

Jurisprudential dilemmas and possible solutions

for fair use in online education

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Article Received 25-07-2022 , Article Revised 10-08-2022 , Article Accepted 28-08-2022

ABSTRACT

The fair use regime in copyright is a balance between the promotion of innovation and the protection of the public interest. In the Internet era, when various communication and innovation technologies are emerging, the form, content, specific regime and legal protection of the fair use regime have encountered new problems. By looking back at the historical development of copyright and redefining the essence of the fair use system, after analyzing the specific forms and classifications of online education, and examining them in relation to whether they are of a pedagogical and scientific nature, whether they are profitable or not and to the scope of the target audience, the dilemma of extending the application of fair use to the current main areas of online education exists that is difficult to be compatible with the jurisprudential basis of fair use, and online education needs to refine the law in the area of obtaining copyright legality. Online education needs to refine legal concepts, improve collective use of copyright and actively invoke the help of new technologies.

Keywords: online education; intellectual property; fair use; breakthrough path

INTRODUCTION

This article is part of the research results of the "Prevention and Control of Legal Risks of Intellectual Property Rights in Online Education" (CCDB21165), a general project of the Beijing Municipal Education Science "14th Five-Year Plan" in 2021.

1. The current state of research on the issue of fair use of online education at home and abroad

(1) Current status of research on the issue of fair use of online education in China

China's current copyright law tends to apply the fair use system only to teaching staff in traditional classroom teaching, which will not be available to students in online teaching; moreover, the ways of exploiting works in the fair use system are limited to translation and a small number of copies, which will strictly limit the dissemination and reproduction of online teaching (Fang Zhangwei, 2016). The fair use system, as a mechanism

for balancing interests, reflects the value balance of fairness and justice first. The current copyright law on such issues should be optimised by drawing on the four elements of the US copyright law. For the copyright ownership of online education courses, as it involves the production teacher, the production platform and the teacher's affiliated unit or institution or company, whether it is simply a work of office should be further explored (Wang Lifang, 2014). As the course medium gradually includes a composite and diverse form of images, text, sound and other media from paper-based materials, the conforming use of copyright has become more complicated (Wang Duan. 2012). It has become a consensus that the traditional way of identifying content regarding copyright and neighbouring rights protection in the conforming carrier network environment needs urgent change (Li, 2020)¹ , and the risk of online copyright as a newly emerged technical risk and institutional risk in the

This study was supported by the Beijing Educational Science Planning Project (Grant No.CCDB21165)

network society needs urgent attention (Wu, H. D., 2012).

(2) Current status of foreign research on the issue of online fair use

Article 9(2) (i) and Article 10(2)(ii) of the Berne Convention both provide for a fair use regime, which is clearly applicable for "teaching purposes". In countries around the world, including the United States and Japan, internet education is still at a developmental stage, and a perfect model still needs to be explored and tested by time, and like China, the relevant intellectual property regulations are still being explored.

The intellectual property legislative process for online education in the US has evolved over time, and the application of the educational exemptions in copyright law was addressed in the IP and National Information Infrastructure Act of 1995. In 1999, the US National Copyright Office submitted the report Copyright and Digital Distance Education to Congress, which looked at the current state of distance education, licensing issues for copyrighted works, the technologies involved in digital distance education, the application of copyright law to digital distance education, research on copyright in relation to digital distance education, and the implications of changes to existing laws. The report analyses the copyright issues that may be encountered in digital distance education in six sections, including the current state of distance education, licensing issues, technologies included in digital distance education, the application of copyright law to digital distance education, copyright research related to digital distance education and the possibility of changes to existing laws. The TEACH Act was passed by the US Congress in November 2002 on the basis of a report by the Copyright Office, amending sections 110(2) and 112(f) of the 1976 Copyright Act, limiting the rights of copyright owners, extending the exemption for teachers using works for the purpose of conducting online teaching, and allowing teachers to consider the use of resources in distance education courseware as fair use. However, educational institutions are required to take technical measures to prevent teachers and students from accessing the resources outside of "course time" or retaining them for long periods of time, i.e. with strict limitations.

