



Digital Teaching and Copyright Challenges Under EU Law: Insights from Slovenian Academic Staff

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In the context of increasingly digitised education, understanding the lawful use of copyrighted material has become essential for academic staff. This study examines university teachers' awareness of copyright law and its practical application in teaching, particularly in online and distance learning environments. A quantitative survey was conducted among higher education teachers and faculty assistants at a selected Slovenian university using a structured questionnaire. The findings indicate that, although participants generally recognise the importance of copyright law, their practical knowledge—especially in scenario-based teaching situations—varies considerably. More experienced staff reported higher levels of understanding and greater caution in the use of copyrighted material, whereas less experienced staff more frequently reported practices that may fall outside compliant use. Respondents also expressed strong interest in copyright training, yet only a small proportion reported having access to training opportunities within the institution. The study is embedded in the broader legal framework of EU copyright law, in particular Directive (EU) 2019/790, which introduced mandatory exceptions for digital and cross-border teaching. This directive was transposed into Slovenian legislation in 2022. The results underscore the importance of strengthening legal literacy and institutional support mechanisms to facilitate copyright-compliant teaching in digital learning environments.

Keywords: copyright awareness, higher education, teaching materials, copyright law, academic staff training, digital education

INTRODUCTION

At the European Union level, the reform of copyright law began in September 2016 when the European Commission proposed the Directive on Copyright in the Digital Single Market. This reform culminated in the adoption of two important pieces of legislation in 2019: Directive (EU) 2019/789 and Directive (EU) 2019/790. Directive 2019/789 sets out rules for the exercise of copyright and related rights applicable to certain online transmissions and retransmissions by broadcasting organisations, while

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Directive 2019/790 – commonly known as the DSM Directive – aims to harmonise copyright exceptions and licensing mechanisms in EU Member States, adapting them to digital and cross-border contexts (Official Journal of the European Union, 2019a; 2019b).

The development of digital technologies has significantly altered traditional concepts of copyright law. Owing to their technical characteristics, digital works can be easily reproduced, distributed and stored, while multimedia content and the seamless transmission of digital works in particular challenge existing legal categories and classifications of copyrighted works (Pistorius & Mwim, 2019).

According to Article 5 of Directive 2019/790, educational establishments are granted a mandatory exception allowing the use of copyrighted material to illustrate teaching – particularly in digital and cross-border environments – provided that the use is non-commercial, the source is acknowledged and it takes place in a secure electronic environment, such as a virtual learning environment (VLE) or an intranet. However, Member States may exclude certain works, such as educational market-specific materials and sheet music, if appropriate licences are readily available. Appropriate compensation for rightholders may also be determined by Member States (European Commission, 2019).

Slovenia transposed the Directive into national law through amendments to the Copyright and Related Rights Act (CRRRA), which came into force in September 2022. However, this process presented some challenges. Although the previous legislation already provided exceptions for face-to-face teaching, it did not explicitly cover digital and cross-border teaching scenarios. While education and research institutions lobbied for broader and clearer exemptions, their proposals were not fully incorporated into the final amendments (Ministry of Economic Development and Technology of Slovenia, 2022). Similar challenges have been identified across other EU Member States, where the implementation of Article 5 of Directive (EU) 2019/790 has followed divergent national models and has only partially succeeded in creating a coherent and sustainable balance between copyright protection and the right to education in digital teaching environments (Priora, Jütte, & Mezei, 2022).

In some countries, challenges related to the use of copyrighted works in education have been addressed through legislative reforms accompanied by practical guidelines for teachers and researchers. The example of Germany demonstrates that, alongside statutory provisions, institutional support plays a crucial role in helping users understand and apply copyright exceptions in higher education teaching and research (Bundesministerium für Bildung und Forschung, 2019). As Bogataj Jančič and Krajnc (2018) emphasise, clearly defined exceptions for educational purposes are crucial for balancing the rights of creators and the public's interest in accessible, high-quality education. The increasing use of digital education platforms has further intensified the legal and ethical issues surrounding the use of copyrighted material. While many scholars have focused on the digital literacy of students (e.g. Rini et al., 2022), significantly less attention has been paid to the preparation of academic staff, who are expected to act as curators of content and digital intermediaries. Research from other

European higher education systems similarly shows that academic staff often face legal uncertainty when applying copyright exceptions in digital teaching, particularly in the absence of clear institutional guidance (Trapova, 2023).

