

---

ESTUDIOS / RESEARCH STUDIES

---

## Copyright Literacy in Spanish Library and Information Sciences (LIS) students

Alicia Arias-Coello\*, José Simón-Martín\*\*, Andreu Sulé-Duesa\*\*\*, M<sup>a</sup> Luisa Alvite-Díez\*\*\*\*, Cristina Faba-Pérez\*\*\*\*\*, Mercedes Caridad-Sebastián\*\*\*\*\*, Carmen Agustín-Lacruz\*\*\*\*\*, Gonzalo Marco-Cuenca\*\*\*\*\*, José Antonio Merlo-Vega\*\*\*\*\*

\* Universidad Complutense de Madrid. Fac. de Ciencias de la Documentación.  
E-mail: aarias@uclm.es | ORCID iD: <https://orcid.org/0000-0001-7164-2025>

\*\* Universidad Complutense de Madrid. Facultad de Medicina.  
E-mail: jsimon@uclm.es | ORCID iD: <https://orcid.org/0000-0002-8032-240X>

\*\*\* Universitat de Barcelona. Departament de Biblioteconomia, Documentació i Comunicació Audiovisual & Centre de Recerca en Informació, Comunicació i Cultura.  
E-mail: sule@ub.edu | ORCID iD: <http://orcid.org/0000-0002-2467-3678>

\*\*\*\* Universidad de León. Facultad de Filosofía y Letras. Área de Biblioteconomía y Documentación.  
E-mail: luisa.alvite@unileon.es | ORCID iD: <https://orcid.org/0000-0003-1490-8936>

\*\*\*\*\* Universidad de Extremadura. Facultad de Ciencias de la Documentación y la Comunicación.  
E-mail: cfabper@unex.es | ORCID iD: <https://orcid.org/0000-0002-0537-3231>

\*\*\*\*\* Universidad Carlos III de Madrid. Facultad de Humanidades, Comunicación y Documentación.  
E-mail: mercedes@bib.uc3m.es | ORCID iD: <https://orcid.org/0000-0001-7486-8353>

\*\*\*\*\* Universidad de Zaragoza. Facultad de Filosofía y Letras.  
E-mail: cagustin@unizar.es | ORCID iD: <https://orcid.org/0000-0003-2577-1998>  
E-mail: gmarco@unizar.es | ORCID iD: <https://orcid.org/0000-0002-7149-6192>

\*\*\*\*\* Universidad de Salamanca. Fac. de Traducción y Documentación.  
E-mail: merlo@usal.es | ORCID iD: <https://orcid.org/0000-0002-9102-4408>

Recibido: 18-09-2019; 2ª versión: 20-10-2019; Aceptado: 30-10-2019

**Citation/Cómo citar este artículo:** Arias-Coello, A.; Simón-Martín, J.; Sulé-Duesa, A.; Alvite-Díez, M. L.; Faba-Pérez, C.; Caridad-Sebastián, M.; Agustín-Lacruz, C.; Marco-Cuenca, G.; Merlo-Vega, J. A. (2020). Copyright Literacy in Spanish Library and Information Sciences (LIS) students. *Revista Española de Documentación Científica*, 43 (3), e269. <https://doi.org/10.3989/redc.2020.3.1714>

**Abstract:** Copyright literacy in Spanish Library and Information Sciences (LIS) students was studied using a web survey as part of a multinational research project. The study focused on their knowledge, opinions and experiences with various aspects of copyright and intellectual property legislation and training. Results show that Spanish students are familiar with copyright and related laws at the national level, as well as with Creative Commons Licenses. However, most of respondents were very unfamiliar with topics related to the protection of rights in the digital environment and international copyright issues. Therefore, there is a need to increase information and knowledge of copyright issues in the LIS curricula, since copyright issues are already, and will continue to be in the future, a relevant part of information professionals' expertise.

**Keywords:** Copyright literacy; Intellectual Property; LIS studies; LIS students; Spain.

**Copyright:** © 2020 CSIC. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International (CC BY 4.0) License.

## Conocimiento sobre temas de Derechos de Autor en estudiantes de Biblioteconomía y Documentación

**Resumen:** El nivel de conocimiento en temas sobre Derechos de Autor en estudiantes de Biblioteconomía y Documentación fue estudiado por medio de una encuesta web como parte de un proyecto de investigación plurinacional. El estudio se centró en el conocimiento, opiniones y experiencias de los estudiantes en varios aspectos de la legislación sobre Derechos de Autor y Propiedad Intelectual, así como en su formación. Los resultados muestran que los estudiantes españoles están familiarizados con las leyes sobre Derechos de Autor, y aquellas relacionadas a nivel internacional, así como en las licencias Creative Commons. Sin embargo, la mayoría de los encuestados mostraron escaso conocimiento en asuntos relacionados con la protección de derechos en el entorno digital o la problemática sobre Derechos de Autor a nivel internacional. Por tanto, existe la necesidad de mejorar la información y el conocimiento acerca de los temas relacionados con los Derechos de Autor en los currícula de los estudiantes de Biblioteconomía y Documentación, dado que los problemas sobre Derechos de Autor son actualmente una parte relevante de la experiencia de los profesionales de la información, y continuarán siéndolo en el futuro.

**Palabras clave:** Conocimiento sobre Derechos de Autor; Propiedad Intelectual; estudios en Biblioteconomía y Documentación; estudiantes de Biblioteconomía y Documentación; España.

### 1. INTRODUCTION

At present, intellectual property and copyright issues are increasingly important due, among other factors, to the development of the Internet and the communication and information technologies, which have made easier the access, use and reproduction of all kind of materials, many of them protected by intellectual property legislation. In order to encourage responsible copyright behavior it is thus important to improve copyright literacy in the general population, and especially in the education sector.

In the copyright protection area, it is considered very important for Library and Information Science (LIS) professionals to have the appropriate skills in copyright and intellectual property issues. They are involved in issues related to the use, the access and the dissemination of information, and very often they are in charge of contracts and licenses of electronic materials. Therefore, future LIS professionals should acquire appropriate skills and competencies in those issues.

This article presents the findings of a study that explores the knowledge, opinions, and experience of Spanish LIS undergraduate and graduate students on various aspects of copyright and intellectual property. The findings could provide a better understanding of the deficiencies in training and could inform curricular decisions in LIS schools to improve their competences in this area.

The focus of this investigation had three main objectives:

- Evaluate the knowledge and familiarity of LIS students on various aspects of copyright and intellectual property.

- Gain an understanding of student opinions regarding training received in copyright and intellectual property and identification of the preferred sources of information to improve their knowledge.
- Identify, from the students' point of view, the knowledge they should acquire during their training period.