In the 2000 case *University City Studios Inc. Vs. eRimedes* in the Federal Court for the Southern District of New York, the court ruled that fair use does not justify the

circumvention of technological protection measures (Wu, 2004). The US Congressional hearings also pointed out that fair use is not a reason to circumvent technological protection measures. The US tends to compress the space for fair use in copyright law, explicitly asserting that fair use cannot be a ground for circumventing technological protection measures. However, in April 2011, the US Supreme Court in *Google vs Oracle* stated that "copyright protection must take into account whether it promotes the public interest and innovation", and that fair use should be encouraged if it is in the public interest, and that the change in decision illustrates the continuing impact of technology on copyright protection.² When technological advances lead to a change in the balance of rights, the interests of copyright owners and the public may be reassessed through US jurisprudence.

Japan attaches more importance to the protection of intellectual property rights in online education. In order to protect the interests of copyright holders effectively, ensure the timeliness of encryption measures and adapt to the international environment of digitization and networking, the copyright law has been amended in accordance with international treaties such as WIPO, and copyrighted products such as videos, software and music CDs have been installed with technical anti-copying devices in order to prevent arbitrary copying. The manufacture and distribution of devices that remove these devices are subject to legal liability. In terms of curriculum construction for online education, Japan pays more attention to the standardization and specification of the curriculum, for example, Japan's Ministry of Education, Culture, Sports, Science and Technology and Ministry of Internal Affairs and Communications have developed a unified specification of electronic teaching materials and education cloud platform, emphasizing the homogenization of education, and basically achieving uniformity across Japan in the configuration of various types of electronic teaching materials and information technology equipment (Wu, Luojuan, 2017).

Experience around the world has shown that the scope of fair use is not a static standard, and needs to be amended iteratively according to changes in specific technical conditions and changes in the interests of copyright owners and the public as a whole. As in China, there is no general consensus on the rules and legal effects of fair use in online education, and no unified doctrine on the scope

of fair use according to the type of online courses has yet been developed, which theoretically contradicts and causes misalignment in online education practice.

II. Historical development and horizontal classification of online education

Online education, as a new mode of education relying on information technology, incorporates resources such as digital courseware, question banks, exercises and micro-lessons with the help of information technology. Digital courseware, question banks, exercises and micro-lessons are combined into online learning courses in various forms using the Internet as a carrier.

(2) Historical development of online education

(i) The origins of online education

There have been attempts to automate teaching and learning since before the rise of the internet, when the Pressey Teaching Machine tried to turn lecture-based teaching into a mechanically accessible process in 1926. Pressey developed a machine that provided content and multiple choice questions in an attempt to replace the teacher in this way. ³Online education first began as a form of open class, with the 'O.E.R' (Open Educational Resources) movement championed by MIT and later joined by Harvard, Cambridge and other prestigious universities. ⁴Initially, the courses were free, and in 2000 Apple brought together some of the best courses from the US such as the University of Michigan, the University of Wisconsin, Duke University and George Washington University to form the iTunes U university learning channel, where the public could access learning resources for free. 2010 saw the development of an open course via video and "Everyone's Video". After 2011, China began to build 20 outstanding open courses from Chinese universities, and online courses were introduced to the Chinese public.

(2) The rapid development of online education and copyright confusion

According to current mainstream online education technology theories, online education can be divided into two forms, the MOOC type, which uses technology to deliver content and test feedback, and the SPOC type, which uses online technology to collaborate on learning (without a teacher) and is taught by a teacher and live online, due to the introduction of refined learning support services such as forum discussions, question and answer sessions with teachers, non-standardised feedback on

student work and personalised learning. The SPOC type of course has evolved for reasons such as customisation of objectives. Due to the rapid development of hardware production technology for catechism and AI classes, technological advances in instant messaging software, and the inability of students to access physical classes due to force majeure during the epidemic, the scale of all three types of courses has grown tremendously, with 1,454 universities nationwide teaching online during the epidemic and 1.03 million teachers offering 1.07 million courses online, according to May 20 data from the Ministry of Education. A total of 12.26 million courses were offered, and a total of 17.75 million university students took part in online learning, for a total of 2.3 billion visits.⁵

