ACADEMIC LIBRARIES IN THE DIGITAL TRANSFORMATION: THE CASE OF THE LIBRARY OF THE FACULTY OF ECONOMICS OF PORTO

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Abstract

In a world in which the digital transformation is asserting itself with increasing impact, higher education (HE) and academic libraries (AL) do not escape this reality and have been playing an important role in supporting teaching and learning, contributing, through different means, for the training of students.

This work aims to show how a university library - that of the Faculty of Economics of the University of Porto (FEP) - meets the needs of students, namely in terms of information literacy (IL) and digital literacy (DL), using for this the new technologies which enable the referred digital transformation and new ways of teaching and learning.

Due to the current importance of the librarian's role as a trainer, the authors - the trainee of the degree in Documentation and Information Sciences and Technologies (LCTDI) of the Higher Institute of Accounting and Administration of Porto (ISCAP), the FEP librarian and the internship advisor - designed a set of training sessions for IL within the scope of the curricular internship of said course in the academic year 2019-20.

This project had as main objectives: (1) to provide distance learning; (2) to reduce the on-site training provided by the library; (3) to allow any member of the FEP community to have access to information that is relevant to them, whenever and wherever they want; (4) to offer training to the entire educational community, including Erasmus students, with the production of materials in Portuguese and English.

The methodology adopted consisted of a review of the literature on the subject and a practical part carried out in the library involving the production of videos based on the observation of training sessions. From a theoretical point of view, the themes of IL and DL in AL are addressed, the role of the librarian in the development of such skills in students, the exploration of new digital tools used for training, more specifically, the production of tutorial videos, as well as distance learning.

In the practical component of this project, eight video tutorials were produced on the search and location of information using the online catalog, the subject of one of the training activities given by the FEP library, and which addresses the most basic resources of the library, which is an essential resource for students.

In conclusion, the creation of support materials that will soon be made available on the institution's website will surely contribute to the development of IL skills of a greater number of students. In addition, the new format of these contents will serve as a complement and / or substitute for face-to- face training sessions, responding to a problem detected by the institution itself - that the training for IL is not sufficient nor the most diversified among the academic community. Finally, the sharing and availability of information designed with a specific target audience in mind and disseminated through the right communication channels, is crucial for a profitable use, leading to the consequent satisfaction of users.

Keywords: Academic library, information literacy, digital literacy, digital transformation, higher education.

INTRODUCTION

The mission of an academic library (AL) is to create and make available all the resources and

services necessary for the teaching and learning activities of the students and also for the research activities of the institution in which it is inserted. To achieve this goal, it is necessary to be constantly attentive to the needs of its community and the updating of its collections, seeking to find the appropriate means, tools and services.

This article intends to demonstrate the effort of the library of the Faculty of Economics of the University of Porto (FEP) in keeping up with the evolution of times and consequently with the new teaching and learning methods of the students, relying upon the digital transformation.

To achieve this purpose, the library has decided to produce and release video tutorials that would serve as a complement or substitute for its face-to-face training sessions and that would answer the students' needs for information and digital literacy.

This project originated as part of a curricular internship (in the year 2020), where among other more technical tasks - such as cataloguing and reference service - emphasis was placed on the training side of the library, seeking to solve an old problem - the absence or deficiencies in the students' informational and digital literacy - using new technologies, more specifically, through video tutorials.

METHODOLOGY

The methodology used consisted in the literature review on the importance of AL in supporting and encouraging the Information Literacy (IL) and Digital Literacy (DL) of students, the role of the librarian as a trainer, as well as addressing the concept of digital learning. These themes are explored because they are related to the practical case of the FEP library (where the curricular internship took place).

After the theoretical part, the conception and implementation of the training support material was developed, with the aim of reinforcing distance learning. This project resulted in the creation of eight video tutorials regarding the Online Public Access Catalog (OPAC). In order to include the whole FEP academic community, two versions were made for each video, one in Portuguese and one in English, with Erasmus students in mind.

Higher Education Library

Given that the context in which this project is developed is an AL, it is important to reinforce the idea that, along with the digital transformation, libraries are adapting and not concentrating on being just physical spaces where readers can be and study. More important than the logistical requirements, their fundamental mission is to offer resources and services to the community where they are integrated.