This paper fills this gap by investigating the awareness and practical understanding of copyright law among higher education teachers at a selected Slovenian university. The study also assesses the extent of institutional support, in the form of training and legal advice, with the overall aim of promoting lawful, ethical and effective educational practices in a digitally mediated learning environment.

Literature review

As the educational process is inherently linked to the use of books, scholarly articles and other copyrighted materials, copyright law has a direct impact on access to knowledge. Legal and technological restrictions that unduly limit the use of such works in the digital environment may, in turn, hinder teaching and learning and contribute to the widening of the knowledge gap (Pistorius & Mwim, 2019).

A comprehensive understanding of copyright regulation in the educational context requires consideration of both national legal and academic perspectives, as well as broader international developments. Accordingly, this literature review is divided into two parts. First, the main Slovenian legal frameworks and academic contributions on copyright and education are analysed, with a focus on the legal environment before and after the transposition of Directive (EU) 2019/790. In the second part, the report examines international and comparative studies that shed light on common challenges and emerging solutions regarding the implementation of copyright exceptions for teaching in digital environments.

Bregar, Zigmajster, and Radovan (2010) point out that copyright protection is one of the areas that is taking on new dimensions due to the use of ICT. The authors (*ibid.*) explain that, historically, the issue of copyright protection emerged with the invention of the Gutenberg printing press, which enabled the mass printing of written texts. The first printers were at the same time publishers and therefore bore the costs of publishing and compensating authors, but were not legally protected (*ibid.*). Today, it can be observed that the protection of intellectual property is gaining importance across the world, as the human mind is one of the main drivers of technological and cultural development (Slovenian Intellectual Property Office, n.d.). Bogataj Jančič and Krajnc (2018) furthermore add that copyright law also has a profound impact on the educational process. The authors (*ibid.*) highlight, as an example, both aspects of this process: on the one hand, primary school, secondary school, and university students taking part in the education and, on the other hand, the way in which teachers, professors, and scientists teach, as both aspects can involve the use of copyrighted works.

Bregar et al (2010) observe that in modern societies it is even more important to address the copyright issue, since copyright regulates access to information as one of the main sources of development; the Internet plays a central role in this, being a medium that has drastically increased the accessibility of information and enabled the use of these

information in a variety of ways and for very different purposes. Creative achievements should be protected and properly rewarded to promote a continuous creative process (Slovenian Intellectual Property Office, n.d.). In the Republic of Slovenia, copyright and related rights are regulated by the Copyright and Related Rights Act (CRRA; Official Gazette of the Republic of Slovenia No 16/07 – official consolidated text and amendments). In accordance with Articles 14 and 15 of the CRRA, copyright belongs to the author by the mere fact of creation of a work and is an indivisible right in an author's work, from which emanate exclusive personal powers (moral rights), exclusive economic powers (economic rights), and other powers of the author (other rights of the author). No formalities are needed for a work to enjoy copyright protection (Slovenian Intellectual Property Office n.d.).

Exceptions and limitations to copyright for educational purposes are an institution of copyright law that is crucial in ensuring an accessible and quality education system. They are founded on the constitutional right to education and allow teachers to perform their work tasks without having to obtain permission from copyright holders every time they use protected content. The need to introduce exceptions to copyright for educational purposes was already expressed at the time of the adoption of the Berne Convention for the Protection of Literary and Artistic Works and taken into account when adopting EU copyright legislation (Krajnc, 2016).

Repas and Ovčak Kos (2022) analysed the relevant provisions of the CRRA in force before the expiry of the time-limit for transposition of Directive 2019/790 into national law, concluding that during the closure of educational institutions and libraries, the practice of providing accessibility to study materials by publishing them on the websites of educational institutions or in online classrooms would not be in compliance with Slovenian copyright law; similar considerations applied to providing reproductions of copyright-protected materials to all university students in a given year. The authors (ibid.) also concluded that it would be permissible to provide links to materials available on the Internet in an online classroom. As they further explain (ibid.), this situation was to some extent modified by Directive 2019/790, which allows for the publication of parts of copyrighted works in online classrooms, but only for the purpose of illustration in teaching, which is an important limitation. Accordingly, teachers may only display and publish in online classrooms those excerpts of copyrighted works that illustrate the subject matter.

