LICENSING PRACTICES IN A GLOBAL DIGITAL MARKET

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EXECUTIVE SUMMARY

The knowledge economy depends on the widest possible access to pedagogy and research. Authors and publishers facilitate such access by creating and supplying learning materials, and curating and disseminating scientific content.

However, the publishing industry is vulnerable; it depends on the existence of a legislative framework that allows authors and publishers to receive equitable remuneration, which then enables them to invest in developing new content and services. In countries where public policy supports authors and publishers, this has a demonstrative positive impact on the availability of high-quality learning materials and hence on learning outcomes. Where countries have failed adequately to protect copyright, we have witnessed a collapse in the availability and choice of locally produced, high-quality resources for learners. This has been amply demonstrated recently in Canada.

Digital transformation in the classroom is having a profound impact on primary and secondary (K–12) education markets. The school 'textbook' is constantly evolving with technology; it continues to have enduring value as an educational tool that is quality-controlled, fits the curriculum, is updated, revised and improved. However, the availability of high-quality educational publications specifically designed to deliver local curriculum needs and achieve learning outcomes is in jeopardy. Educational content is increasingly being delivered through platforms where fragmentary, free content either culled from the Web or illegally copied is uploaded as a sub-standard substitute for high-quality learning materials provided by professional authors and publishers.

'Free' educational materials are often discovered through a model of learning today which sees students and informal learners simply 'Google it', accessing content which they expect always to be free. However, Internet search is not a neutral technology; algorithms, commercial interests and methods of indexing skew search results. Seekers are exposed to risks which include misinformation, fake news, mass distraction and rampant commercialism. This is knowledge reduced to populist information junk.

Publishers take an author's content to market, adding value through editorial, design, production, branding, marketing and distribution services. Educational content can only be considered as 'quality content' when it is genuinely fit for purpose, closely aligned to the needs of a particular market and educational setting. Now as it has always been, it is rarely possible to market books and/or digital resources developed for one nation's curriculum into another country, resulting in specialist educational publishers serving their one core domestic market. For K–12 education, internationally developed content that has not been properly adapted to specific local needs is unlikely to fit to the curriculum or to lead to desired educational outcomes.

Publishers are investors and seek a reasonable return on their risk investment. They commission authors to craft content appropriate to market needs and, when they are successful, this stimulates more investment, more innovation, more choice and a healthy market.

Restricting choice, stunting innovation, or deterring investment through single-text adoptions, state monopolies, or generally by investing public funds on the supply (production) side, rather than on the demand (choice) side, which allows teachers in schools and colleges to choose resources appropriate to their particular needs, can only lead to educational publishers withdrawing from the market.

Although progress towards digital transformation, Open Access and digital learning is being made in some well-funded parts of the world, there is a cultural and economic divide between Developed and Less Developed economies.

In Africa over 80% of all publishing is classified as 'educational'. If copyright regimes in African countries are weakened or unenforced, the livelihoods of educational authors and business models for educational publishers will inevitably be compromised. This seems likely to result in African publishing in general (trade and research, as well as educational) being effectively wiped out. While several collaborative initiatives designed to support developing countries exist, there are serious concerns about the incomes of non-Anglophone authors and of smaller local publishers. Sustainable solutions are needed for emerging publishing industries in developing countries; these depend on the effective operation of international copyright norms.

In Singapore, licensing has enabled a flourishing educational publishing industry. Authors and publishers are at the forefront of developing and deploying all that "digital" has to offer in the creation, dissemination, use and licensing of their materials.

The value of the global STM (research and professional publishing) sector now amounts to US$26.7 billion annually. STM publishers are pioneers of digital licensing and have remained at the forefront of digital innovation. However, STM authors and publishers are facing similar challenges from websites and services hosting published content without permission.