This paper is the Spanish contribution to a multinational survey included in the framework of the International Copyright Literacy of LIS Students (CoLIS) project, coordinated by Serap Kurbanoğlu and Yurdagül Unal (Hacettepe University, Turkey), Tania Todorova and Tereza Trencheva (SULSIT, Bulgaria) and Joumana Boustany (Université Paris Est Marne-la-Vallée, France). The results from Czech Republic (Kovářová, 2019), Norway (Gasting and Landøy, 2019) and Iceland (Pálsdóttir, 2019) have been published in 2019.

In Spain, nine universities offer accredited LIS degree and postgraduate programs, with approximately 1,300 students enrolled. Intellectual property courses are generally included in the curriculum in the second semester of the first year of the LIS degree, and provide an overview of the legislative aspects of this subject, with different breadth and depth among universities.

### 2. LITERATURE REVIEW

#### Inclusion of copyright issues in LIS curriculum

In the literature, several studies have analyzed the inclusion of legal content related to copyright in the LIS curricula, because university librarians are often considered experts in this area (Kelly, 2018).

In a study conducted in 49 ALA-accredited library schools, Dames (2006) reported that only two of them offered copyright courses, and less than half offered a course that addresses information policy, or legal issues, on any level. In another review of 59 schools of the Association for Library and Information Science Education (ALISE) and four members of the i-School community, Gathegi and Burke (2008) found that copyright/intellectual property courses were the least frequently listed by LIS schools. Chu (2010), after the analysis of 2757 courses of 45 ALA-accredited LIS programs, found that none of the 233 required courses focused on copyright and/or intellectual property.

Cross and Edwards (2011) studied all ALA-accredited master programs and found that many programs listed few, or even no courses dealing specifically with legal issues. They concluded that, even under the best of circumstances, many students graduated with a limited understanding of practical legal issues. Schmidt and English (2015) compared the results of a survey distributed within the United States of America to professionals working in academic, public, school/media, and special libraries, with an analysis of course content in current ALA accredited LIS programs in the U.S. They concluded that, although recent graduates of LIS programs in the USA were more likely to have had instruction on copyright/IP issues, this instruction was not enough to prepare LIS graduates for the current demands of the workplace.

Similar findings of the importance of copyright in the LIS curricula have been obtained in Canada (Dryden, 2010), Bulgaria (Todorova and Peteva, 2013), Africa (Burnett, 2013) or Qatar (Johnston and Williams, 2015).

### **Librarian's knowledge of copyright**

Several studies of copyright literacy of professionals from the library sector and other cultural institutions reported the need to improve the training of future LIS professionals on copyright related issues. In Kenya, Olaka and Adkins (2012), assessed the copyright knowledge of academic librarians in Kenya, and they found that it depended on their academic qualifications. Eye (2013) reported that the knowledge of copyright law among academic library deans and directors of LIS schools from the USA was not adequate to offer a sound basis for developing and maintaining operational policies and tactical directions for their libraries. Eye verified that only 11% of them considered that library schools were providing adequate training in this subject matter. Charbonneau and Priehs (2014) reported the results of a national survey of academic librarians and library

staff in the United States about their awareness of various copyright policies, and training needs. They reported that only 49% of the respondents perceived they were prepared to provide copyright information to library users, and survey respondents expressed the desire for more copyright-related training. Fernández-Molina et al. (2017) assessed the level of knowledge of academic librarians in Brazil regarding basic questions on copyright related to their professional activities. The authors found important gaps in their knowledge and underlined the need for a training program to solve the problem.

Todorova et al. (2017) reported the results of a multinational survey of LIS professionals on self-perceived familiarity with copyright concepts, interests in training, and sources of support for copyright questions. The survey was conducted in thirteen countries, namely Bulgaria, Croatia, Finland, France, Hungary, Lithuania, Mexico, Norway, Portugal, Romania, Turkey, United Kingdom and the United States of America. The study has also been carried out in India (Naheem, 2017) and Spain (Arias-Coello and Simón-Martín, 2018). The results show that the level of knowledge and the awareness of respondents regarding copyright issues are not satisfactory, even though there are significant differences between countries. Most of respondents were in favor of including copyright issues in the LIS curricula, except professionals from the USA and Croatia who indicated that it would be better at the master level. The authors recommend reviewing both the LIS curricula and continuing education programs to include intellectual property/copyright issues.

### **Student's knowledge of copyright**

About university students, various studies have been conducted on the knowledge and fair use of information in the web-based environment. For example, two studies carried out in Taiwan identified the presence of major misconceptions of university students about Internet resources and the use of copyright laws (Chou et al., 2007); and also that the students had major areas of misunderstanding about copyright laws when using digital library resources (Wu et al., 2010). Also negative were the results of a survey of Spanish university students, where it was revealed that their level of knowledge regarding copyright and copyleft was far below what should be required (Muriel-Torrado and Fernández-Molina, 2015). More positive results were obtained by Datig and Russell (2015) in their study of international students attending New York University Abu Dhabi, Tella and Oyeyemi (2017) in Nigeria where most of the students were aware of the nature of intellectual property rights and viewed negatively violations of these rights and norms, such as plagiarism.

In doctoral students, two important research studies exist. The first was conducted among UK students by the Joint Information Systems Committee (2012) and it found that in the web-based environment there was a widespread uncertainty and lack of understanding about open access and self-archived resources and copyright. The second was conducted by Boustany and Mahé (2016) among French doctoral students. It reported the existence of a significant gap between general copyright and intellectual property competencies and the declared level of awareness about specific intellectual property issues.

In line with the above, this paper attempts to answer the question of whether Spanish students have sufficient awareness about the basic aspects of copyright and their opinions and recommendations on possible training.

In the following sections, we start by presenting the methodology used in the study. In the fourth section, we report the results of the analysis, and in the fifth section we discuss the results and draw conclusions.

### 3. METHODOLOGY

In Spain there are nine universities that offer LIS courses. All of these were invited to participate in this study and seven agreed. To gather the opinions of their students on copyright policies and related issues we used the online Lime Survey's questionnaire created within the framework of the international Copyright Literacy of LIS Students (CoLIS) project.

The online questionnaire includes 13 questions. Four collect demographic data and information on the respondents' current studies. Seven are "yes" and "no" questions referring to copyright. The eighth is a multiple-choice question and in the final item the respondent must write the name of the current law in Spain that regulates copyright. The questionnaire was originally developed in English, but in order to maximize comprehension of the questions, the authors translated it into Spanish and Catalan. It was sent to 1,032 undergraduate and 275 postgraduate students at seven Spanish universities (Complutense, Barcelona, Carlos III, Extremadura, León, Salamanca and Zaragoza). The survey was conducted from November 2017 to April 2018. We received a total of 434 questionnaires, although only 343 were fully completed; 74.3% of the questionnaires are from the Complutense University and the University of Barcelona, which have a much larger number of students in degree and graduate programs than the rest. Three universities (Complutense, Barcelona and León)

have a response rate above 20%; two others (Extremadura and Carlos III) are above 15% and for the rest the rate is below 10%.

