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# Students' information literacy skills at the School of Communication, Public Management and Tourism (Polytechnic Institute of Bragança, Portugal): evaluation and university library role

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## ABSTRACT

Having Information Literacy (IL) skills is essential for the student's academic, professional and personal development. According to the guidelines of the European Higher Education Area, abilities and skills related to research, evaluation, management, use and dissemination of information are required.

This research aims to present the results of the study carried out at the School of Communication, Public Management and Tourism - Polytechnic Institute of Bragança. The following data collection instruments were used: IL-HUMASS questionnaire and interviews.

The questionnaire sample obtained represents 94.4% of the student's population enrolled in the academic year 2018/2019. Results reveal that information research is ranked by students as the most important category and information treatment as the least important. Students achieve better development in information research and worse development in treatment and in communication and diffusion of information. Regarding preferred learning sources, classroom stands out, academic library comes up as significant source in the information communication and diffusion category, and self-learning in the information evaluation category. A higher percentage of self-efficacy deficits than of IL competence motivation is identified; students are motivated to acquire and develop those competences, but they have little mastery of it. Interviewees indicate collaboration between teachers and information professionals (librarian) as fundamental.

It is concluded that the learning of information literacy skills is a relevant theme for students. All in all, a proposal for the implementation of an IL training program was developed, considering that the 21st century academic libraries must play a fundamental role in the students' educational success.

**Keywords:** Information Literacy; Academic library; IL-HUMASS; School of Communication, Public Management and Tourism - Polytechnic Institute of Bragança.

## INTRODUCTION

According to the guidelines of the European Higher Education Area, abilities and skills related to research, evaluation, management, use and dissemination of information are required for the students' academic success.

This research aims to evaluate students' information skills upon entry into higher education, as well as to define a proposal for intervention in Information Literacy (IL), promoted by the academic library. As methodology, a literature review was performed, and the following data collection instruments were used in the case study: IL-HUMASS questionnaire and interviews.

The study was carried out at the School of Communication, Public Management and Tourism (EsACT) - Polytechnic Institute of Bragança (IPB) in Portugal.

The IPB is divided into five schools, four located in Bragança campus and one in Mirandela: School of Agriculture; School of Education; School of Health; School of Technology and Management and the EsACT (Polytechnic Institute of Bragança, 2021).

EsACT is an organic unit of IPB, functioning in a new building since September 2016, in the city of Mirandela. The school offers courses in three areas – Communication, Public Management and Tourism, with 7 Superior Professional Technical Courses (CTeSP), 8 Bachelors and 2 Masters, having a total of 1428 students in the 2018/2019 school year (Borges, 2019, p. 36). The EsACT library is an extension unit of the IPB's Documentation and Library Services, which includes 5 libraries, and whose function is to support “teaching, research and its priority purpose is to provide access to scientific and documentary information resources and informative, necessary for the development of the academic community of IPB, as well as any other people or institutions” (IPB, 2019).

## METHODOLOGY

The methodology adopted consisted of a literature review and a case study (Yin, 2001). As investigation strategy, a combination of qualitative and quantitative methods was selected, as the “mixed methods” approach contributes to increasing knowledge on the subject under study, reaching the outlined objectives, observing and better understanding the studied reality (Creswell, 2014).

In the case study, the target population corresponds the set of students who entered the EsACT courses for the first time in the 2018/2019 school year. Data collection was carried out through a questionnaire, applied in the classroom, with the collaboration of teachers. This questionnaire is based on the studies by Pinto (2011) and Lopes and Pinto (2013, 2016): “The questionnaire IL-HUMASS about information literacy was conceived and designed to evaluate information skills and to be applied to a population of students, teachers and information professionals of different levels in the Social and Human Sciences area in the Spanish and Portuguese universities. It contains 26 items grouped into four categories (research, evaluation, processing, and communication and information dissemination) and three self-assessment dimensions (importance, self-assessment and favorite source of learning)” (Lopes & Pinto, 2016, p. 54). The questionnaire applied was modified, some items were adapted for a better understanding of the questions by the students, and 3 questions about informational needs and 4 questions to characterize the sample were added (table 1).