Open Access (OA) began in earnest in 2002 and today there is a mix of business models in research publishing. The Article Publication Charge (APC) model is widely established alongside traditional subscription models. As a proportion of all journal articles published across all disciplines in 2018, OA articles accounted for between 20-30%. The market for OA journals is expected to continue to grow. The OA book market is also growing, but very slowly; it currently accounts for less than 1% of all scholarly and professional eBooks.

Collective Management Organisations (CMOs) in the publishing industry represent authors, publishers and other rightsholders and, as of September 2020, they were established in 88 countries providing a global infrastructure for licensing copyright works in secondary markets where works are copied either physically or electronically. According to the International Federation of Reproduction Rights Organisations (IFRRO) their members collected and distributed over US$ 1.1 billion in 2019 to rightsholders.

The three main models of collective licensing in publishing are: Voluntary collective licensing; Voluntary collective licensing with legislative support including Extended Collective Licensing (ECL) and Legal Presumption of representation (LP); and Non-voluntary (Statutory) collective licensing. CMOs can license and facilitate affordable access to published works when rightsholders are unable to provide direct licensing for users.

Authors and publishers cannot be expected to work for nothing. Their revenues still depend on intellectual property rights being properly respected as we move deeper into the digital era. Over centuries, copyright has proven to be a highly efficient economic and cultural mechanism, enabling access to published materials, ensuring a healthy market and enabling the secure supply of quality learning and scientific content.

Protecting this role of authors and publishers is of paramount importance to every society. Licensing is proving to be the perfect vehicle for a great variety of sustainable business models. It is eminently flexible and can be infinitely tailored to local needs.

The economic and social impact of the educational and research publishing industry is fundamental to every society. It is integral to social, political and cultural development as well as economic prosperity. Urgent action is essential to develop and maintain appropriate, stable public policy and regulatory frameworks that will secure the continued supply of educational and research publications and protect the rights of authors and publishers.

Citizens around the world will benefit as they continue to be able to access the highest quality of education and research in the global digital content market ■

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ABOUT THE AUTHOR

José Borghino

José Borghino has been Secretary General of the International Publishers Association, Geneva, since September 2015. He joined the IPA as Policy Director in 2013, and was in charge of policy development, organizing the *Prix Voltaire* (IPA's Freedom to Publish Prize), and managing the IPA's activities in the educational publishing sector, including the annual 'What Works?' conference and the Educational Publishers Forum. Before joining the IPA, José was 'Manager, Industry Representation' at the Australian Publishers Association. He has been Executive Director of the Australian Society of Authors, a lecturer in literary journalism and creative industries at the University of Sydney, and editor of the online news magazine *NewMatilda.com*. José held senior positions at the Literature Board of the Australia Council and was the founding editor of *EDITIONSReview*.

INTRODUCTION

by José Borghino

This report provides a market-focused study of the educational and research publications market around the globe, providing clear examples of how publishers are working, through both sales and licensing, to maximise legitimate, flexible and cost-effective access to the highest quality of pedagogic and academic content, whilst at the same time ensuring there are sufficient returns on investment for publishers and authors to continue to create and disseminate new content and services to meet the ever-changing needs of students at all levels, of teachers, and of researchers.

The report is designed primarily to meet the needs of policymakers, national and international, by providing insight into the impact of policy issues on the provision of and access to educational and research content now, and in the future, especially as it becomes increasingly digital; additionally it provides strategic advice on the best way forward. It will also be of interest to professionals in the publishing industry, from authors and other creators working in educational and scientific research publishing, to researchers, investors in and users of teaching and learning content and of scientific research.

The impact of digital technology and current market developments on the publishing industry in different parts of the world is explored, highlighting a flurry of new business models, products and services which publishers have introduced over the last couple of decades. The strategic issues for policymakers concerning digital provision and access are identified and analysed. The important work that educational publishers do to advance education is described—not only by producing and distributing textbooks, but also by collaborating with schools, teachers and public authorities to maintain and reform national and regional education systems. Examples of best practices in developed markets (notably Singapore and Canada) are presented, illustrating not only how licensing can work well to the benefit of both users and rightsholders, but also the devastating impact of a failure in licensing structures. We also explore how in developing markets (across Africa) licensing is essential to the growing success of local publishing industries and the potential gains and losses in education that may follow from policy missteps.