In Spanish LIS schools, knowledge about copyright/IP is usually introduced in the first two years. In order to identify whether the responses depend on the year in which students are enrolled, participants in the survey were grouped into three groups as follows:

- Group A, which includes 1st and 2nd year students.
- Group B, which includes 3rd and 4th year students.
- Group C, which includes all postgraduate students (Masters and PhD).

Survey data were processed using the statistical package IBM SPSS. Percentages of response were mainly used for data analysis. The  $\chi^2$  test was run to test correlations between course levels.

## 4. RESULTS

### 4.1. Profile of respondents

Of the 343 responses, a higher percentage of respondents were women (65.6%), while men represented less than a third of the participants (31.8%). Table I shows the distribution of respondents according to the course in which they were enrolled. Most of respondents were undergraduate students (83.1%).

**Table I.** Level/grade of survey respondents

Respondents n=343	n (%)
Undergraduate – 1st year	104 (30.3)
Undergraduate – 2nd year	61 (17.8)
Undergraduate – 3rd year	65 (19.0)
Undergraduate – 4th year	55 (16.0)
Masters	28 (8.2)
PhD	30 (8.7)

### 4.2. Students' general knowledge and awareness regarding copyright issues

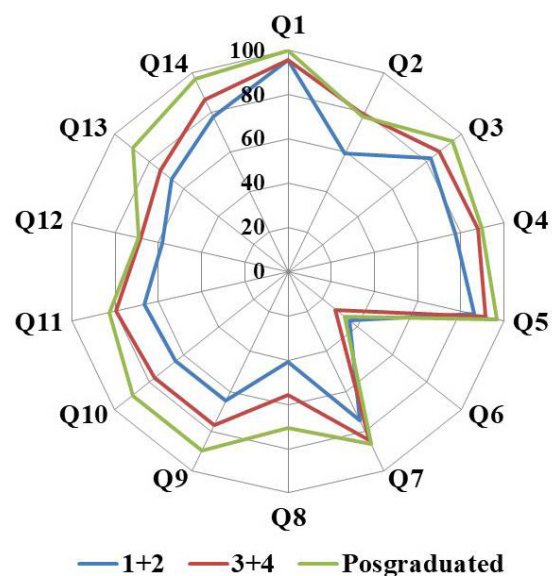
In the first question, examples of possible topics that may be included under legal protection were presented. As shown in Table II, the only doubts among all of respondents were in the protection of two of the examples given: "Q6) Ideas" and "Q8) Dances, written choreography, pantomime". However, responses for the other proposed examples were correct for more than 60% of respondents.

**Table II.** In your opinion, which of the following are under the protection of copyright?

Respondents n= 343	n (%)
Q1) Published materials (such as books and articles)	331 (96.5)
Q2) Unpublished materials (such as thesis)	237 (69.1)
Q3) Musical works	295 (86)
Q4) Artwork such as paintings, and sculptures	286 (83.4)
Q5) Films	308 (89.8)
Q6) Ideas	109 (31.8)
Q7) Photos, maps, sketches	275 (80.2)
Q8) Dances, written choreography, pantomime	174 (50.7)
Q9) Computer software	251 (73.2)
Q10) Databases	251 (73.2)
Q11) Architectural projects, maquettes, environmental design and stage design projects	253 (73.8)
Q12) Handcrafts, miniatures, textile and fashion designs	217 (63.3)
Q13) Graphical works	251 (73.2)
Q14) Caricatures, cartoons, comics	287 (83.7)

Figure 1 shows a radial graph of the percentages of correct responses from each of the three groups of students, for the examples of topics that are under legal copyright protection. The first and second year students (Group A) were those who presented the lowest percentage of correct responses, followed by those in Groups B and C. Significant differences between the three groups exist for questions: "Q2) Unpublished materials (such as thesis)":  $\chi^2(2) = 12.839$ ;  $P = 0.002$ ; "Q8) Dances, written choreography, pantomime":  $\chi^2(2) = 17.502$   $P < 0.001$ ; "Q9) Computer software":  $\chi^2(2) = 14.957$ ;  $P = 0.001$ ; "Q10) Databases":  $\chi^2(2) = 14.957$ ;  $P = 0.001$ ; "Q13) Graphical works":  $\chi^2(2) = 11.145$ ;  $P = 0.004$  and "Q14) Caricatures, cartoons, comics":  $\chi^2(2) = 12.167$ ;  $P = 0.002$ .

In the second question, we set out to collect data about the students' familiarity with general aspects of copyright, as presented in Table III. The most familiar topics for all of participants ( $> 50\%$ ) were: "Q1) Copyright and related law - national level" (63.8%) and "Q9) Creative Commons Licenses" (59.8%). The least well-known topics ( $< 20\%$ ) include: "Q14) Copyright issues/solutions regarding out-of-print works" (9.6%); "Q8) Copyright issues/

**Figure 1.** Topics included in table II that may be included under legal protection

solutions regarding virtual services within e-learning practices" (12.5%); and "Q14) Copyright related institutions - international level" (13.1%).

These results indicate that knowledge about copyright legislation is limited and that students are unfamiliar with copyright aspects related to the digital environment.

Figure 2 shows a radial graph of the percentages of positive responses from each of the three groups of students to the questions in Table III. The first- and second-year students (Group A) were those who presented the lowest percentage of familiarity, followed by those in Group B. These differences between groups are significant for  $P < 0.01$  for questions: "Q1) Copyright and related law - national level":  $\chi^2(2) = 10.8990$ ;  $P = 0.005$ ; "Q3) Copyright related institutions - national level":  $\chi^2(2) = 16.572$ ;  $P < 0.001$ ; "Q6) Licensing for information sources (e.g. for digital resources - data bases etc.)":  $\chi^2(2) = 14.395$ ;  $P = 0.001$ ; "Q7) Copyright issues regarding the development of institutional repositories":  $\chi^2(2) = 12.197$ ;  $P = 0.001$ ; Q9) Creative Commons Licenses:  $\chi^2(2) = 47.257$ ;  $P < 0.001$  and "Q10) Copyright issues about open access, open data":  $\chi^2(2) = 10.112$ ;  $P = 0.006$ .