In line with the development of autonomy skills of the 21st century individuals, one of the key roles to be played by libraries is the training action, focusing on the informational needs of their users.

A priority area of training that libraries should undertake is to educate and help those who attend them (and also those who do not) to develop IL and DL skills. According to Koontz & Gubbin (2010), when libraries provide, for example, training sessions that encourage and develop such skills in students, they will be able to make the most of all the resources and services that the library offers.

This service must be accessible to users not only in person but also in distance learning format, since "The provision of services using information and communications technology (ICT) also presents exciting opportunities to take library and information services direct to the home and the workplace" (Koontz & Gubbin, 2010, p.14).

The idea that libraries need to be willing to assist their users in developing IL skills and to provide services and support materials for this purpose is also mentioned by Dhanavandan &

Tamizhchelvan (2014, p.64), when they stated that "Librarians do provide services to the scholars on virtual research environment and digital repositories. Online tutorials must be developed for user-friendly interfaces to the local digital collections". This suggests once again that technology plays a prominent role.

This aspect of the library as an active player in user training is carried out in practice through the librarian, who, in addition to the technical skills traditionally required of him - related to documental treatment - takes on the role of trainer. There is therefore a special focus nowadays on instruction, which has become one of the essential skills of the information professional, reflected, for example, in the assisting of students (Wheeler & McKinney, 2015).

The current role of the librarian is changing and he is increasingly being required to have skills, not only technical but also technological and relational, as stated by Koontz & Gubbin (2010, p.83-84) "Staff skills traditionally related to the practices and procedures of the organization, but now and more often relate to technology, customer service and interpersonal skills".

Information literacy in higher education

IL is a fundamental requirement in today's society where the most important thing is the information and the knowledge it generates.

The CILIP information literacy group (2018) defined it as a set of skills and competences necessary to work with any form of information - whether verbal, digital, printed or any other - that not only enables one to search and retrieve information, but also to be critical and ethical about the information retrieved and used.

Therefore, IL is considered an essential component in 21st century education (Coelho, 2010; Kovalik, Jensen, Schloman & Tipton, 2011) and it should be taught in formal education spaces, in a systematic and motivating way.

Jane Secker (2016) summarizes the importance of the IL and librarians in a short video made for a CILIP information literacy group discussion, in which she says that "It [IL] helps ensure the people we encounter, whether they are young or old, in formal education or not, can be self-sufficient. Librarians don´t just give access to information. They help people find, evaluate, manage and use information in a way that's ethical, so that people can achieve their personal and professional goals".

Coelho (2010, p.354) agrees with this idea by defining IL as, "... the ability to determine when and why information is needed, where to search for it and how to evaluate it, use it and communicate it ethically". This includes the traditional aspect of literacy in conjunction with another aspect derived from technological advances.

However, some argue that information technology is only one of the many components included in the broader concept of IL. And that although IL tends to involve the use of technologies, it is not dependent on them. There is a whole other part underlying the IL, such as critical judgment. This is not to deny that, as a rule, individuals with IL develop technological skills alongside them (ACRL, 2000).

What is certain is that, with the massive flow of information from numerous sources, there is great distrust about the legitimacy and veracity of the information found. The answer to this problem lies in the IL and in implementing measures that encourage students to develop such skills. Basically, in promoting student autonomy by teaching them how to identify their needs, where and how to look for information, as well as being able to evaluate it and use it. For this training strategy, it is strongly recommended that students, teachers and librarians work together. (Diehm & Lupton, 2012; Braga, 2014).

As with the school library, the AL should have as one of its objectives an IL implementation and

development plan that meets the needs of students (Schultz-Jones & Oberg, 2015). This plan should include activities that teach students how to identify pertinent and relevant information in academic databases, as for example through training sessions (Boger, Dybvik, Eng, & Norheim, 2015).

Digital Literacy and Digital Learning in Higher Education

Since the 1990s the concept of Digital Literacy (DL) has been discussed and one of the most complete definitions has emerged from the DigEuLit project, which describes it as: "The awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyse and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process" (Martin & Grudziecki, 2006, p.255).