Repas and Ovčak Kos (2022) point out that in order to determine which ways of accessing study and other materials are permissible from the perspective of copyright law, and which materials teachers may display and publish in the context of distance learning, it is crucial to identify which materials fall into the category of 'copyright-protected works'. In this context, the authors explain (ibid.) that if a particular material is not considered copyrighted work, this means that there is no copyright in that work and can thus be freely used.

International scholarship confirms that exceptions for educational use represent a fundamental mechanism in modern copyright frameworks. Flynn (2023) outlines the historical development of such exceptions, tracing their origins from the early

formulation in the Berne Convention to their recognition in more recent international copyright treaties, and emphasises their growing significance in the digital age. In the European context, Priora, Jütte and Mezei (2022) provide an in-depth analysis of Article 5 of EU Directive 2019/790, which introduced mandatory exceptions for digital and cross-border teaching. Their comparative study of Germany, Italy and Hungary demonstrates that national transpositions remain inconsistent, despite the Directive's objective of harmonisation. Similarly, Trapova and Jütte (2023) highlight that university teachers in Ireland and Bulgaria continue to face legal uncertainty, as inconsistent interpretations of the law shift the burden of complying with the Directive on individual teachers, even when they act in good faith.

A global perspective is offered by the South Centre (2024), which highlights the need to modernise copyright exceptions in order to ensure equitable access to education and research in digital contexts. The report argues in favour of flexible, clearly defined legal provisions that support innovative pedagogical methods.

In addition, Nascimento, Correia, and O'Sullivan (2024) examine how the complexity of copyright regulations contributes to "technostress" among academic staff. The rapid digital transformation in higher education means that teaching staff not only need to acquire and apply new digital skills, but also navigate increasingly complicated legal frameworks. Copyright law, in particular, poses an additional cognitive and administrative burden that can hinder adaptation to digital environments. However, the authors argue that, with adequate institutional support and training, these burdens may be transformed into opportunities for professional development.

Comparative legal scholarship emphasises that concepts of fair or free use of copyrighted works for education and research are embedded in copyright regimes worldwide, with the aim of balancing the interests of rightholders and the public interest in access to knowledge. At the same time, scholars point out that the limits of such permitted use are generally not precisely defined, but rather depend on the assessment of the specific circumstances of each case. For this reason, legal theory often advocates a more liberal interpretation of copyright exceptions, particularly where educational and research purposes are concerned (Billah & Albarashdi, 2018).

All of these findings confirm the idea that while copyright exceptions for education are widely recognised in legal theory, their practical implementation is still inconsistent. Bridging the gap between legislation and classroom practice – especially in digital environments – requires both a clear legal framework and targeted institutional support.

METHOD

A quantitative survey was conducted using descriptive and causal non-experimental methods of empirical pedagogical research (Sagadin, 1991).

Participants

The basic statistical population consisted of higher education teachers and faculty assistants at a selected Slovenian university, which employed 289 and 118 individuals in these respective roles, totalling 407 academic staff. The questionnaire was completed

by 63 respondents representing 15.48% of the total target population. Such response rates are common in web-based surveys involving teachers, as previous research has shown that teachers' willingness to participate in online questionnaires is influenced by a range of structural and organisational factors, including survey length, ethical assurances, the perceived authority of the sender, the timing of the invitation, and the use of reminders (Lavidas et al., 2022). The response rate obtained in the present study is therefore consistent with patterns reported for teacher-focused web surveys. A non-probability purposive sampling method was employed, as all higher education teachers and faculty assistants at the selected university were invited to participate in the study. Among these, 44 (69.8%) were female and 19 (30.2%) were male.

In terms of workplace distribution, the majority of participating respondents (43 [68.3%]) were higher education teachers, followed by faculty assistants (11 [17.5%]). Some of the respondents (9 [14.3%]) were employed in equal proportions as higher education teachers and assistants or researchers.

In terms of the number of years of service in education, the largest percentage of respondents (21 [33.3%]) had completed from 12 to 17 years of service. The share of respondents with 5 years or less of service was also relatively high (16 [25.4%]), while respondents who had completed from 24 to 29 years of service in education were the least represented group (4 [6.9%]).