#### 4.3. Students' general knowledge and awareness regarding the national copyright legislation

The next two questions were related to the national copyright legislation. In the first question, students had to write the name of the copyright law in Spain. Given the large number of changes that have taken

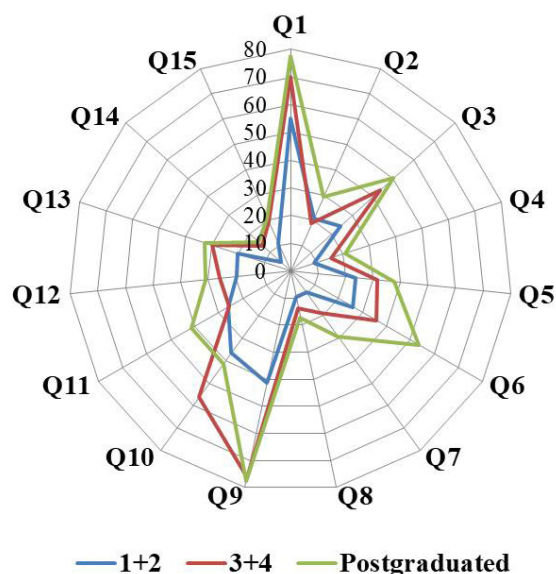
**Table III.** Are you familiar with the following?

Respondents n= 343	n (%)
Q1) Copyright and related law – national level	219 (63.8)
Q2) Copyright and related law – international level	74 (21.6)
Q3) Copyright related institutions – national level	120 (35.0)
Q4) Copyright related institutions – international level	45 (13.1)
Q5) Clearing right holder/s	98 (28.6)
Q6) Licensing for information sources (e.g. for digital resources – data bases etc.)	118 (34.4)
Q7) Copyright issues regarding the development of institutional repositories	56 (16.3)
Q8) Copyright issues/solutions regarding virtual services within e-learning practices	43 (12.5)
Q9) Creative Commons Licences	205 (59.8)
Q10) Copyright issues about open access, open data	151 (44.0)
Q11) Fair Use	98 (28.6)
Q12) Copyright issues regarding digitization	81 (23.6)
Q13) Copyright issues/solutions regarding materials from public domain	88 (25.7)
Q14) Copyright issues/solutions regarding out-of-print works	33 (9.6)
Q15) Copyright issues/solutions regarding orphan works (works whose owner/s cannot be identified or located)	54 (15.7)

place to the legislation on intellectual property over the years, we accepted as correct all those that refer to published legislation on this subject. The name most frequently cited by respondents was the Intellectual Property Law (44.9%). However, 120 respondents (35%) answered that they did not know the name and 69 (20.1%) answered incorrectly. The first and second year students (Group A) were those who presented the lowest percentage of correct answers (26.1%), compared to the third and fourth courses (59.2%), or the postgraduates (56.9%).

In the second question students had to say whether their national copyright legislation includes certain aspects (see Table IV). Most of respondents (86.6%) were aware of the "Q1) Duration of copyright protection", followed by "Q3) Exceptions for private use, educational, scientific and research purposes" (55.7%). Only 28.3% of respondents

**Figure 2.** Familiarity with general aspects of copyright included in table III



were aware of the "Q4) Rights for librarians to provide modified copies of works serving the needs of visual impaired patrons". With regard to "Q15) Orphan works", only 46.1% of respondents were aware of their existence and similar values were obtained for the item "Q2) Exceptions for libraries and educational institutions" (46.1%).

Figure 3 shows a radial graph of the percentages of correct responses from each of the three groups of students for the examples of topics that are included in the national copyright legislation. As observed in figure 3, the first- and second-year students (Group A) were again those who presented the lowest percentage of correct responses, followed by those in Group B. To check whether there is an association

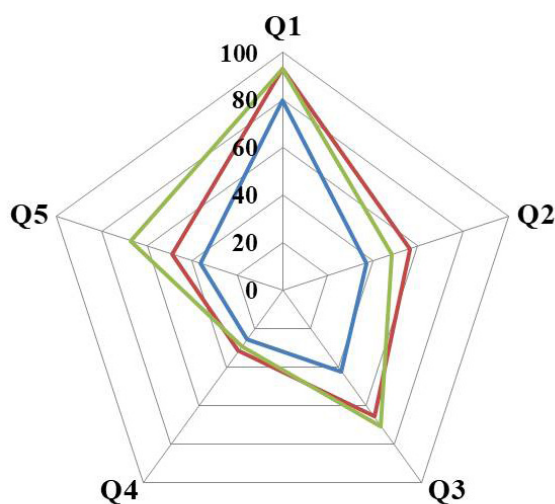
**Table IV.** Which of the following examples are included in your national copyright legislation?

Respondents n= 343	n (%)
Q1) Duration of copyright protection	297(86.5)
Q2) Exceptions for libraries, educational institutions, museums and archives	158(46,1)
Q3) Exceptions for private use, educational, scientific and research purposes	191(55,7)
Q4) Rights for librarians to provide modified copies of works to serve the needs of visual impaired patrons	97(28,3)
Q5) Orphan works (e.g. compulsory license or limitation of liability)	158(46,1)

between the opinions of the three groups regarding the examples presented, Pearson's chi-squared test has been used. This test was significant for a probability level of less than 0.01 for all questions, except for question "Q4) Rights of librarians to provide modified copies of works serving the needs of visually impaired patrons".

Finally, we asked respondents to give their personal opinion about global copyright policy choosing from five statements. As shown in Table V most of the respondents agreed that "Q2) Librarians must be knowledgeable about copyright issues" (88%); and more than 77% agreed with "Q5) It is necessary to include Intellectual Property Rights (including copyright)" in the curriculum of

**Figure 3.** Examples presented in table IV that are included in your national copyright legislation



**Table V.** Opinions about global copyright policy

Respondents n= 343	Agree n (%)	Neutral n (%)	Disagree n (%)
Q1) Services offered by libraries and other cultural institutions require compliance with the copyright legislation	265 (77.3)	63 (18.4)	15 (4.4)
Q2) Librarians must be knowledgeable about copyright issues	302 (88)	41 (12)	0
Q3) Libraries and other cultural institutions should be given exceptional rights by copyright legislation	229 (66.8)	104 (30.3)	10 (2.9)
Q4) Worldwide harmonization of exceptions and limitations to copyright for libraries and archives is necessary	254 (74.1)	78 (22.7)	11 (3.2)
Q5) It is necessary to include Intellectual Property Rights (including copyright) in the curriculum of Library and Information Science (LIS) education	267 (77.8)	63 (18.4)	13 (3.8)

Library and Information Science (LIS) education; and "Q1) Library and cultural heritage services should comply with copyright legislation".