Online education has been growing rapidly for nearly two decades, and even more so since the epidemic. But questions about its conformity to the nature of learning and its reduction of learning from a human problem to an abstract technical problem have also been increasingly noticed by the general public. But regardless of the learning theory used as a basis, this is undoubtedly a far different model to traditional course delivery. Whether fair use, which is already clearly available in the online classroom, can be applied to the online realm is a worldwide copyright challenge. According to a 2016 Canadian Learning survey of Canadian teachers organising course materials, 58% of teachers directly copied publicly available videos and images from the web, and 30% would scan and upload printed text materials to an online course without authorisation. ⁶In a significant number of MOOC-type courses in China (e.g. some courses on Chinese university MOOC platforms), teachers cite others' academic papers without indicating whether they have obtained authorisation. The applicability and scope of fair use, which has always applied in education, in the online education sector has become a legal ambiguity.

(2) Horizontal classification of online courses

Depending on the size of the audience and the method of production (which can lead to differences in the difficulty of reproduction), there are currently several different types of MOOC (Massive Open Online Course), SPOC (Small Private Online Course) and live online teaching in China. ⁷The classification of online education is more useful in clarifying whether it meets the various legal use

elements of fair use.

(i) MOOC (Massive Open Online Course)

MOOCs are often aimed at an unspecified group of learners, and are often created through a process of script creation, course recording, platform launch and course maintenance. 14 years after the emergence of MOOC platforms in China, MOOCs have become popular for their flexible learning time and location, freedom of pace, open sharing and the ability to earn certificates upon completion. The platforms that run the courses make money by attracting traffic, carrying advertising and selling other types of courses for a fee, and they also charge for exams and certificates, so there is some debate as to whether MOOCs are for-profit or for the public good. The most important feature is that the audience is not specific and the course content can be replicated more easily. The course itself is not profitable, but the operating platform is profitable in other ways, so it cannot be considered purely public interest. The copyright agreements of internationally renowned MOOC platforms Coursera and Udacity both state that their courses can be used for commercial purposes.

(ii) SPOC (Small Private Online Course)

Unlike a massive open course MOOC, an SPOC course is one that can make use of MOOC resources but is delivered to a smaller audience. These courses have a high level of faculty involvement and are taught to a specific audience of students.⁸ Some researchers see this type of teaching as a fusion of MOOC and traditional courses, as suggested by Professor Armando Fox, Director of the University of California, Berkeley, Catechism Lab in '13, where there are certain restrictions and sizes of entrants, usually current students who meet certain criteria, and the platform supporters are mostly teachers or teaching support staff at the university.⁹ In such courses, learners have access to MOOC-like learning resources, but they are smaller and more personal in order to provide better learning support services, with more interactive teachers. In terms of access, it is often the case that the teaching body provides supported instruction to specific students, usually belonging to students who are enrolled in the university and who usually pay tuition fees, either through the operator or through a platform course that it has built itself to meet the teaching needs of the school.¹⁰ These characteristics mean that SPOC courses are audience

specific and not for the public good.

(iii) Live Online Teaching

This means that Zoom, Tencent Meetings, Tencent Classroom, Ding Ding and even We Chat groups, QQ groups and other instant messaging tools are used as the online vehicle for the classroom, with the teacher delivering lessons via instant messaging tools and students being able to answer questions, interact with the teacher and discuss with their classmates in the classroom. Some argue that the nature of online education is not different, except that the location has changed from offline classrooms to online, and that the main characteristic of a 'live online teaching' type of course is that it is open to a range of students with certain characteristics. The nature of pedagogical use remains the same.