Due to a rather low number of respondents, a new variable was constructed to include only two categories, which were based on the years of service in education, i.e. 11 years or less of service (25 [39.7%]) and more than 11 years of service (38 [60.3%]).

Instrument and procedure

An online questionnaire was developed for the purpose of the survey. The initial part of the questionnaire was aimed at gathering demographic data and was followed by three sets of questions. The first set explored general knowledge of copyright, the second dealt with the importance of copyright and training designed for academic staff on this subject, while the third focused on examining the use of online platforms, tools, and materials during the teaching process.

Participants were invited to take part in the study via their institutional email addresses, with the assistance of faculty administrative offices. The invitation was formally sent to the academic staff of all six faculties, as well as to the affiliated research institute of the selected university.

The questionnaire's content validity was ensured by correcting the pilot questionnaire. As the questionnaire included multidimensional variables in terms of content, checking reliability by means of Cronbach's α coefficient and factor analysis would not be feasible. The objectivity of the questionnaire was ensured mainly by closed-ended survey questions and unguided completion of the questionnaire.

Ethical considerations

The study was conducted in accordance with the Ethics Code and the Ethics in Research guidelines of the selected university, as well as the European Code of Conduct for

Research Integrity (ALLEA, 2023). According to the institutional guidelines, survey studies involving adult participants that pose negligible risk and do not collect sensitive personal data do not require formal review by the institutional ethics committee, and the determination of such exemption lies primarily with the researcher. The present research involved an anonymous, voluntary online questionnaire administered to academic staff members. No sensitive or identifying personal data were collected, the questions referred exclusively to respondents' professional experiences, and participants could withdraw simply by choosing not to submit the survey. Upon accessing the online questionnaire (IKA platform), participants were presented with an introductory statement outlining the purpose of the study, the voluntary nature of participation, confidentiality measures, and data-protection safeguards. All data were analysed in aggregated form only.

Data analysis

The collected data were processed using the Statistical Package for Social Sciences (SPSS). The following methods were applied for data processing:

- basic descriptive statistics;
- inferential non-parametric tests: the Mann-Whitney U test (as the conditions of the normality of distribution ($P > .05$) and of the assumption of the equality of variance ($P > .05$) were not fulfilled).

FINDINGS

Knowledge of copyright law and its importance in relation to the number of years of service in education

The aim of the research was to establish whether self-assessed knowledge of copyright law varies according to the number of years of service in education. As the analysis was based on ordinal variables and the assumption of homogeneity of variances was not met, the obtained data were examined using the non-parametric Mann-Whitney U test. Normality was assessed with the Shapiro-Wilk test, which indicated significant deviations from a normal distribution ($P < .05$), while Levene's test confirmed unequal variances between the groups ($P < .05$). Given that the independent variable consisted of only two categories, the Mann-Whitney U test was the most appropriate procedure for comparing two independent groups. Alternative non-parametric tests (e.g., the Kruskal-Wallis test or the Wilcoxon Signed-Rank test) were not suitable, as they are intended for more than two groups or for paired samples (Field, 2018).

The modest sample size further supported the use of a non-parametric approach, which is more robust when parametric assumptions are violated. Due to the modest sample size, the variable relating to years of service was recategorised. Several of the original categories were sparsely populated, which could have resulted in unstable or misleading outcomes. To address this, a dichotomous variable was created, distinguishing between respondents with 11 years of service or fewer and those with 12 or more years, thereby ensuring more reliable group comparisons.

Table 1
Results of the Mann-Whitney difference test regarding self-assessed knowledge of copyright law

Self-assessed knowledge of copyright law	Years of service in education	n	\bar{R}	\bar{X}	U	P
	11 years or less	25	25.46	2.52		
12 years or more	38	36.30	3.24			

Notes: n – numerus, \bar{R} – average rank, \bar{X} – arithmetic mean, U – Mann-Whitney U test value, P – statistical significance

For a better overview of the differences in ratings, the table contains arithmetic mean values, in addition to average rank values. The table shows that employees with 12

years or more of service rated their knowledge of copyright law higher ($\bar{X} = 3.24$) than

employees with 11 years or less of service ($\bar{X} = 2.52$). The Mann-Whitney test value (U = 311.500, P = 0.017) shows statistically significant differences between the two groups. The results suggest that the number of years of service in education has a (positive) effect on knowledge of copyright law. However, it is important to note that even for employees with 12 years or more of service the arithmetic mean is not significantly higher, which would indicate a good knowledge of copyright law.