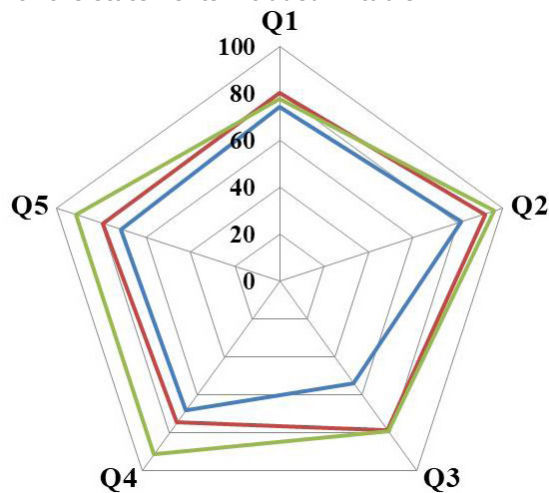
As observed in Figure 4, the first- and second-year students (Group A) were those who presented a lower percentage of agreement with the sentences. However, these differences between the groups of interviewees are only significant at a level of  $P < 0.01$  in the case of question "Q3: Libraries and other cultural institutions should be given exceptional rights by copyright legislation" ( $\chi^2(4) = 25.043$ ;  $P < 0.001$ ).

#### 4.4. Copyright and Education

Most of interviewees (85.1%) responded favorably to including copyright issues in the undergraduate curriculum for Library and Information Science, while at the master's level (58.9%) or as part of a PhD (29.7%) this support was lower. However, the group of masters and PhD postgraduate students (Group C) indicated support, 76% and 52%, respectively, of also including copyright aspects at these levels. The application of the chi-squared test does not allow us to confirm differences between the three groups of students.

When asking students about their experience through their copyright training, for only two items in Table VI more than 50% of the respondents were of the opinion that they had received adequate training: "Q1) Copyright related law – national level" and "Q12) Creative Commons Licenses". The greatest deficiencies in terms of training (with response percentages of less than 15%) were: "Q6) Copyright related initiatives – international level"; "Q11) Copyright issues/solutions regarding virtual services within e-learning practice"; and "Q10) Copyright issues regarding the development of institutional repositories".

**Figure 4.** Percentage of respondents who agreed with the statements included in table V

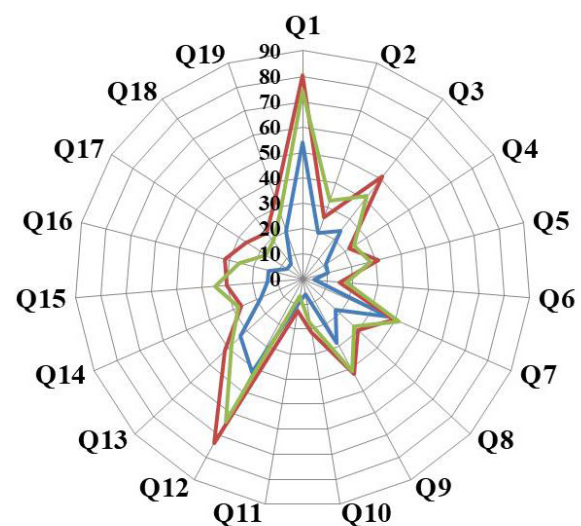


**Table VI.** Topics/issues you have been trained/educated in your department

Respondents n =343	n (%)
Q1 Copyright related law – national level	227 (66.2)
Q2 Copyright related law – international level	82 (23.9)
Q3 Copyright related institutions – national level	124 (36.2)
Q4 Copyright related institutions – international level	58 (16.9)
Q5 Copyright related initiatives – national level	69 (20.1)
Q6 Copyright related initiatives – international level	35 (10.2)
Q7 Copyright related information sources	134 (39.1)
Q8 Clearing right holder/s	81 (23.6)
Q9 Licensing for information sources (e.g. for digital resources – data bases etc.)	123 (35.9)
Q10 Copyright issues regarding the development of institutional repositories	46 (13.4)
Q11 Copyright issues/solutions regarding virtual services within e-learning practices	36 (10.5)
Q12 Creative Commons Licences	195 (56,9)
Q13 Copyright issues related to open access, open data	127 (37)
Q14 Fair Use	78 (22.7)
Q15 Copyright issues regarding digitization	79 (23)
Q16 Copyright issues/solutions regarding materials from public domain	76 (22.2)
Q17 Copyright issues/solutions regarding out-of-print works	53 (15.5)
Q18 Copyright issues/solutions regarding orphan works (works whose owner/s cannot be identified or located)	51 (14.9)
Q19 Exceptions and limitations related to copyright	90 (26.2)

Figure 5 shows a radial graph of the percentages of positive responses from the three groups of interviewees for each of the examples of topics about which they have received training in their LIS institution. The first- and second-year students (Group A) were those who presented the lowest percentage of positive responses. The application of Pearson’s chi-squared test indicates that there is a significant difference in opinion between the three groups of interviewees for the following aspects: “Q1) Copyright related law – national level”  $\chi^2(2)=23.79$ ;  $P<0.001$ ; “Q3) Copyright related institutions – national level”  $\chi^2(2)= 22.223$ ;  $P<0.001$ ; “Q4) Copyright related institutions – international level”  $\chi^2(2)= 18.708$ ;  $P<0.001$ ; “Q6) Copyright related initiatives – international level”  $\chi^2(2)= 10.165$ ;  $P=0.006$ ; “Q10) Copyright issues regarding the development of institutional repositories”  $\chi^2(2)= 15.084$ ;  $P=0.001$ ; “Q12) Creative Commons Licences”  $\chi^2(2)= 32.126$ ;  $P<0.001$ ; “Q15) Copyright issues regarding digitization”  $\chi^2(2)= 14.879$ ;  $P=0.001$ ; “Q16) Copyright issues/solutions regarding materials from public domain”  $\chi^2(2)=12.750$ ;  $P=0.002$ ; “Q17) Copyright issues/solutions regarding out-of-print works”  $\chi^2(2)=18.025$ ;  $P<0.001$ ; “Q18) Copyright issues/solutions regarding orphan works (works whose owner/s cannot be identified or located)”  $\chi^2(2)= 14.698$ ;  $P=0.001$ .

**Figure 5.** Examples of issues in which you have been trained in your institution



In terms of the knowledge that students should acquire before they graduate and begin working in a cultural heritage institution, respondents were of the opinion that the most important were (see Table VII): “Q1) Copyright related law – national level” (84.3 %); “Q3) Copyright related institutions



– national level” (70.8); and “Q12) Creative Commons Licences (67.1 %) and “Q2) Copyright related law – international level” (66.5%).

Least important in their opinion were: “Q6) Copyright related initiatives – international level” (31.2%); “Q11) Copyright issues/solutions regarding virtual services within e-learning practices” (42 %); and “Q8) Clearing right holder/s” (42.8%).