2. The changing sources and jurisprudential basis of fair use

Fair use, which is widely used in traditional education, is a concept in intellectual property law¹¹ which is a right enjoyed by society at large, i.e. a situation in which the user can directly and freely use another person's copyrighted work without compensation and without asking permission under certain conditions.

Copyright has a long history as an incentive to create, and in the 6th century, when Columba, a religious man, copied the abbot Finnian's work *Salter*, Finnian was refused the copy and went to the king's court. The king ruled that "the calf belongs to its mother, so the copy belongs to its original" and ruled that Columba should return the copy to Finnian. This is one of the earliest cases in history in which the author's right to copy was upheld.¹² In Roman and Greek times, Pythagoras and Cicero, among others, were paid for their writing, and this right, known as 'literary property', was the earliest form of it. However, such a system did not always protect the creator of the work, and the fair use system was one of the limitations on it.

(1) Sources of Change in Fair Use - Limits to Copyright and Balancing the Public Interest

Fair use originated in the English case of *Gyles v Wilcox*, where Wilcox abridged Gyles' work and the judge ruled that a later author could use an abridged version of another's work without permission and payment without liability for infringement, later allowing the later use to be called fair abridgement. The use of fair use was

formalized in the 1083 case of *Cory v Kearsley*, and in 1911 the fair use system was first enshrined in the English statute book, which stated that the use of an original work for the purposes of personal research, study, criticism or review was reasonable and did not constitute an infringement of the original author's rights.¹³

Fair use has been systematised in US jurisprudence. In the US case of *Folsom v Marsh*, the judge defined the fair use system in a theoretical and systematic manner for the first time through case law, stating that the three elements of the fair use system are: (1) the purpose of using another's work must be to promote scientific and cultural progress, and the nature of the use must be creative rather than simple copying; (2) the number of citations must be controlled to a level that does not exceed the necessary limit; (3) the use of the original work must not affect the market share of the original work or crowd out the potential market for the original work.¹⁴

The term 'fair use' is not directly used in civil law systems, but there are systems that have similar effects on the limitation of copyright owners' rights. In Japan, there are detailed provisions on fair use in the preceding law, and in Germany, the copyright law of 1965 has been amended several times to set out detailed operational rules.¹⁵ In 1996, the World Intellectual Property Copyright Treaty (WCT) and the World Intellectual Property Performances and Phonograms Treaty (WPPT) were enacted to creatively extend the object of copyright protection to the digital network, building on the Berne Convention and the TRIPS Agreement. In its preamble, it emphasises that the rapid advances in information networks have had a profound impact on the creation and use of works and affirms fair use in the first article of the text.

(3) Jurisprudential basis for fair use

(i) Limitation of rights says: When a work is completed, it enters society and becomes part of its cultural product. In the age of the Internet information is more easily disseminated and the public has easier access to new knowledge and works. In order to balance the relationship between the work and the creator, the rights of the creator should be subject to certain restrictions. However, the doctrine has difficulty in explaining the rights of the public when creators restrict public access to their works by means that can be used.¹⁶

(ii) Infringement deterrence: This doctrine holds that a

user's fair use of a work is an infringement of the exclusive rights of others, but that the express provisions of the law deter this action from being illegal.¹⁷

(iii) User's rights doctrine: This doctrine treats the availability of benefits to users within certain limits as a right conferred by law, thus providing a statutory basis for fair use.

All of the above hypotheses argue that copyright is not an absolute right similar to a full property right and is not fixed and immutable. The copyright owner's rights can be limited for the wider benefit of the users in society at large. Fair use is about striking a balance between the interests of the copyright owner and those of society at large. If a particular scenario requires the use of the prior copyright holder's material, that means that there needs to be sufficient support to prove that it is of greater benefit to society at large. The "balance of interests", "distributive justice" and "value for money" have always been the cornerstones behind the fair use regime, and when the technological environment of society changes, legislation can be completed by making exceptions to When the technological environment of society changes, the legislation can make exceptions to the scope of copyright use to redistribute rights, thereby maximising the benefits to society as a whole.¹⁸ All of this suggests that it is important to reconcile the interests of all parties, to define the scope of fair use on a case-by-case basis and to adapt it to technological change. However, these changes, whether they are restrictions on the original copyright owner, the copyright owner's refusal or the user's empowerment, must be in line with the overall interests of society and the direction of social and economic development and technological progress.