Categories	Questions
Information Research	1 - 8
Information Evaluation	9 - 13
Information Processing	14 - 20
Communication and Information Dissemination	20 - 26
Need for Information	27 - 29
Characterization of respondents	30

Table 1: Adapted IL-HUMASS questionnaire

The collected data were entered into the SPSS® software (Statistical Package for Social Sciences), version 23.0. Its treatment involved performing descriptive and inferential analyses to verify the hypotheses previously outlined; a 95% confidence level and a 5% significance level were used.

Finally, interviews were carried out (Stake, 1999; Yin, 2001) with the EsACT teachers and the coordinator of the Documentation and Library Services. The interview guide designed intended to distinguish the perception of respondents in relation to the needs and acquisition of IL skills by students.

## BACKGROUND CONCEPTS/DEFINITIONS

In recent decades technological advances have facilitated the access to information. Despite that, academic students do not have adequate information skills to manage and use huge amounts of information available through the World Wide Web.

Higher education students must acquire information skills in the following domains: “information search; efficient analysis and selection of information; organization of information; effective use

of information communication in an ethical and legal manner, in order to build knowledge” (Lopes & Pinto, 2016, pp. 28-29).

IL or Informational Literacy is the expression adopted in Portugal, with corresponding terms in other countries, *Competenza Informativa* in Italy, *Maîtrise de l’Information* in France, *Alfabetización Informacional* – ALFIN in Spain. *Competência em Informação* is the expression adopted in Brazil, translated from the English term *Information Literacy*, present in the international literature.

Research and literature review show that many organisations have put forward definitions of IL. Some examples are UNESCO (Prague declaration of 2003 and Alexandria proclamation on Information Literacy and Lifelong Learning of 2005), The Society of College, National and University Libraries (SCONUL, 2011), A New Curriculum for Information Literacy (ANCIL, 2011), The Association of College and Research Libraries (ACRL, 2016) and the Chartered Institute of Library Information Professionals (CILIP, 2018).

Previously, the definition of the American Library Association (ALA, 1989) highlighted the importance of IL in continuous learning, in the form of training for citizenship in an informational environment in constant development and change. The ACRL (2000) defined IL as the system of competencies needed to search, retrieve, analyse, and use information, i.e., recognizing information needs, knowing how to locate, identify ways to access, retrieve, evaluate, organize and apply information, being able to synthesize information and use it to create new knowledge. Fernández Marcial (2017) reiterates the importance of learning those competencies throughout all levels of education and states that the ideal would be their integration into the study plans of the disciplines, as the students will be interested in accessing and using information when they are motivated to do so.

IL includes “a set of skills and abilities” which everyone needs”, nevertheless it is more complex, since “it concerns the application of the competencies, attributes and confidence needed to make the best use of information and to interpret it judiciously” (CILIP, 2018, p. 3). In this context, “Information literacy is the ability to think critically and make balanced judgements about any information we find and use. It empowers us as citizens to reach and express informed views and to engage fully with society” (CILIP, 2018, p. 3).

ACRL developed and adopted a Framework for Information Literacy for Higher Education in 2016 that presents the following definition: “Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning” (ACRL, 2016, p. 8).

As Sanches (2013, p. 79) points out, university libraries are in a hybrid place between the physical and the virtual, between silence and dialogue, between access to collections and their safekeeping, between innovation and preservation.

If university or academic libraries take over a transversal role in teaching and with research support services, so their professionals “have a crucial role in advocating, supporting and enabling information literacy. This may be most evident in educational contexts where academic librarians teach student cohorts or school librarians support enquiry-based learning or research project methodologies” (CILIP, 2018, p. 7).

Higher education libraries play an important role in supporting teaching and research. However, due to changes that have emerged in the educational system (Silva, Fernández Marcial & Martins, 2016), in the forms of communication and the availability of large amounts of information resources on the Web, there has been a change in the relationship between the library and its users. Those libraries are not the first choice to student’s academic search.

## **CASE STUDY: EVALUATION OF EsACT STUDENTS' INFORMATION LITERACY SKILLS**

Of the 612 students enrolled, 562 responses were obtained; the sample represents 94.4% of the population. Of the 562 students who participated in this research, most are female (n=307), corresponding to 54.6% of the sample.

The age of the students varies between 18 and 45 years old, with an average of 20.8 years old; 62.5% are under 21 years of age; 19 years old is the most frequent age corresponding to 35.5% of the students.