**Table VII.** Topics/issues you think LIS students should learn before they graduate and begin working in a cultural heritage institution

Respondents n =343	n (%)
Q1) Copyright related law – national level	289 (84.3)
Q2) Copyright related law – international level	228 (66.5)
Q3) Copyright related institutions – national level	243 (70.8)
Q4) Copyright related institutions – international level	168 (49)
Q5) Copyright related initiatives – national level	157 (45.8)
Q6) Copyright related initiatives – international level	107 (31.2)
Q7) Copyright related information sources	222 (64.7)
Q8) Clearing right holder/s	146 (42.8)
Q9) Licensing for information sources (e.g. for digital resources – data bases etc.)	226 (65.9)
Q10) Copyright issues regarding the development of institutional repositories	170 (49.6)
Q11) Copyright issues/solutions regarding virtual services within e-learning practices	144 (42)
Q12) Creative Commons Licences	230 (67.1)
Q13) Copyright issues related to open access, open data	210 (61.2)
Q14) Fair Use	171 (49.9)
Q15) Copyright issues regarding digitization	225 (65.6)
Q16) Copyright issues/solutions regarding materials from public domain	197 (57.4)
Q17) Copyright issues/solutions regarding out-of-print works	178 (51.9)
Q18) Copyright issues/solutions regarding orphan works (works whose owner/s cannot be identified or located)	173 (50.4)
Q19) Exceptions and limitations related to copyright	185 (53.9)

Figure 6 shows a radial graph of the percentages of positive responses from the three groups of interviewees for each of the examples of topics about which they should acquire training before graduating. As can be seen, the percentages in agreement do not show a clear pattern between the three groups. The application of Pearson’s chi-squared test indicates that there is a significant difference in opinion between the three groups of interviewees for the following three aspects: “Q10) Copyright issues regarding the development of institutional repositories”:  $\chi^2(2)=14.240$ ;  $P=0.001$ ; “Q12) Creative Commons Licences”:  $\chi^2(2)=20.047$ ;  $P<0.001$ ; “Q13) Copyright issues related to open access, open data”:  $\chi^2(2)=10.727$ ;  $P=0.005$ .

**Figure 6.** Issues that you think LIS students should learn before they graduate and start working in a cultural heritage institution

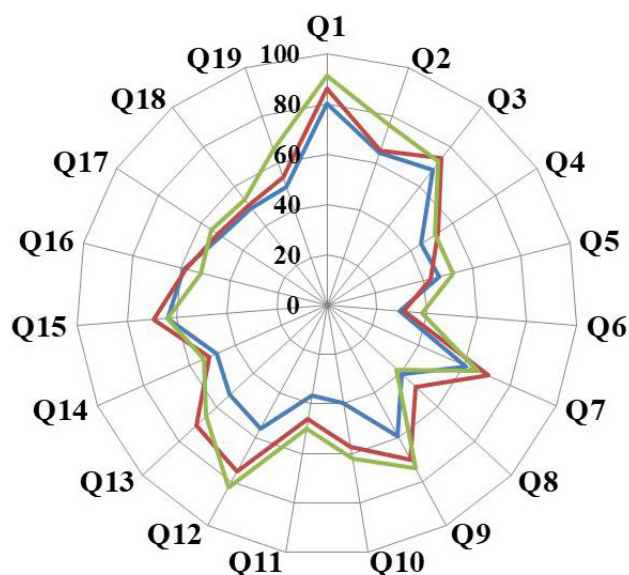


Table VIII shows the preferred resources for learning more about intellectual property/copyright and how this is related to the activities of cultural institutions (libraries, archives, museums).

The three ways that students considered the most important for finding information were: “Q4) Websites” (cited by 73.6% of respondents), followed by “Q3) Books, articles, etc.” (67%) and “Q1) Librarians” (46.3%). Smaller percentages were found for “Q11) International Council of Archives” (17.8%), “Q13) National Library Association” (16.6 %), “Q9) Electronic Information for Libraries Network” (14 %), and “Q12) International Council of Museums” (11.7 %). A surprising result is that only 36.4% would ask their teachers about copyright issues (Q14).

**Table VIII.** If you want to learn more about intellectual property/copyright and its relationship with the activities of the cultural institutions (libraries, archives, museums), where will you search for information?

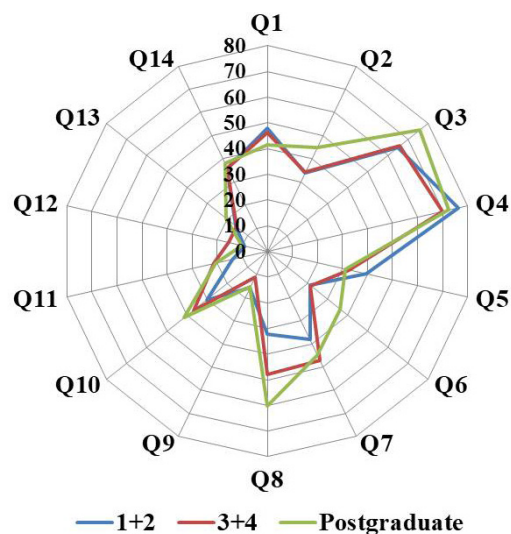
Respondents n =343	n (%)
Q1) Librarians	159 (46.4)
Q2) Lawyers	122 (35.6)
Q3) Books, articles, etc. (e.g. copyright for librarians)	230 (67.1)
Q4) Websites	252 (73.5)
Q5) Blogs / Wikis	122 (35.6)
Q6) Professional discussion lists	82 (23.9)
Q7) National Copyright Office	147 (42.9)
Q8) World Intellectual Property Organization (WIPO)	145 (42.3)
Q9) Electronic Information for Libraries Network (eIFL)	48 (14.0)
Q10) International Federation of Library Associations and Institutions (IFLA)	118 (34.4)
Q11) International Council of Archives (ICA)	61 (17.8)
Q12) International Council of Museums (ICOM)	40 (11.7)
Q13) National Library Association(s)	57(16.6)
Q14) LIS (Library and Information Science) faculty	125 (36.4)

Figure 7 shows a radial graph of the opinions of the three groups of students. Although there is no clear pattern between the three groups of interviewees, there is, however, an association between the opinions of the students and their year of study for the question: "Q8) World Intellectual Property Organization (WIPO)":  $\chi^2(2)= 16.853$ ;  $P<0.001$ .