4. Technological breakthroughs and rights changes in the online environment

Technological developments have led to new tensions between copyright owners and the public in intellectual property, and the fair use regime of copyright in intellectual property is particularly affected by these tensions.

On the one hand, the expansion of copyright owners' rights into new areas and new objects has reduced the scope of application of the fair use system; at the same time, the rapid development of reproduction and distribution technologies has led to the proliferation of pirated works, which seriously infringes on the interests

of copyright owners, but the fair use system has become a safe haven for infringers, allowing them to avoid legal action.¹⁹ More and more wealth is being generated through the Internet, and in 2007 CCIA President and CEO Ed Black stated that "the rapid growth of the US economy over the past decade has been largely due to the application of 'fair use' in the industry, which has enabled limited but unauthorized use of content on the Internet. Fair use' has become a key component of the U.S. economy."²⁰ "Fair use" has become a cornerstone of the knowledge economy and the digital age." The growing wealth has led to conflicts over the ownership of knowledge products and the division of benefits arising from the associated property rights.

(1) Technological breakthroughs on the Internet

(i) Ease and accessibility of content reproduction

Traditionally, it took more effort to obtain the raw material for the source stream than it does today. The use of software such as Premiere Pro, Edius Pro, Adobe After Effects, Camtasia Studio and even PPT has made it possible to design a course that would have required the help of a skilled professional, but which can be done by non-specialists. With enough original material, it is possible to produce similar or even identical courses in a very short time. The quality of the content is even more important than the form, and once a high-quality course is online, it can be reproduced in a very short time without the need for a professional.

(ii) Rapid and unobtrusive dissemination

Under electronic conditions, in addition to the easier production of courses by application software, it may be possible to disseminate them through webpages, We Chat groups, social media and their ease, where there is no loss of quality due to the number of copies made (similar to the blurring of the original multiple copies) and where a shared link can enable a resource pack or video of a course to be disseminated globally in a very short time.

(2) Imbalance between the interests of copyright owners and the public interest of society

(i). The rapidity and speed of the Internet has compressed the space of interests of copyright owners

The development of Internet technology has made it very easy to distribute and reproduce works, especially with the establishment of a well-developed communications network, so that much of one's work does not necessarily have to be done in the office, but can also be done at home,

provided one has a suitable communications terminal.²¹ The use of a work traditionally transmitted or distributed for personal study, research or enjoyment would have been tolerable under the law and would not have caused significant damage to the copyright holder's rights. However, once a work is uploaded on the Internet, the scope of visibility of the work is greatly expanded, resulting in much greater damage to the original copyright holder than before the Internet era.²² For example, in the Playboy case and SEGA v Maphia, the courts held that fair use could not be claimed for uploading another's work to a BBS or downloading it without the permission of the right holder, as this had a significant impact on the potential market for the original work. When traditional copying technology was not as advanced, even pirates needed a certain amount of time to disseminate their copies and make a profit. Whether copying, recording or printing, it takes time to produce a reproduction of the work. In this time gap, the original copyright owner has often already made a correspondingly satisfactory level of profit, and they now often lose the window of time to benefit from the time difference. The rapid reproduction and dissemination of electronic technology on the internet has compressed the time frame for copyright owners to benefit.