Regardless of the values, both groups, which differ in the number of years of service, consider it important to be familiar with copyright law, as is shown in the table below.

Table 2
Results of the Mann-Whitney difference test regarding the assessment of the importance of copyright law

Assessment of the importance of copyright law	Years of service in education	n	\bar{R}	\bar{X}	U	P
	11 years or less	25	28.76	4.24		
12 years or more	38	34.13	4.34			

Notes: n – numerus, \bar{R} – average rank, \bar{X} – arithmetic mean, U – Mann-Whitney U test value, P – statistical significance

Both groups of employees believe that a high level of knowledge of copyright law is

very ($\bar{X} = 4.24$; $\bar{X} = 4.34$) important. There are also no significant differences in the ratings between the two groups, as indicated by the Mann-Whitney U test value (U = 394.000, P = 0.204), that shows no statistically significant differences.

Given the results on the knowledge and on the importance of copyright law, we wanted to determine whether employees want to receive training on this topic and whether such training is available to them in the context of their employment.

Table 3
Number (f) and percentage (f%) of higher education teachers' and faculty assistants' opinions on the topic of copyright

Statement	Answer	f	f(%)
Desire to receive training on the topic of copyright	Yes.	50	80.6
	No.	12	19.4
Training opportunities on copyright law within the university	Yes.	10	16.4
	No.	51	83.6
Requesting help or advice on copyright	Yes.	20	32.3
	No.	42	67.7

Fifty (80.6%) respondents wish to receive training on copyright law, while 12 (19.4%) do not. Respondents were also asked whether there were any training opportunities on this topic at the university, and only 10 (16.4%) answered "yes". Those who answered "yes" stated that training was available to them at the university; specifically, it was provided by the university innovation centre, external providers, the university press, and within the various projects in which the respondents were involved. 32.2% of respondents ask for help or advice on copyright. They usually consult their lawyer colleagues and the university press. Those who request help or advice, pointed to the university innovation centre, colleagues who are specialised in copyright, the university press, lawyers, publishers, and editors.

The results reveal a marked discrepancy between the strongly expressed need for training in copyright law and the limited availability of such educational opportunities within the institution. The fact that only around one third of respondents seek help or advice, primarily from informal or project-based sources, indicates the absence of a clearly established institutional support mechanism.

These findings are consistent with the literature, which highlights that knowledge of copyright law is often fragmented in practice and left to individual responsibility, as many institutions lack clearly defined roles, structures, or systematic programmes for training and advisory support in this area (Secker & Morrison, 2016). In the absence of such mechanisms, copyright education is unlikely to become part of the institutional culture, thereby increasing legal uncertainty and leading to inconsistent practices among teaching staff.

Identifying the use of materials for teaching purposes

In the third part of the questionnaire respondents were first asked whether they can determine if the materials (textbooks, books, articles, journals, online materials, etc.) they employ can be used for teaching purposes. Thirty-five (64.8%) said they could.

Table 4
Number (f) and percentage (f%) of higher education teachers' and faculty assistants' opinions on the use of materials for teaching purposes

Question	Answer	f	f(%)
As regards the use materials (textbooks, books, articles, journals, online materials, etc.) for teaching purposes, can you determine if they can be used?	Yes.	35	64.8
	No.	19	35.2

In the questionnaire we also asked respondents about real-life situations of legitimate use and distribution of material, to gain a better insight into their knowledge of copyright law.

Respondents were asked about the online platforms and other tools they use in their teaching work. Fifty respondents indicated that they use an online classroom, and those were asked an additional question about how they upload the materials to the online classroom. All respondents were asked about the last two statements in the table.