### 5. DISCUSSION AND CONCLUSIONS

This study investigates the knowledge, opinions, and experience of Spanish LIS students in relation to copyright policies and related issues. The results obtained suggest that Spanish LIS students have a moderate knowledge and familiarity about copyright, with students in the third and fourth years and postgraduate students having the greatest awareness. This is consistent with the results presented in table IV, where 80% of third- and fourth-year students indicated that they have received training on intellectual property law. It

**Figure 7.** Preferred forms for search for information about intellectual property/ copyright



should also be considered that third and fourth year undergrads and graduate students have more real-world experience due to their Practicum and the graduate or Master's thesis. In terms of training, most students were of the opinion they did not receive training in key aspects of copyright and almost all of the respondents were in favor of including copyright issues in the undergraduate LIS curriculum.

For certain aspects of copyright, the opinions of the students about familiarity, training received and importance in their training needs were consistent. Thus, the lowest familiarity of the students was in copyright aspects related to publication rights such as: orphan works, out of print works, virtual services, digitization, etc. These are also topics in which the interviewees mostly indicate that they have not been trained, with over 50% of the interviewees considering that this should be on the curriculum. A different example is the lack of familiarity with copyright regarding virtual services within e-learning practices. Students were of the opinion they have not been properly trained. However, most did not consider it a priority training need, which runs contrary to their daily experience where these services are mainly used as a support to their training and learning activities.

If we compare these results with those obtained in the study by Kovářová (2019), carried out on a sample of 199 LIS students from the Czech Republic, we can highlight the similarity in the opinions of the two samples. The familiarity with the topics that are under copyright protection is comparable, with the exception of databases in which the percentage of

incorrect responses by the Czechs was much higher than for the Spanish. Likewise, the opinion on global copyright policy is very similar, with the exception that Spanish students value in a greater percentage the need for worldwide copyright harmonization. Very similar are also the opinions on the subjects in which they have been trained and the topics they consider most important to know before graduation, the need to include in the curriculum issues about copyright, or the sources of consultation to obtain more information about copyright.

Additionally, there are differences between the two studies in items related to national legislation: The percentage (80.5%) of Czech students that know the name of the law that regulates copyright in their country is higher than for the Spanish (44.9%). However, Spanish students have a better understanding of the contents included in copyright legislation than do the Czechs.

The other two studies carried out within this international initiative in Norway (Gastinger and Landøy, 2019) and Iceland (Pálsdóttir, 2019), have not been used as a reference in this discussion because of the limited number of students who responded to the survey.

Surveys similar to our study have been carried out on French doctoral students (Boustany & Mahé, 2016), and specialists in libraries and cultural institutions, conducted in 13 countries (Todorova et al., 2017) and Spain (Arias-Coello & Simon-Martin, 2018).

If we compare the results obtained in our study with those carried out on French doctoral students (Boustany & Mahé, 2016), we find that in both cases there is low familiarity with "fair use", or copyright issues regarding "materials in the public domain", "out-of-print works" and "orphan works". The most notable differences between the two studies is that Spanish LIS students show a greater familiarity with the open rights movements (open access and creative commons licenses), possibly related to the training received and the desire to learn about these aspects.

Comparing our results with those obtained in the multinational study conducted on specialists in libraries and cultural institutions (Todorova et al., 2017) and in Spain (Arias-Coello and Simon-Martin, 2018), we can see that in the question about students' familiarity with general copyright aspects, the most familiar topics for participants were "Copyright and related law – national level" (63.7%) and "Creative Commons Licenses" (59.2%).

In the study on Spanish professionals, they were also very or moderately familiar with the two previous aspects and presented higher values than in the multinational survey. The only exception is orphan works, where in multinational studies students are found to be more knowledgeable than specialists.

In both surveys, students and specialists were asked to express their personal opinion about two similar statements. For the statement "Library and cultural heritage services should comply with copyright legislation", Spanish professionals and specialists in the multinational study have a more favorable opinion than Spanish students. However, for the statement, "Worldwide harmonization of exceptions and limitations to copyright for libraries and archives is necessary", students have a more favorable opinion about the statement than Spanish professionals and the multinational study. Spanish students and professionals have similar opinions about where copyright issues should be included in the different levels of the LIS curricula.

The three studies also show similar results about the preferred resources for learning more about intellectual property/copyright and how this is related to the activities of cultural institutions (libraries, archives, and museums). We must emphasize that in the case of students it is surprising that only 36.6% would ask their teachers about copyright issues.

In conclusion, we think that there is a strong need to increase intellectual property and copyright information and knowledge in LIS undergraduate courses since these issues are currently an important part of the expertise of the information professional, and will be even more so in the future. Likewise, curriculum changes should be introduced to improve students' knowledge of copyright issues in the digital environment.

## 6. ACKNOWLEDGEMENTS

This study is one of the results of the International Copyright Literacy of LIS Students (CoLIS) research project, coordinated by Serap Kurbanoğlu and Yurdagul Unal (Hacettepe University, Turkey), Tania Todorova and Tereza Trencheva (SULSIT, Bulgaria) and Joumana Boustany (Université Paris Est Marne-la-Vallée, France) and to Gabinete Lingüístico Universidad Complutense de Madrid, for the English translation of this work.