(ii). The internet makes it difficult to distinguish between teachers' personal fair use and industrial reproduction

There is a growing view that personal fair use in the information age has directly jeopardised the interests of the original copyright holder of a work and that its fair use nature is disappearing.²³ This is due to the fact that it is becoming increasingly difficult to legally distinguish between personal use, domestic use or work-related needs, and that the rights of copyright holders cannot be guaranteed if personal use is still treated as fair use. The development of internet technology has therefore inevitably led to a further definition of the scope of 'personal use'. This is because in the digital age, especially in the online environment, if individuals can use a copyrighted work without permission and without compensation, the user does not have to buy the work and can use it at any time, which would seriously undermine the author's right to profit. It is therefore argued that the personal use clause should be removed in the digital environment.

In the Internet age, copyrighted works are more easily and cheaply accessible than in traditional times, both in terms of quantity and scope. If the traditional fair use regime were to continue, changes in the way works are used could result in specific fair uses that could be materially detrimental to copyright interests, and the challenge to fair use situations has focused on the issue of 'personal use'.

(iii). The audience for online courses expands to a potentially unspecified majority

For the challenges of distance online education. The general spirit of the legislation considers the exclusive rights of rights holders to their works, It should not be a barrier to citizens' access to education and copyright holders should not impede their right to education, which is the cornerstone of fair use being able to apply in a physical classroom setting. However, in the online environment, more and more educational institutions (including an increasing number of compulsory schools) and paraprofessionals are offering online education, which allows students to listen to teachers and communicate with them online in a timely manner without spending as much time and saving the cost of physical transport, which greatly facilitates the boundaries of education and increases its efficiency. Because the online environment is different from the traditional teaching environment, it is not possible to apply the same fair use system to the internet. Unlike the traditional teaching environment, where classroom teaching and subject research are used within a specific context, the web is accessible to an unspecified public.

Once a work is online and used for teaching purposes without certain restrictions, the rights of the author are greatly affected. Therefore, certain conditions must be imposed on fair use in online teaching, such as the adoption of technical measures to limit the use of works to the scope and quantity of works used by teachers and students registered in online schools. The Digital Millennium Copyright Act (DMCA) passed in the United States in 2007 partially included distance learning in the scope of fair use under strict conditions, but set a series of strict restrictions, such as the scope of works entitled to exemption, the number of works used, online educational institutions, online educational targets, technical measures, etc., after-school tutoring are no longer allowed to use unauthorized materials²⁴)

5. Discussion of the jurisprudential basis of fair use in different types of online education in China

Article 24 of the Copyright Law of 2020 stipulates that "no remuneration shall be paid to the copyright owner for translating, adapting, compiling, broadcasting or making small copies of published works for the purpose of teaching in school classes or scientific research, provided that the name of the author or the title of the work is specified and that the normal use of the work is not interfered with or reasonably prejudiced. the legitimate rights and interests of the copyright owner." As with previous copyright laws, the scope of fair use is still literally limited to "use in school classroom teaching", without any expanded interpretation or relative judgment on the application to online education. With reference to the Regulations on the Protection of the Right to Information Network Dissemination, if the works of others are made available through the information network, the following circumstances can be met without the permission of the copyright owner and without payment of remuneration: (c) providing a small amount of published works to a small number of teaching or research staff for the purpose of classroom teaching in schools or scientific research. Combined with the above provisions of the law, combined with the three elements of the principle in the U.S. Folsom v. Marsh case, the elements of fair use in China's main classroom need to be both for teaching and scientific research, non-beneficial and a small number of a specific range of lecture audiences in the absence of one of the three. If the fair use doctrine is to apply to online education, the following three elements should also be met: (i) the purpose of the online education is primarily for teaching and research rather than entertainment; (ii) the online education does not profit from this and affects the market share of the original work; and (iii) the audience for the course should not be an unspecified majority of subjects on the internet, but still a small specific group.