Table 5

Descriptive statistics for real-life situations that involve the use of materials for pedagogical purposes

		Never	Rarely	Sometimes	Often	Always	\bar{X}	s
file	f	11	9	13	15	4	2.85	1.274
	f(%)	21%	17%	25%	29%	8%		
link to a file	f	8	7	16	16	1	2.87	1.123
	f(%)	17%	15%	33%	33%	2%		
video and audio recording	f	24	13	6	6	3	2.08	1.250
	f(%)	46%	25%	12%	12%	6%		
link to a video and audio recording	f	7	13	13	15	4	2.90	1.209
	f(%)	13%	25%	25%	29%	8%		
printing study materials that are not the employee's copyrighted work	f	27	17	11	5	0	1.90	.986
	f(%)	42%	26%	17%	8%	0%		
playing video or audio content that is not the employee's copyrighted work	f	6	12	24	15	2	2.93	1.015
	f(%)	9%	18%	37%	23%	3%		

Notes: \bar{X} – arithmetic mean, s – standard deviation

The table shows that the most common answers for “file” and “link to a file” were often (file 29%; link to a file 33%) and sometimes (file 25%; link to a file 33%). In line with the interpretation of the provisions of the CRRA, the Intellectual Property Institute explains that providing links to websites that contain copyrighted work of other people (for example a file) is allowed. The situation is different when it comes to downloading a file and uploading it to an online classroom, as such use generally requires permission from the author or the copyright holder. This is not the case if the author publishes a copyrighted work under one of the open access licences, which, however, does not imply free use, but use in accordance with the licence rules (e.g. publishing a work under a CC-BY licence means that the work may be used, provided that the author is given credit) Slovenian Intellectual Property Office (n.d.).

As for uploading a video and audio recording to an online classroom or sharing links to

video and audio recordings, on average ($\bar{X} = 2.90$) more respondents choose to provide links to video and audio recordings. With regard to this, it is important to consider file size limitations, as the file size of audio and video recordings is usually considerably larger than, for example, articles in .doc or .pdf format. The majority of respondents (42%) do not print study materials that are not their copyrighted work, however, they occasionally (37%) and frequently (23%) play video and/or audio content that is not their copyrighted work.

The inconsistency of practices in the use of teaching materials can be partly attributed to the fact that legislation does not define clear quantitative or substantive limits of permitted use, but instead leaves such assessments to the specific circumstances of each case (Billah & Albarashidi, 2018).

Given that there were statistically significant differences in the self-assessment of the knowledge of copyright law in relation to the number of years of service in education and that respondents with more years of service were found to rate themselves with higher ratings, we wanted to determine whether statistically significant differences would also be found in real-life situations that involve the use of materials in teaching.

We verified the statements in Table 5. Statistically significant differences were found for the following statements: printing study materials that are not the employee's copyrighted work ($U = 246.000$, $P = 0.002$), providing the link to a video and audio recording in an online classroom ($U = 211.500$, $P = 0.029$), uploading a video and audio recording to an e-classroom ($U = 214.000$, $P = 0.035$). As we operated with attribution variables and the homogeneity of variance hypothesis was not confirmed, the calculation was made with the Mann-Whitney U test. The results show that, on average,

respondents with fewer years of service print materials for students more often ($\bar{X} = 2.40$) than respondents with more years of service ($\bar{X} = 1.54$).

Given that printing study materials that are not the employee's copyrighted work does not comply with copyright law, the results suggest that in this case employees with more years of service have more knowledge on the subject.

On the other hand, the results related to the statements on the upload of audio and video recordings and on the provision of links to audio and video recordings show the opposite. On average, respondents with more years of service upload audio and video

recordings ($\bar{X} = 2.38$) and links to audio and video recordings more frequently ($\bar{X} = 3.19$) than respondents with fewer years of service in education (audio and video recording ($\bar{X} = 1.60$); link to an audio and video recording ($\bar{X} = 2.48$)).

Table 6
Number (f) and percentage (f%) of higher education teachers' and faculty assistants' opinions on the upload of a scanned article to an online classroom

Question	Answer	f	f(%)
You would like to upload a scanned article from a peer-reviewed journal to your online classroom. Do you think you can do this without violating copyright?	Yes.	11	19.6
	No.	19	33.9
	I don't know.	19	33.9
	Other	7	12.5

Eleven (19.6%) respondents believe that a scanned article can be uploaded to an online classroom for students. Nineteen (33.9%) disagreed, while 33.9% could not answer whether this is in line with copyright regulations. Seven (12.5%) respondents chose the answer "Other". Of those, four respondents stated that this is possible if the article is an

open access article, followed by individual respondents who stated that it is appropriate if the author is named; that it depends on a number of factors (age of the article/journal, whether they obtained permission); that they upload it if the e-classroom is a closed environment that is not accessible to the general public.