The most frequent course by respondents is Soliciting (80 students), corresponding to 14.2% of the total sample. In the second and third level, the Public Management and Administration course and the Tourism course stand out, with 13.3% and 13.2%, respectively.

The majority of students attend a BA degree (442 = 78.6%), with 15.8% attending Superior

Professional Technical Courses (CTeSP) and 5.5% taking a master's degree.

At a global level (table 2), the three items that present the highest level of motivation / commitment are item 5 - "knowing the terminology of your field of study" (7.55), item 6 - "knowing how to search and retrieve information on the internet" (7.55) and item 4 – "knowing how to consult primary information sources in electronic media" (7.46). The competence considered most important by respondents was information research, highlighting the items "knowing the terminology of your area of study" and "knowing how to search and retrieve information from the internet". The least important competence was the handling of information, with the item "knowing how to use bibliographic reference managers (Endnote, Mendeley and Zotero)". However, the values are very similar across the various factors, which means that students attach importance to all of them.

Table 2: Descriptive statistics and study of internal consistency

Factors	Alpha de Cronbach's	Items	Average ± D.Pattern	Correlation Item / Factor	Alpha Cronbach's *
Factor 1 – Information research	0,683	Item 1	6,96 ± 1,77	0,433	0,639
		Item 2	7,10 ± 2,01	0,339	0,664
		Item 3	7,28 ± 1,58	0,373	0,654
		Item 4	7,46 ± 1,52	0,478	0,633
		Item 5	7,55 ± 1,52	0,474	0,634
		Item 6	7,55 ± 1,80	0,359	0,657
		Item 7	7,31 ± 1,79	0,363	0,656
		Item 8	7,06 ± 1,88	0,225	<b>0,690 &amp;</b>
Factor 2 – Information evaluation	0,687	Item 9	7,26 ± 1,91	0,354	0,671
		Item 10	7,13 ± 1,98	0,429	0,642
		Item 11	6,70 ± 2,20	0,464	0,627
		Item 12	6,87 ± 2,02	0,550	0,589
		Item 13	6,88 ± 2,12	0,413	0,649
Factor 3 - Information processing	0,706	Item 14	7,10 ± 1,95	0,566	0,635
		Item 15	6,92 ± 2,03	0,583	0,628
		Item 16	6,92 ± 3,63	0,323	<b>0,758 &amp;</b>
		Item 17	6,56 ± 2,27	0,524	0,640
		Item 18	6,96 ± 1,77	0,501	0,657
		Item 19	7,10 ± 1,91	0,344	0,693
Factor 4 – Communication and dissemination of information	0,813	Item 20	7,26 ± 1,88	0,492	0,798
		Item 21	7,10 ± 1,94	0,530	0,792
		Item 22	7,14 ± 1,86	0,554	0,789
		Item 23	6,87 ± 2,18	0,626	0,775
		Item 24	7,04 ± 2,15	0,560	0,787
		Item 25	7,16 ± 2,15	0,568	0,785
		Item 26	6,76 ± 2,41	0,534	0,793

\* Cronbach's Alpha item is excluded.

Students self-evaluate themselves with more skills in the information research and evaluation factors (table 3), with emphasis on the item 4 "consulting primary information sources in electronic media". Students self-evaluate with less skills in the processing and communication/dissemination of information, with emphasis on the item "knowing how to use bibliographic reference managers (Endnote, Mendeley and Zotero)". The processing and communication/dissemination of information appear as critical and deficient skills in need of an opportunity for improvement.

Table 3: Descriptive statistics and study of internal consistency

Factors	Cronbach's Alpha	Items	Average ± D Pattern	Correlation Item / Factor	Cronbach's * Alpha
Factor 1 – Information research	0,822	Item 1	6,09 ± 2,46	0,565	0,799
		Item 2	6,00 ± 4,04	0,416	<b>0,848 &amp;</b>
		Item 3	6,57 ± 2,15	0,648	0,791
		Item 4	6,59 ± 2,09	0,639	0,792
		Item 5	6,45 ± 2,05	0,557	0,802