(1)An analysis of MOOC-based courses:

Its main purpose is to spread knowledge to the wider public rather than to entertain them, and the MOOC courses themselves are basically for the public good and not for profit. The platform uses this to gain traffic to market the platform's paid courses or to carry advertising as a way of making a profit. The courses can be accessed by an unspecified majority of the population, for example,

scientific data and papers, music, images, etc. can be accessed and copied by an unspecified majority of the public as a result of the course, thus making the original copyright holder's work visible, but also potentially damaging economic interests. There is a view that the primary function of a MOOC is to disseminate knowledge to the general public and that a fair use regime should apply.²⁵ However, as MOOCs are often accompanied by other profit-making courses or advertisements on the platform, they are indirectly for profit and therefore should not simply be considered as a public good. Therefore, it is not appropriate to apply a fair use system to the basic materials in MOOCs. Some scholars have suggested that a copyright indemnity system, the use of Creative Commons and sound collective management of copyright could be introduced to compensate for the inability to apply fair use to MOOCs.²⁶

(2) Analysis of SPOC-type courses.

SPOCs are used for the purpose of disseminating knowledge to the general public and are aimed at specific, tuition-based learners and, like MOOCs, are not amenable to a simple fair use regime. The US TEACT Act states that students' access to teaching resources is limited to classroom time, and that even some after-school tutorial work is not subject to fair use. However, the physical scope of SPOC dissemination is limited to a smaller area than MOOC. While in its specificised learning support services, such as question and answer forums, online group discussions, case studies, essay tutorials, etc., which face a specific minority of people and have minimal impact on the original copyright holder, the use of such after-school tutorials is just as designed to profit from the work of others and does not comply with the basic jurisprudence of fair use.

(3) Live Online Streaming

Online live streaming is an online teaching method more similar to traditional classroom teaching, with a specific number of people and the purpose of spreading knowledge and culture. For such courses, fair use may apply if they are of a public interest nature, but if they are for-profit fee-based courses or lectures, even if they are only for a specific group of people, fair use cannot apply and fees should be paid to the copyright owner.

In summary, even if the purpose of an online course is to disseminate knowledge to the general public, it would

be contrary to the jurisprudential basis for simply considering fair use to apply to online education, both in terms of its target audience and its profitability. However, in a technological environment where copying and distribution is already so easy, a simple prohibition would only result in a majority of de facto infringements, which in turn would make copyright law less enforceable overall. The core of implementing online education and not wavering from copyright law should be to refine the law and provide institutional and technical regulation and support for copyright clearance of online courses.

6. Reflections on Constructing a Copyright Usage System for Online Education

While it is difficult to fully integrate online education into traditional fair use regimes, we can remove barriers to the application of the balance of copyright interests in online education at the level of subdivision of course types, improved collective copyright management and technology licensing. It would be against the trend of technological progress and uneconomical for the law to deny online education simply because it does not conform to the principles of pure public good and specific target audience. More institutional and technological changes to enable copyright to work in the online education sector would be a viable option.

(1) A typological breakdown of online educational products should be made at the legal level

Although in terms of distance education dissemination, scholars have classified MOOC, SPOC, online live streaming and other types according to the different educational objects and dissemination methods, these academicized classifications have not been connected with China's legal classifications, and there is a relative divide and lag between the legal concept and the academic concept of distance education. The integration of the typological concept of online education with the legal concept should be promoted as soon as possible.

Taking micro-lessons often nested in MOOC platforms for teaching as an example, there is much controversy as to whether they should theoretically be characterised as cinematographic works or video productions. Article 15 of the Copyright Law (as amended in 2010) stipulates that the copyright of cinematographic works and works created by methods similar to the filming of films shall be enjoyed by the producer, and the author shall enjoy the right of attribution and the right to remuneration. If the

micro-lesson is characterised as a cinematographic work, the copyright owner should be the producer and not the teacher. However, if the micro-lesson is considered to be a video work, the right of reproduction, distribution and information network dissemination is enjoyed by the person who first produced the video work, in accordance with Article 40 of the Copyright Law (amended in 2010) and Article 5 of the Regulations for the Implementation of the Copyright Law (amended in 2013). The lack of clarity on the subject of rights in turn leads to a lack of clarity on liability. As copyright ownership in online education is disputed, teachers, producers and course platforms often believe that they are not responsible for infringement of the course. Clarifying the nature of the work and refining the subject's responsibilities is the first step in cleaning up copyright in online education.