Authors are the creators of content and therefore could hardly be more crucial to the content ecosystem; a chapter in this report provides the essential perspective that an author brings to these issues.

An overview of the wide array of licensing practices worldwide is described in the penultimate chapter, covering direct licensing, collective licensing and hybrid licensing options, and how, in consultation with users and rightsholders, these are being adapted for both the digital age and for cross-border access by CMOs

This report is based on an extensive global review and analysis of current developments and practices. Each of the authors is a recognised expert in their field and brings not only their expertise but also a wealth of up-to-date data and relevant case studies sourced from a large pool of industry organizations, government agencies and NGOs.

Copyright is the lifeblood of the publishing industry, a highly effective mechanism for providing access to knowledge, science and teaching and learning content over centuries. However, there can be no denying the significant challenges that lie in developing effective regulatory frameworks which preserve the fundamental principles of intellectual property in an online cross-border environment.

The rapid development of the Internet and online digital content markets is bringing new opportunities and challenges for authors, publishers, CMOs and users of copyright protected works. Policy makers and regulators all over the world are currently reviewing the role of copyright frameworks in education and research and what needs to be done to adapt these frameworks to a digital environment. Much is potentially in jeopardy in these discussions for creators and rightsholders – and for those who benefit from their output. Essential work is needed to find workable sustainable solutions that suit all stakeholders, not least in education and research.

Given the disruptions of the digital era, how can international regulatory frameworks maintain and develop copyright as the primary mechanism that has driven innovation and provided abundant access to knowledge for so long?

National primary and secondary education markets are fundamentally important for domestic educational publishers, particularly in developing countries, and this report explains the detrimental impact an inappropriate international normative approach to Exceptions & Limitations would have on access to education and science.

This report seeks to establish the societal value of publishing through the role of educational and scientific research publishing and its contribution to the economy more widely. Copyright is a social benefit, a facilitator of innovation, cultural and economic growth. The report provides much needed insight into how the educational and research publications markets work, explains the copyright ecosystem, the regulatory infrastructure, and the development of the digital marketplace and, finally, provides recommendations on the best ways forward ■

ABOUT THE AUTHOR

Graham Taylor

Graham Taylor has been a publisher since 1973, working in senior positions for UK-based groups including Heinemann, Longman, Nelson and Collins, with extensive experience of international and developing markets. In 2001 he joined the UK Publishers Association as Director of Educational, Academic and Professional Publishing, just in time to engage with the intense debate around the future of educational and scholarly publishing as the impact of digital technology accelerated and the Internet hit its stride. Graham has been Chair of Publishers' Licensing Services and served on the boards of PLS and Copyright Licensing Agency for 13 years. He was the founding Chair of the IPA's Educational Publishers Forum, a unique collaboration between international educational publishers, which he continues enthusiastically to support. Graham left the Publishers Association in 2013 to operate as an independent consultant.

EDUCATIONAL PUBLISHING IN THE DIGITAL ERA

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EXECUTIVE SUMMARY

Every country in the world relies on the provision of high-quality educational materials and digital resources to create the next generation of global citizens, educated to the highest possible standard. These materials need to be dynamic, transformational and flexible to suit local teaching needs and styles, and highly tailored to suit the local curriculum.

The many roles played by the publisher in the education ecosystem are essential, hugely varied, and often underestimated or unseen. As investors in intellectual property, the publisher takes the financial risk curating the content itself, and in the value-added processes required to take that content to market. They invest in supporting pedagogy, in evidence-based materials that are tried and tested in the market; in marketing, sales capability, in teacher training and support, and in progressive technology. Publishers often also play a central role in curriculum development working alongside government, with many successful examples around the world.