		Item 6	6,26 ± 2,23	0,618	0,793
		Item 7	6,44 ± 2,18	0,606	0,795
		Item 8	5,65 ± 2,62	0,557	0,800
<b>Factor 2 – Information evaluation</b>	0,652	Item 9	6,00 ± 2,33	0,520	0,550
		Item 10	6,18 ± 2,20	0,534	0,549
		Item 11	6,37 ± 2,01	0,518	0,563
		Item 12	6,33 ± 2,08	0,448	0,588
		Item 13	6,08 ± 3,68	0,299	<b>0,699 &amp;</b>
<b>Factor 3 – Information processing</b>	0,758	Item 14	6,04 ± 1,89	0,356	0,757
		Item 15	6,10 ± 1,90	0,469	0,732
		Item 16	4,90 ± 2,40	0,599	0,694
		Item 17	4,83 ± 2,36	0,564	0,705
		Item 18	5,38 ± 2,26	0,562	0,706
<b>Factor 4 – Communication and dissemination of information</b>	0,842	Item 19	5,67 ± 2,37	0,448	0,738
		Item 20	5,78 ± 2,16	0,598	0,820
		Item 21	5,47 ± 2,21	0,668	0,808
		Item 22	5,50 ± 2,15	0,648	0,812
		Item 23	5,31 ± 1,87	0,650	0,813
		Item 24	5,25 ± 2,15	0,545	0,828
		Item 25	5,94 ± 2,02	0,499	0,834
		Item 26	6,18 ± 1,93	0,571	0,824

\* Cronbach's Alpha item is excluded.

The learning source most used by students is classes (52,9%), with emphasis on the item “knowing the terminology of the study area”; the library (3,1%) is referred to as an underutilized source of learning. At a general level, classes are indicated 72.2% of the times as a source of learning to “know the terminology of the study area” (item 5), but only 36.5% of the times to “know how to assess the quality of resources of information” (item 9); in this item self-learning is 49.5% of the time pointed out as the most frequently used source (table 4).

Table 4: Frequency table of the learning sources used

Factors	Itens	Learning Sources				
		A	AU	B	C	O
<b>Factor 1 – Information research</b>	Item 1	70,1%	14,2%	3,2%	2,1%	10,3%
	Item 2	62,1%	22,1%	2,3%	1,2%	12,3%
	Item 3	56,2%	29,0%	5,3%	0,4%	9,1%
	Item 4	71,4%	18,7%	2,3%	0,2%	7,5%
	Item 5	72,2%	19,0%	1,6%	3,0%	4,1%
	Item 6	48,9%	36,8%	4,1%	0,4%	9,8%
	Item 7	38,8%	42,3%	2,8%	5%	15,5%
	Item 8	37,2%	39,5%	0,9%	0,0%	22,4%
<b>Factor 2 – Information evaluation</b>	Item 9	36,5%	49,5%	3,4%	0,0%	10,7%
	Item 10	39,7%	43,8%	4,8%	0,4%	11,4%
	Item 11	41,5%	44,7%	5,2%	0,7%	8,0%
	Item 12	45,2%	39,0%	2,5%	0,2%	13,2%
	Item 13	59,4%	31,3%	1,4%	0,7%	7,1%
<b>Factor 3 – Information processing</b>	Item 14	45,2%	43,4%	2,7%	0,0%	8,7%
	Item 15	57,8%	34,3%	1,2%	0,2%	6,4%
	Item 16	56,4%	16,9%	3,0%	1,2%	22,4%
	Item 17	55,7%	14,1%	2,1%	2,3%	25,8%
	Item 18	60,9%	19,2%	4,3%	3,6%	12,1%
	Item 19	49,8%	28,8%	3,0%	3,0%	15,3%
<b>Factor 4 – Communication and dissemination of Information</b>	Item 20	43,4%	36,8%	3,4%	2,3%	14,1%
	Item 21	45,9%	41,3%	2,0%	1,8%	9,1%
	Item 22	61,0%	26,5%	1,6%	1,6%	9,3%
	Item 23	70,8%	15,7%	4,6%	2,1%	6,8%
	Item 24	53,4%	32,7%	5,5%	1,1%	7,3%
	Item 25	55,9%	34,0%	2,7%	2,1%	5,3%
<b>Total</b>		52,9%	31,6%	3,1%	1,2%	11,2%

Regarding the informational skills to be developed (table 5), stand out the “learning autonomy”

(M=5.26), the “development of critical thinking” (M=5.13) and the “teamwork” (M=5,13).