(2) Further improve the collective copyright management system to facilitate online education copyright clearance

Collective management of copyright such as the US Copyright Clearing House (CCC) and the German Multimedia Clearing House (CMMV) This is one of the possible ways to reduce the workload of copyright clearance and improve the licensing of online education. One of the great difficulties in introducing prior works of others into MOOC-based courses is the high cost of prior authorisation, for example, the Course platform does not require prior authorisation from the right holder for prior copyright works, and can only quote the relevant works as briefly as possible in lectures or courseware.²⁷

SIPX (Stanford Intellectual Property Exchanges) is an attempt to use technology as an alternative to lawyers for copyright clearance. It is a joint stock company developed by Stanford University based on the CodeX research project, with funding from the Stanford School of Computer Science and Stanford Law School. In operation, SIPX allows links to be added to course builder materials, and the links will display the logo of the copyright holder. The user can decide whether to continue to pay for access to the reading material.²⁸ In this way, the decision to purchase the material is in the hands of the learner, and the online course builder reduces the cost of copyright clearance.

In China, online distance learning has become a huge business opportunity. In order to make these courses less likely to be involved in legal disputes and to reduce the

pressure of clearing copyright and licensing, the development of a collective copyright management system in China, with cheaper licensing by course producers, could systematically reduce the burden of licensing for online education.

(3) Development of blockchain technology for digital copyright protection

Blockchain technology is a distributed ledger technology for universal bookkeeping.²⁹ can also be considered as a distributed database, which consists of blocks of data generated by cryptographic methods linked in a certain order.³⁰ Blockchain technology uses distributed storage, which not only prevents tampering, but also allows the copyright of sexual works to be traced back to its source. It maintains the reliability of the database in a decentralised manner, facilitating the fixing and extraction of electronic evidence, and this direct traceability to the source allows online education course producers to directly find the original copyright holder, facilitating copyright clearance. Blockchain technology has great potential in digital copyright protection, which not only builds a direct payment model, but also fixes electronic evidence. Through blockchain technology, the transfer of trust between two parties can be completed without the involvement of intermediaries, i.e. direct payment can be achieved without the involvement of third-party platforms, and resource silos can be suppressed to the greatest extent. The direct transaction model takes the form of an "enforced transaction", whereby the educated can use the pre-registered transactions of the rights holder, and the more transactions, the greater the benefit to the original copyright owner. Compared to traditional compensation models, the blockchain model avoids intermediary credit risk and reduces the potential administrative costs of maintaining, reviewing and collaborating with online education platforms as intermediaries.³¹

7. SUMMARY

"Fair use" is a restriction on the rights of copyright owners, but arbitrary expansion contrary to the spirit of fair use is not acceptable. Article 24(6) of the Copyright Law (as amended in 2020) accordingly increases the means of fair use, and in addition to "minor reproduction", "translation, adaptation, compilation and broadcasting" are all included in the scope of fair use, which to a certain extent expands the scope of application of fair use. The

scope of application of fair use has been expanded to a certain extent. All of this reflects China's intention to expand the scope of fair use in line with technological progress. From the context of Article 24 of the Copyright Law (2020), the scope of fair use in China is limited to non-profit uses such as personal study and research, introduction and commentary, news reporting, performance of official duties, free performance, and accommodation of the dyslexic, and profit-making acts should be excluded. A historical and specific analysis of the history of the development of fair use does not support

its expansion in the field of online education in jurisprudence either.

The copyright clearance dilemma in online education is a dilemma of mismatch between technological advances and jurisprudential foundations. It is inappropriate to blindly expect fair use to be extended to online education simply through jurisprudence or expanded interpretation. Copyright clearance efforts can require refinement of legal concepts, refinement of collective copyright use and active invocation of emerging technologies to help achieve a balanced development of technology and law.

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