In other words, DL corresponds to the ability to know how to take advantage of new technologies in order to complete an objective, which often involves obtaining certain information. For that, it is necessary to help the users, educating them and teaching them to use the technological means that are at their disposal, in the correct way.

It is important to point out that the European Commission, through the European Commission's Science and Knowledge Service, has compiled the five factors of digital competence, which are "... information and data literacy, communication and collaboration, digital content creation, safety, and problem solving" (McGuinness & Fulton, 2019, p.4).

The AL plays a key role in DL by seeking to educate students on how to use technological tools by providing the necessary resources. Thus, it can be said that some aspects of the profile of the school librarian and the AL are common when it comes to the training in DL they must provide to students. "School librarians help students learn to use online search strategies important for using the resources of the Internet as well as databases and production tools" (Schultz-Jones & Oberg, 2015, p.44).

Besides DL, there is another important concept that needs to be addressed, that is digital learning. Although both are intrinsically linked to technologies, their distinction is in their purpose. While DL is about teaching how to use digital media, digital learning is about teaching through technology.

Digital learning enables new ways of teaching, more dynamic, personalized and through different platforms. E-tutorials are one of these new tools. They are creative, flexible and can combine different media, such as text, image, audio, video, graphics, etc. (McGuinness & Fulton, 2019).

McGuinness & Fulton (2019, p.5) briefly explains what an e-tutorial consists of by stating that "An e- tutorial captures information about a particular topic visually and orally, providing instruction in a brief session online, often interactively and/or incorporating multimedia elements, such as video, screen- casted instructions, and quizzes".

Gravett & Gill (2010, p.66) advocate the use of video as the most effective method in creating tutorials by stating that "Using video can maximize the impact of e-learning tools, helping online tutorials to deliver information in a more personal and immediate way".

McGuinness & Fulton (2019, p.2) summarize the importance of e-tutorials as distance learning mechanisms, as they enable the development of IL while interacting in a different way with the content addressed. The authors also highlight the accessibility of these tools by mentioning that "E-tutorials constitute reusable learning objects, which can be accessed as just-in-time delivery modes, when students perceive they need to review particular skills or reinforce learning material".

The practical case of the FEP library

Knowing how to identify the needs of users and their profile is the starting point for providing quality services that are truly useful for those seeking them (Prado, 1992). Therefore, after verifying that the support to IL and DL was not the most effective and diversified in the FEP library, the library board proposed the transformation of the information related to the training actions provided by the library into digital format.

To respond to the problem identified, video tutorials were then created to help in a more direct, effective and dynamic way the development of IL and DL skills of the library users, so that they can autonomously use the resources that the library has to offer. An advantage of adopting this strategy would be to reduce the demand for individual face-to-face training at the most critical times, such as at the end of the semester with the pressures of exams and assignment submissions.

There are three aspects of the video production that should be highlighted: the fact that they are bilingual, the use of the screencast method (recording of the computer screen) and also the role of the audio.

In order to reach the whole academic community, including Portuguese undergraduate, masters and PhD students as well as Erasmus students, it was decided to make the videos in bilingual format, with one version in Portuguese and one in English.

From the screencast method, the library user has a detailed answer to their questions, with a step-by- step view of the techniques they can use to obtain the desired results.

The videos produced include a narration not only with an explanation of the steps being mentioned in the tutorial, but also with additional information that the Documentation and Information Service (SDI) team considers important to mention.

During the internship, eight succinct and direct video tutorials were produced, each less than four minutes long and combining text, image, video (screencast), audio and music. The content of these videos was the OPAC and with the aim of making the library users aware of the services it provides.

The production of tutorials is demanding and time-consuming, so not all the programmatic contents planned for the creation of the videos were implemented during the internship, due to lack of time. However, after the internship, and following a broader and more consistent training plan, eight additional videos - four videos on the bibliographic databases and four videos on the statistical databases - were created, all of them exclusively in English.