Table 5: Descriptive statistics of information skills to be developed

Informacional Skills	Min. – Max.	Average ± Deviation-Pattern
Search for information to solve problems	1 – 6	4,61 ± 1,19
Assessment of the quantity, quality and relevance of selected information	1 – 6	4,92 ± 1,16
Communication of the information by using adequate means	1 – 6	4,99 ± 1,10
Safe, legal and ethical use of information and technology	1 – 6	5,03 ± 1,14
Development of critical thinking	1 – 6	5,13 ± 1,14
Teamwork	1 – 6	5,13 ± 1,12
Learning autonomy	1 – 6	5,26 ± 1,23

The information technologies highlighted by students to be used in the teaching-learning of information skills are search engines and electronic databases (table 6).

Table 6: Descriptive statistics of information technologies to be used in teaching and learning

Information technology	Yes n(%)	No n(%)
Search engines	468(83,3%)	94(16,7%)
Email	152(27,0%)	410(73,0%)
Distance learning platform	114(20,3%)	448(79,7%)
Chat (Skype, Messenger)	51(9,1%)	511(90,9%)
Digital Repositories	135(24,0%)	427(76,0%)
Electronic Databases	299(53,2%)	263(46,8%)
Discussion Forums	135(24,0%)	427(76,0%)
Wikis	86(15,3%)	476(84,7%)
Blogs	92(16,4%)	470(83,6%)
Videoconferences	53(9,4%)	509(90,6%)
Social networks	53(9,4%)	509(90,6%)
Other Technologies	128(22,8%)	434(77,2%)

The majority of students did not identify forms of academic training to improve their information skills, those who responded referred mostly to seminars/lectures/workshops (table 7).

Table 7: Frequency table for identifying needs in academic training to improve information skills

Description	Absolute Frequencies	Relative Frequencies	Valid Relative Frequencies
Did not answer	432	76,9%	----
Library / Librarian	16	2,8%	12,3%
Classes / Teachers	20	3,6%	15,4%
Training courses / Training	13	2,3%	10,0%
Seminars / Lectures / Workshops	69	12,3%	53,1%
Others	12	2,1%	9,2%
Total	562	100,0%	100,0%

Applying Spearman's correlation test (Table 8) as  $p(s) > 0.05$ , it is concluded that there is no significant correlation between the level of self-efficacy of the ALFIN-HUMASS scale and the age of students. However, the older the students are, the greater their self-efficacy in communicating

and disseminating information.

Table 8: Spearman's correlation test between the level of self-efficacy

Correlations	Rhó	n	p
Age $\leftrightarrow$ F1	Rhó = 0,020	62	p = 0,316 ns
Age $\leftrightarrow$ F2	Rhó = 0,031	62	p = 0,235 ns
Age $\leftrightarrow$ F3	Rhó = 0,064	62	p = 0,065 ns
Age $\leftrightarrow$ F4	Rhó = 0,084	62	p = 0,024 *

Most students consider themselves motivated to develop information literacy skills. However, a percentage of motivation deficit was verified in factor 2 (29.9%) – evaluation, in the IT and Marketing courses; in factor 1 (26.7%) – research, in the Communication and Journalism and Tourism courses; in factor 3 (19.0%) – processing, in Tourism Marketing and Tourism courses; in factor 4 (18.7%) – communication and dissemination of information, in the courses of Legal Services, Public Administration and Management and Tourism Marketing. These courses can be the focus for training in IL, to reduce the motivation deficit (table 9).

Table 9: Difference between motivation / commitment and self-efficacy of the ALFIN-HUMASS scale

Factors	n	min. - max.	X±S	%<0	%=0	%>0
F1	562	-3,88 – 7,25	1,04±1,78	26,7%	5,0%	68,3%
F2	562	-6,40 – 6,60	0,80±1,94	29,9%	8,5%	61,6%
F3	562	-5,50 – 6,83	1,42±1,84	19,0%	5,2%	75,8%
F4	562	-6,71 – 7,14	1,41±1,97	18,7%	5,5%	75,8%

The highest self-efficacy deficit is located in factor 3 (75.8%) – Processing, in the courses of Sales Management, Tourism Promotion, Multimedia, Solicitorship and Municipal Administration; in factor 4 (75.8%) – Communication, in the Sales Management, Tourism Promotion, Communication and Journalism and Solicitorship courses; in factor 1 – Research (68.3%), in the courses of Digital Communication, Sales Management, Legal Services and Multimedia; in factor 2 – Information evaluation (61.3%), in the courses of Digital Communication, Sales Management, Multimedia and Municipal Administration (table 10).