The results indicate that respondents' views on the permissibility of such practices differ considerably, with a substantial proportion of respondents unable to assess whether such use is compliant with the applicable legal framework. The dispersion of responses corroborates findings in the literature suggesting that, even when acting in good faith, higher education teachers often cannot reliably determine where the boundary lies between permissible educational use of copyrighted works and copyright infringement. Open and context-dependent legal standards in this field do not allow for clear-cut answers regarding the lawfulness of specific practices (Billah & Albarashdi, 2018; Hutchinson, 2003; Trapova & Jütte, 2023). As also noted by Vogl et al. (2012), even teachers who seek to comply with the law and act in good faith frequently struggle to assess whether institutional subscriptions, licensing terms or copyright exceptions actually permit the sharing of particular materials with students, as the relevant procedures are complex, time-consuming and legally ambiguous. With this question we also wanted to verify whether there are differences related to the number of years of service in education. As we operated with attribution variables, we used the χ^2 test to test the independence hypothesis. The value of the χ^2 test showed statistically significant differences ($\chi^2 = 6.886$, $g = 2$, $P = 0.032$). The results show that on average respondents with fewer years of service in education do not know whether the paper can be uploaded (13, i.e. 52%). On average, respondents with more years of service agreed that the paper can be uploaded to an online classroom without violating copyright (13, i.e. 41.9%).

DISCUSSION

Our study shows that, while academic staff generally recognise the importance of copyright, their actual knowledge – particularly regarding its practical application in the digital teaching context – remains limited. Participants with fewer years of professional experience reported having less confidence in dealing with copyright issues and were more likely to engage in non-compliant practices, such as printing or uploading copyrighted material without appropriate authorisation. These findings highlight a critical gap between awareness and legally compliant digital practice among educators. Our findings can also be interpreted in light of broader theoretical debates on the implementation of copyright law in digital education. Comparative scholarship points out that legislative frameworks based on open and indeterminate concepts often fail to operate effectively in practice in the absence of active institutional support. The effective application of statutory exceptions therefore depends on clear guidelines and expert support that assist teachers in understanding and applying legal provisions in concrete pedagogical contexts (Hutchinson, 2003). In the absence of such support, the burden of interpreting the law is shifted to individual teachers, increasing legal uncertainty and leading either to excessive caution or to non-compliant practices. Our findings align with recent empirical evidence indicating that uncertainty about copyright compliance can lead to anxiety and so-called “legal chill” among academic

professionals, which may constrain teaching practices and influence the selection of instructional materials in higher education. Research by Wakaruk, Secker, and Morrison (2025) documents how copyright concerns can lead academics to favour less appropriate or risk-averse choices of materials, potentially limiting the use of high-quality or innovative resources even when lawful use would be possible. Notably, practice-oriented interventions appear to mitigate these effects. A recent case study by Thaysen (2025) documents the development and evaluation of modular, context-specific copyright education for college educators, describing how such practice-oriented training can support educators in applying copyright knowledge effectively within teaching contexts. While much of the existing literature focuses on students' digital competences, online learning strategies and self-directed engagement in virtual environments (e.g. Rini et al., 2022; Munawaroh et al., 2022), our study shifts the focus to teaching staff. Educators play a central role in shaping digital learning environments and ensuring the responsible use of content. However, as our findings indicate, many lack adequate training and institutional support to confidently implement copyright-compliant practices.

The results reinforce existing literature suggesting that copyright education cannot rely solely on individual initiative. Secker and Morrison (2016) argue that sustainable copyright literacy requires institutional commitment, structured training, and clearly defined support mechanisms, a gap that is also evident in the limited availability of training reported by respondents in this study.