The reason why these materials were produced in English is related to the policy of internationalization of the faculty. In addition, the materials in these videos deal with more specific areas, aimed at postgraduate students, courses in which the English language prevails. The following data demonstrate the impact of the institutional internationalization: of the 537 course units taught in 2020/2021, 155 are taught in English (close to 30%). In addition, 5 (out of a total of 16) Masters courses and 2 (out of a total of 2) PhD courses are taught entirely in English.

In this context, the library, in its training action, by electing the English language is also aligned with the internationalization policy carried out by the institution.

RESULTS

At this early stage it is only possible to measure the success of the tutorials by the number of views they receive so far.

The videos are available to the entire academic community on the Panopto platform of the University of Porto. In order to facilitate their access, the FEP library has made available on its website the corresponding links, in a section reserved for the training sessions and tutorials.

While the OPAC videos were all uploaded online on 29/09/2020, the database videos (created after the internship) were gradually released, with the last one being posted on the platform on 2/11/20.

The data reflected in the following graphics, correspond to the period between 29/09/20 and 29/11/20, corresponding to the first two months in which the first videos were put online.

Viewing results of the videos produced during the internship

As already mentioned, during the internship period, eight video tutorials were created, referring to the OPAC, with one version in Portuguese and another in English, as shown in Table 1.

The contents covered were Search (Pesquisa), Renewals (Renovações), Reservations (Reservas) and ILL request (EIB Request).

Table 1. Data on the tutorials produced during the internship.

Video Title	Thematic	Language	Total nº
Pesquisa	Online Public Access Catalog	Portuguese	4
Renovações			
Reservas			
Pedido EIB			
Search		English	4
Renewals			
Reservations			
ILL Request			

One of the most perceptible conclusions has to do with the language most in demand. As can be seen in Fig.1, 90% of the views correspond to the videos in Portuguese. Given this result it is possible to assume that the low percentage of viewings of the videos in English has to do with the fact that foreign students do not use the library website. What happens is that the library website - where the tutorial videos are promoted - shows the version of the OPAC videos corresponding to the selected interface language. That is, when you select the English language on the library site, the English videos automatically appear on the page. Whereas if you access the library site normally, with the default language in Portuguese, the videos that will appear are the Portuguese version.
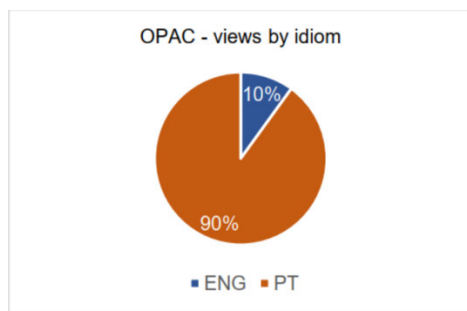
Figure 1. Distribution of views by language.

That discrepancy remains noticeable in Fig.2, where it can be observed that the Portuguese video with less viewing (PT. Renovations with 13%) has more than the sum of all the English videos (10%).

However, in both versions, the most popular video corresponds to the search in the catalogue. The sum of the views of these two videos (referring to the search) corresponds to 50% of all views of the eight videos.
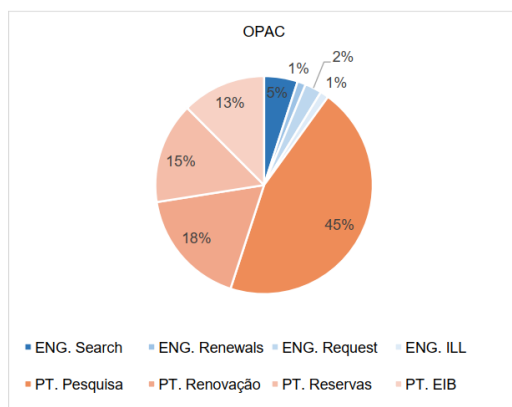

***Figure 2.** Distribution of views of the videos produced on the internship.*

By looking at the graphic in Fig.2 it is undeniable that the video most sought by users corresponds to the Portuguese version of the search in the online catalogue. From a total of 80 views, this video had 36 (45%) as opposed to the English tutorials on renovations and ILL request which had only one view each (1%).

Viewing results of the videos produced after the internship

After the internship, it was decided to continue this project and eight more videos covering two different areas of the databases have been created so far, all of them in English, as can be seen in Table 2.