For publishers to operate successfully, they need a well-funded, open and secure market with adequate provision for the protection of intellectual property rights. These elements provide for a climate that can generate income that allows ongoing investment in the new products and services that are required by an evolving education market.

Funding needs to be provided in a way that fuels demand, with choice invested in the schools themselves. On the other hand, using public funds for direct production of proprietary educational content has all too often led to the withdrawal of local specialist educational publishers, damaging choice, diversity and quality of supply.

Appropriate IP and licensing regulation is essential if educational publishers are to be equipped to continue to serve their home markets and to facilitate cross-border access. In the country of origin, a secure IP system provides confidence for publishers to invest in authors, content and in value-added services. A secure licensing regime means that publishers not only have the ability to operate a system for secondary copying rights (through collective licensing organisations), but they can license their works for distance learning, for locally based institutions with campuses in other markets, and for overseas use. An erosion of IP and licensing protection in some markets has led to the decline in the production of specialist content to meet local market needs, leaving teachers and learners reliant on state-enabled provision which is often sub-standard.

The digital transformation of the education content market has been somewhat less rapid than anticipated, and we are still in a phase of 'hybrid' solutions (rather than exclusively digital). For digital delivery to be truly successful in the classroom, many underpinnings are essential alongside content, including hardware, software, internet connectivity, teacher capability. All of this requires sustained and sufficient funding. Experimentation with both content and its delivery has seen a wealth of new platforms hosting interactive, innovative content with in-built teacher support and assessment tools being used alongside the physical textbook. Many of these platforms are proprietary to publishers, and we have also seen successful joint initiatives bringing publishers together with government agencies to roll out comprehensive educational content chains.

Educational publishers play a crucial role in the education ecosystem and will continue to do so as technology advances. High quality content, carefully crafted and closely adapted to local needs will always be in demand and the unique role that publishers play will not diminish. But for publishers to thrive, they need to be secure in the knowledge that they operate within a strong national legal and regulatory framework, a framework that respects copyright and the contributions made by creators and publishers, a framework that facilitates rather than inhibits licensing ■

1 INTRODUCTION

Successful educational publishing depends entirely on meeting precise curriculum needs at a local, regional or national level. Every country has its own local curriculum, its own language or languages of instruction, its own cultural heritage, and its own pedagogical traditions. More populous countries often operate a federated administration, with the curriculum devolved to regional, provincial, or state levels, requiring publishers to focus even more closely on a diversity of local needs. Much of the profusion of inadequate educational and instructional content now available around the world and on the Internet, in print or digital form, has *not* been created by specialist educational publishers and professional authors and has therefore *not* been crafted to be appropriate to these local needs. By contrast, *quality* **educational content, which, is closely adapted to these needs, requires expertise and investment from specialist educational publishers and their authors**.

Teachers need to be able to choose from a market of 'mix and match' content solutions that align with the diversity of teaching styles, teaching experience, and digital technology involved in classrooms. A combination of formats, variously termed 'blended' or 'hybrid', needs to be made available by publishers so that teachers are enabled to teach as they prefer to teach. The challenge is to make high-quality content available in widely used, useful, and useable formats, always with an awareness of current trends in technology and teaching practice.

2 SPECIALIST EDUCATIONAL PUBLISHERS WORK IN A CLIMATE OF COLLABORATION

Publishers bring choice and diversity to the marketplace, as well as stimulus and support for innovation, and close collaborations between themselves and government agencies, teachers, and authors.