Table 10: Association between motivation and self-efficacy deficits with sociodemographic and school variables

Deficit of	Motivation				Self-efficacy			
	P	A	T	C	P	A	T	C
Courses								
Digital Communication					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Sales Management					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Computing		<input checked="" type="checkbox"/>						
Tourism Promotion							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Legal Services				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
Administration and Business								
Communication and Journalism	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>
Digital Game Design								
Management & Public Administration				<input checked="" type="checkbox"/>				
Marketing		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Multimedia					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Solicitorship							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



<b>Tourism</b>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>					
<b>Municipal Administration</b>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Tourism Marketing</b>				<input checked="" type="checkbox"/>				
<b>Level</b>	<b>P</b>	<b>A</b>	<b>T</b>	<b>C</b>	<b>P</b>	<b>A</b>	<b>T</b>	<b>C</b>
<b>CTeSP</b>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Graduation</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
<b>Master's degree</b>					<input checked="" type="checkbox"/>			
<b>Sex</b>	<b>P</b>	<b>A</b>	<b>T</b>	<b>C</b>	<b>P</b>	<b>A</b>	<b>T</b>	<b>C</b>
<b>Male</b>								
<b>Female</b>								
<b>Age</b>	<b>P</b>	<b>A</b>	<b>T</b>	<b>C</b>	<b>P</b>	<b>A</b>	<b>T</b>	<b>C</b>
<b>18-19 years</b>								
<b>20-21 years</b>								
<b>22-24 years</b>								
<b>25 years or over</b>					<input checked="" type="checkbox"/>			

(P- Research; A- Evaluation; T- Treatment; C- Communication;  - Significant associations between categories)

Regarding the results of the interviews carried out, the teachers consider the library to be an important resource for accessing knowledge and an aid in the teaching and learning process. They recognize the importance of IL and information skills development; however, they are reluctant to formally integrate it into study plans. They ensure that they address this theme in the "Research Methodologies" course unit, albeit superficially, and that the librarian's participation in these classes would be an excellent help and a way to promote library services. The formal introduction of IL as a course discipline in the current curriculum is regarded with some hesitation by teachers, who consider extracurricular training an alternative. These results will certainly allow the elaboration of a set of intervention proposals, at the level of IL, supported by the library, in order to promote the development of skills in students.

## CONCLUSIONS

A higher percentage in the self-efficacy deficit than in the motivation deficit was identified in the case study presented, so it can be concluded that EsACT students' are motivated to learn IL skills but have little mastery of them. Thus, a training programme will be developed with a focus on practical, reflective and critical approaches. For this to occur, it will be necessary to create teaching environments with reduced groups of students, in order to achieve classes with greater depth, more effective learning time and with greater student participation.

Regarding the results of the interviews carried out, we concluded that the teachers consider that competences in IL should be acquired in workshops, seminars or extracurricular training promoted by the library.

The coordinator of the IPB's Documentation and Library Services reiterates the importance of developing IL in higher education. In this context, a close collaboration between teachers and information professionals is necessary for training, because IL competences must be acquired in context, i.e., based on a curricular or disciplinary learning content.

All in all, a proposal for the implementation of an IL training programme was developed, considering that the 21st century academic libraries must play a fundamental role in the students' educational success.

With the execution the IL training programme, the EsACT library will be able to be more dynamic and interventionist in the academic community. The dynamization of this programme, the collaboration among teachers, the school's management and the library will be essential for the academic and professional success of students. Finally, it is also intended to contribute to optimize and adapt the information resources available at EsACT library, given the identified needs of users; to suggest and segment training programs, to be made available by the IPB's Documentation and Library Services; to promote in students the proper use of the library, in its physical and online dimensions.

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