***Table 2.** Data on the tutorials produced after the internship.*

Video Title	Thematic	Language	Total nº
Bibliographic databases –introduction	Bibliographic Databases	English	4
Reference databases – WoS & SCOPUS			
Databases with bibliometric indicators – JCR & SRJ Scimago			

Full text databases			
Statistical databases – introduction	Statistical Databases	English	4
Orbis			
Eikon			
Datastream			

Fig.3 illustrates the distribution of the views between the two areas in question, as it is clear that the most watched videos correspond to those in the bibliographic databases. The explanation may be that the tutorials on statistical databases serve to support a resource that is aimed at a more restricted target audience (postgraduate students). It should also be noted that, unlike the videos produced during the internship - which were all released simultaneously - these were uploaded one by one, as they were created, which means that some have been made available for longer than others.
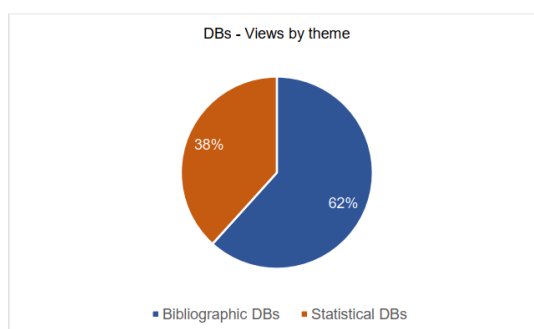

Figure 3. Distribution of views between the two themes.

CONCLUSIONS

Distance training has long been considered a widely adopted option in multiple contexts because of the advantages it entails - ease of access at a distance of one click, without the inconvenience of physical travel, the possibility for participants to manage their access time and execution of tasks at their own pace, according to their convenience of time and space.

It should be stressed that, in the general context of the pandemic, where the frequency of public spaces is discouraged or even prohibited, distance training, as an alternative to face-to-face training, is fundamental and increasingly necessary. Thus, the option of creating digital materials and making them available online, to support the training of the FEP academic community, has proved more relevant and useful than ever.

The solution found in this project entailed digital transformation, in which the existing static support materials were merged with a condensed replica of the information shared in the training sessions and the result was a series of video tutorials that address various themes and aim to help students develop their IL and DL skills.

To summarize, the videos created during the internship provide the basis for the use of the online catalog and serve the entire community - in particular, 1st year and Erasmus students - while the videos produced after the internship are aimed at a more restricted audience, which are postgraduate students (masters and PhD students).

It is not surprising that the most watched video is that of the catalog search, as it is usually the first contact of the users with this tool, which is essential to search and locate the documents

that the library has available.

As for the number of views of the tutorials, it appears that there is a low demand, however the time interval still does not allow definitive conclusions to be drawn. One reason for the results obtained so far is that the videos were made available after the beginning of the school year due to internal authorization and consolidation procedures. Another hypothesis for this situation has to do with the limitations to dissemination that suffer some constraints, such as the institutional communication policy not allowing the videos to be made available in the means most used by students (e.g. YouTube, Instagram or Facebook). Sometimes the lack of use of resources is not because of the resource, but because they are not disseminated in the channels where students actually seek them. Although library staff pass the word orally, and the information is disseminated on the library website, in the future it is essential to improve the articulation between the library and the marketing service in the advertising of these resources. After all, they will only be useful if users know of their existence and where to access them. The solution may be to invest in a better collaboration between services, especially the articulation of SDI with the marketing department of the faculty.

As the topics covered by the on-site training are currently covered, this type of support material can be continued in the future, covering other topics such as copyright or bibliographical references, among others. A good way of identifying users' needs, preferences and weaknesses in terms of training is to conduct a user study. In this way the library would cater for what users need in an objective and informed way.

In conclusion, it is believed that this project will be the basis for a broader and more consistent IL and DL training plan, using a distance learning strategy never before adopted in the FEP library.

In this way, this AL has found this way to respond proactively to the advantages of digital transformation, while seeking to meet the needs of Portuguese and foreign users in terms of information and digital literacy, through distance learning.

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