## REFERENCES

- Arias-Coello, A.; Simón-Martín, J. (2018). Copyright Literacy in Spanish Libraries, Archives, and Museums. In: Kurbanoglu, S.; Boustany, J.; Špiranec, S.; Grassian, E.; Mizrachi, D.; Roy, L. (Eds.), *Information Literacy in the Workplace. ECIL 2017. Communications in Computer and Information Science*, 810, 286-293. [https://doi.org/10.1007/978-3-319-74334-9\\_30](https://doi.org/10.1007/978-3-319-74334-9_30)
- Boustany, J.; Mahé, A. (2016). Copyright Literacy of Doctoral Students in France. In: Kurbanoglu, S.; Boustany, J.; Špiranec, S.; Grassian, E.; Mizrachi, D.; Roy, L. (Eds.), *Information Literacy: Moving Toward Sustainability. ECIL 2015. Communications in Computer and Information Science*, 552, 210-219. [https://doi.org/10.1007/978-3-319-28197-1\\_22](https://doi.org/10.1007/978-3-319-28197-1_22)
- Burnett, P. (2013). Challenges and problems of library and information science education in selected African countries. In: *IFLA World Library and Information Congress 2013*. Oxford: International Network for the Availability of Scientific Publications. Retrieved from <http://library.ifla.org/175/1/199-burnett-en.pdf>.
- Charbonneau, D. H.; Priehs, M. (2014). Copyright awareness, partnerships, and training issues in academic libraries. *The Journal of Academic Librarianship*, 40, 228-233. <https://doi.org/10.1016/j.acalib.2014.03.009>
- Chou, C.; Chan, P. S.; Wu, H. C. (2007). Using a two-tier test to assess students' understanding and alternative conceptions of cyber copyright laws. *British Journal of Educational Technology*, 38, 1072-1084. <https://doi.org/10.1111/j.1467-8535.2006.00695.x>
- Chu, H. (2010). Library and information science education in the digital age. In A. Woodsworth (Eds.). *Advances in librarianship. Exploring the Digital frontier*, 32, 77-112. New York: Emerald. [https://doi.org/10.1108/S0065-2830\(2010\)0000032007](https://doi.org/10.1108/S0065-2830(2010)0000032007)
- Cross, W. M.; Edwards, P. M. (2011). Preservice legal education for academic librarians within ALA-accredited degree programs. *portal: Libraries and the Academy*, 11, 533-550.
- Dames, K. M. (2006). Library schools and the copyright knowledge gap. *Information Today*, 23, 1-15.
- Datig, I.; Russell, B. (2015). The fruits of intellectual labor: International student views of intellectual property. *College & Research Libraries*, 76, 811-830. <https://doi.org/10.5860/crl.76.6.811>
- Dryden, J. (2010). What Canadian archivists know about copyright and where they get their knowledge. *Archivaria*, 69, 77-116.
- Eye, J. (2013). Knowledge level of library Deans and Directors in copyright Law. *Journal of Librarianship and Scholarly Communication*, 2(1), eP1103. <https://doi.org/10.7710/2162-3309.1103>
- Fernández-Molina, J. C.; Moraes, J. B. E.; Guimaraes, J. A. C. (2017). Academic libraries and copyright: do librarians really have the required knowledge? *College & Research Libraries*, 78, 241-259. <https://doi.org/10.5860/crl.78.2.241>
- Gastinger, A.; Landøy, A. (2019). Copyright Literacy Skills of LIS Students in Norway. In Kurbanoglu, S.; Špiranec, S.; Ünal, Y.; Boustany, J.; Huotari, M. L.; Grassian, E.; Mizrachi, D.; Roy, L. (Eds.): *Information Literacy in Everyday Life. ECIL 2018, Communications in Computer and Information Science*, 989, 578-584. [https://doi.org/10.1007/978-3-030-13472-3\\_54](https://doi.org/10.1007/978-3-030-13472-3_54)
- Gathegi, J. N.; Burke, D. E. (2008). Convergence of information and law: A comparative study between i-schools and other ALISE schools. *Journal of Education for Library and Information Science*, 49, 1-22.
- Johnston, N.; Williams, R. (2015). Skills and knowledge needs assessment of current and future library professionals in the state of Qatar. *Library Management*, 36, 86-98. <https://doi.org/10.1108/LM-10-2014-0120>
- Joint Information Systems Committee (2012). *Researchers of tomorrow: The research behavior of generation Y doctoral students*. London: JISC/British Library (Retrieved from <http://www.jisc.ac.uk/media/documents/publications/reports/2012/researchers-of-tomorrow.pdf>).
- Kelly, E. J. (2018). Rights instruction for undergraduate students: Needs, trends, and resources. *College & Undergraduate Libraries*, 25, 1-16. <https://doi.org/10.1080/10691316.2016.1275910>
- Kovářová, P. (2019). Copyright Literacy of LIS Students in the Czech Republic. In Kurbanoglu, S.; Špiranec, S.; Ünal, Y.; Boustany, J.; Huotari, M. L.; Grassian, E.; Mizrachi, D.; Roy, L. (Eds.): *Information Literacy in Everyday Life. ECIL 2018, Communications in Computer and Information Science*, 989, 585-593. [https://doi.org/10.1007/978-3-030-13472-3\\_55](https://doi.org/10.1007/978-3-030-13472-3_55)
- Muriel-Torrado, E.; Fernández-Molina, J. C. (2015). Creation and use of intellectual works in the academic environment: Students' knowledge about copyright and copyleft. *The Journal of Academic Librarianship*, 41, 441-448. <https://doi.org/10.1016/j.acalib.2015.05.001>
- Naheem, K. T. (2017). Copyright literacy of library and information science professionals in India: A survey. *International Journal of Information Dissemination and Technology*, 7, 261-265. <https://doi.org/10.5958/2249-5576.2017.00036.X>
- Olaka, M. W.; Adkins, D. (2012). Exploring copyright knowledge in relation to experience and education level among academic librarians in Kenya. *The International Information & Library Review*, 44, 40-51. <https://doi.org/10.1080/10572317.2012.10762913>
- Pálsdóttir, Á. (2019). Copyright Literacy Among Students of Information Science at the University of Iceland. In Kurbanoglu, S.; Špiranec, S.; Ünal, Y.; Boustany, J.; Huotari, M. L.; Grassian, E.; Mizrachi, D., Roy, L. (Eds.). *Information Literacy in Everyday*

- Life. ECIL 2018, *Communications in Computer and Information Science*, 989, 569–577. [https://doi.org/10.1007/978-3-030-13472-3\\_53](https://doi.org/10.1007/978-3-030-13472-3_53)
- Schmidt, L.; English, M. (2015). Copyright instruction in LIS programs: Report of a survey of standards in the U.S.A. *Journal Academic Librarianship*, 41, 736–743. <https://doi.org/10.1016/j.acalib.2015.08.004>
- Tella, A.; Oyeyemi, F. O. (2017). Undergraduate students' knowledge of copyright infringement. *Brazilian Journal of Information Studies: Research Trends*, 11, 38-53. <https://doi.org/10.36311/1981-1640.2017.v11n2.05.p38>
- Todorova, T.; Peteva, I. (2013). Information Literacy Competency of LIS Students in SULSIT with a Special Focus on Intellectual Property. In Kurbanoglu, S.; Grassian, E.; Mizrachi, D.; Catts, R.; Špiranec, S. (eds.), *Worldwide Commonalities and Challenges in Information Literacy Research and Practice, ECIL 2013: Communications in Computer and Information Science*, 397, 610–616. [https://doi.org/10.1007/978-3-319-03919-0\\_82](https://doi.org/10.1007/978-3-319-03919-0_82)
- Todorova, T. Y.; Kurbanoglu, S.; Boustany, J.; Dogan, G.; Saunders, L.; Horvat, A.; Terra, A. L.; Landøy, A.; Repanovici, A.; Morrison, C.; Sanchez-Vanderkast, E. J.; Secker, J.; Rudzioniene, J.; Kortelainen, T.; Koltay T. (2017). Information professionals and copyright literacy: a multinational study. *Library Management*, 38, 323- 334. <https://doi.org/10.1108/LM-01-2017-0007>
- Wu, H. C.; Chou, C.; Ke, H. R.; Wang, M. H. (2010). College students' misunderstandings about copyright laws for digital library resources. *The Electronic Library*, 28, 197-209. <https://doi.org/10.1108/02640471011033576>