Although many participants in our study recognised the relevance of copyright to their teaching, actual practice during the transition to digital teaching often showed gaps in compliance. As Haneefa (2022) argues, the effective integration of online learning platforms – such as flipped classrooms – depends not only on the availability of technological tools, but also on clear institutional guidance and support structures. These findings underline the need for structured training on copyright and the ethical use of content in online education.

The rapid increase in the use of digital content during the COVID-19 pandemic posed new challenges for academic staff, particularly regarding legal and ethical considerations. While our study revealed gaps in academic staff's understanding of copyright responsibilities, related research suggests that pedagogical innovations can support more responsible content use. For example, Munawaroh et al. (2022) demonstrate that approaches such as e-Problem Based Learning (E-PBL) can promote student engagement and accountability, suggesting that similar benefits may also extend to teachers when supported by well-structured pedagogical and legal frameworks.

Masry-Herzallah (2022) also found that teachers' perceived success in online teaching was strongly correlated with their digital literacy, frequency of synchronous sessions, and overall satisfaction with their teaching experience. These results are consistent with our findings, which emphasise the need for systematic training in copyright and digital content use as part of broader efforts to improve teachers' digital readiness and legal literacy.

Uncertainty and missteps in the use of copyrighted material – such as improper uploading or reproducing – reflect the general problem of insufficient digital literacy in higher education. Rini et al. (2022) demonstrate that students' digital literacy is closely linked to their ability to engage in self-directed learning. Although our research focused on academic staff, the link between digital autonomy, legal awareness and responsible content use remains relevant for all stakeholders in education.

Finally, recent studies suggest that the “technostress” experienced by educators is not always detrimental. Nascimento, Correia and O’Sullivan (2024) describe a phenomenon known as “techno-eustress”, where manageable stress associated with the introduction of technology can boost motivation and improve performance. This finding emphasises the importance of institutional support – not only to ensure copyright compliance, but also to promote digital well-being and professional development.

CONCLUSION

In recent years, particularly when dealing the consequences of the COVID-19 epidemic, the teaching profession has undergone radical changes, which, among other aspects, included a shift towards distance learning. This has further highlighted certain issues related to copyright in the teaching process. Distance learning has enabled the teaching staff to be in daily contact with their primary school, secondary school, and university students. The preparation and implementation of the educational process, and the didactic activity itself, have changed considerably, as distance learning has been carried out through online platforms. It is the use of online platforms and online dissemination that brings to the fore the important aspect of copyright, specifically the use of copyrighted material for teaching and educational purposes. Since the use of works of other authors is an important aspect of teaching, and precisely because it is a functional and fundamental prerequisite for teaching, it is necessary to verify when a work, even if copyrighted, can be used for teaching purposes without the author’s permission. Using a copyrighted work is possible, but only in the cases and within the limits expressly provided by law.

Based on the results of the research, we can now better assess where there are the gaps in the knowledge about copyright law and which groups of employees would particularly benefit from training. The results also allowed us to identify what type of training on this topic can be provided, as well as to determine that higher education teachers and faculty assistants want to receive training on this subject.

Despite some encouraging results, the study also identified some notable challenges. While awareness of the importance of copyright was generally high, many respondents showed limited practical knowledge, particularly regarding its application in practice. This was particularly evident among those with fewer years of professional experience. They reported lower levels of confidence and showed a less accurate understanding of copyright compliant practices, particularly in relation to the reproduction and distribution of protected materials.

The study is not without limitations. While the sample size was sufficient to provide initial insights, it was relatively small and drawn from a single institution, which limits

the generalisability of the findings. In addition, the reliance on self-reported data may have introduced a degree of subjectivity, as respondents' answers reflect their perceptions and self-assessments at a specific point in time.

Building on these findings, future research could extend the scope of the study to multiple institutions and national contexts in order to enable broader comparisons. The inclusion of qualitative methods, such as interviews or focus groups, would allow for a more nuanced understanding of how academic staff interpret and apply copyright rules in everyday teaching practice. Longitudinal approaches could further examine how copyright awareness and behaviour develop over time, particularly in response to institutional training or policy changes.

Overall, the findings highlight the importance of clear institutional policies and dedicated support structures that promote the legal and ethical use of educational content in digital and hybrid learning environments. Investing in ongoing, practice-oriented training on copyright has the potential not only to improve legal compliance, but also to enhance confidence and quality in digitally mediated teaching.

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