

Harlow, S. (2022). Assessing Demographics and Needs of Online Students before and during the COVID-19 Pandemic: Lessons from Academic Libraries. *Journal of Library and Information Services in Distance Learning*, *16*(1), 20–37. https://doi.org/10.1080/1533290X.2022.2056279

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). *The Difference Between Emergency Remote Teaching and Online Learning*. Educause Review. https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

Huwiler, A. G. (2015). Library Services for Distance Students: Opportunities and Challenges. *Journal of Library and Information Services in Distance Learning*, *9*(4), 275–288. https://doi.org/10.1080/1533290X.2015.1111283

Lassoued, Z., Alhendawi, M., & Bashitialshaaer, R. (2020). An Exploratory Study of the Obstacles for Achieving Quality in Distance Learning during the COVID-19 Pandemic. *MDPI Education Sciences*, *10*(232), 1–13. https://doi.org/10.3390/educsci10090232

Marinoni, G., Van't Land, H., & Jensen, T. (2020). *The impact of COVID-19 on higher Education around the world: IAU Global Survey Report*. International Association of Universities.

Melo, L. B., Sanches, T., Sá, I., Cruz, C., & Novo, A. (2021). Behavioral Trends in the Use of Printed Book or E-book: A Case Study in Portuguese University Libraries. *Qualitative and Quantitative Methods in Libraries*, *10(1)*, 83–97.

Owusu-Ansah, S., & Bubuama, C. K. A. (2015). Accessing academic library services by distance learners. *Library Philosophy and Practice*, *2015*(1).

Ramos Eclevia, M. (2022). Librarians' Competencies in Teaching Information Literacy in the Online Environment. *Journal of Library and Information Services in Distance Learning*, *16*(1), 2–19. https://doi.org/10.1080/1533290X.2022.2072046

Sahu, P. (2020). Closure of Universities Due to Coronavirus Disease 2019 (COVID-19): Impact on Education and Mental Health of Students and Academic Staff. *Cureus*, *12*(4). https://doi.org/10.7759/CUREUS.7541

Silvestre, F. de M., & Cunha, M. B. da. (2022). Desafios enfrentados pelas bibliotecas universitárias no contexto da pandemia da COVID-19. *RDBCI: Revista Digital de Biblioteconomia e Ciência Da Informação*, *20*, e022009. https://doi.org/10.20396/rdbci.v20i00.8668168

Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on College Students' Mental Health in the United States: Interview Survey Study. *J Med Internet Res 2020;22(9):E21279 Https://Www.Jmir.Org/2020/9/E21279*, *22*(9), e21279. https://doi.org/10.2196/21279

Tremblay, P., & Wang, Z. (2008). We Care-Virtually and in Person: A User-Centered Approach to Assessment, Implementation and Promotion of Library Resources and Services to a Remote Graduate Campus. *Public Services Quarterly*, *4*(3), 207–232. https://doi.org/10.1080/15228950802100545

Whitelock, D., Herodotou, C., Cross, S., & Scanlon, E. (2021). *Open voices on COVID-19: COVID challenges and opportunities driving the research agenda*. https://doi.org/10.1080/02680513.2021.1985445

Yeung, C. L., Zhou, L., & Armatas, C. (2019). An Overview of Benchmarks Regarding Quality Assurance for eLearning in Higher Education. *2019 IEEE Conference on E-Learning, e-Management and e-Services, IC3e 2019*, 40–45. https://doi.org/10.1109/IC3e47558.2019.8971808

Zawacki-Richter, O. (2020). *The current state and impact of COVID-19 on digital higher education in Germany*. https://doi.org/10.1002/hbe2.238

Zhou, J. (2022). The role of libraries in distance learning during COVID-19. *Information Development*, *38*(2), 227–238. https://doi.org/10.1177/02666669211001502