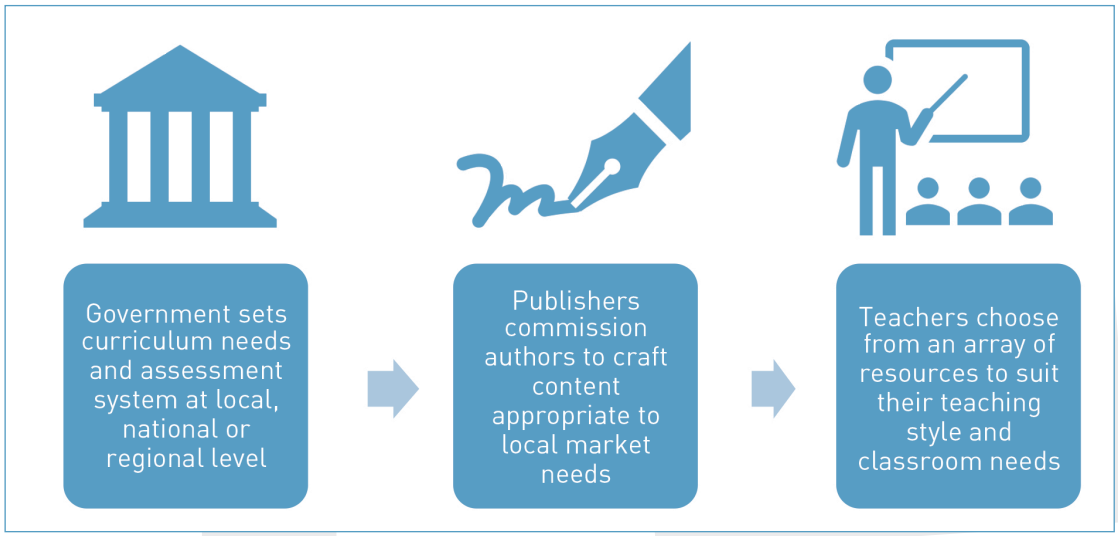
Governments can set standards and targets, their agencies can evolve appropriate curricula, but effective delivery in the classroom needs capable teachers, who in turn need trusted tools and carefully crafted content from specialist publishers and experienced authors to do the job. Publishers pick up where policymakers and governments leave off.

An unstructured archive of open source material (such as OERs[1]) may appear superficially to be attractive, potentially sufficient for all needs, and cost effective, but extensive experience[2] suggests that OER repositories, while widely used to add breadth and variety, do not constitute a sustainable solution for core mainstream educational content, particularly applied to specific K-12 curriculum needs. It is the availability of carefully crafted learning resources, aligned with local curricula, assessment, cultural, and pedagogic needs, which is crucial for the delivery of high-quality education.

2.1. The essential coordinating role of the publisher

The essence of successful publishing in any medium is taking an author's content to market. **Publishers invest in intellectual property**; they add value through services they fund, including editorial, design, production, branding, marketing, and distribution, all within the mission of delivering content that is in demand by readers. **For educational content to be classified as 'high-quality content', this means 'fit for purpose', closely aligned to the specific needs of the local market, which can be national or regional.** It is rarely possible to market and sell books and digital resources developed for one nation's curriculum into another country without extensive adaptation. So specialist educational publishers generally only have one core market, and they succeed or fail within it. 'Closely aligned' in the sentence above means in line with: the curriculum (different in every country); the assessment system (different in every country); the pedagogical traditions and capabilities of local teachers; the pace of (ed) tech development; the language of instruction; the cultural context; and local social norms. For K-10 (4-16 years old) especially, un-adapted so-called 'international' content is unlikely to meet these criteria or fulfil many of these local needs.

THE ESSENTIAL COORDINATING ROLE OF THE PUBLISHER



Publishers are investors and need to find sources of funding that can deliver revenues and thus a return on their investment. Publishers commission authors to craft content appropriate to market needs. Meeting those needs delivers a favourable return for users and for investors,

1 According to UNESCO: Open Educational Resources (OER) are teaching, learning and research materials in any medium — digital or otherwise — that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. https://en.unesco.org/themes/building-knowledge-societies/oer

2 Comment tends to be available on the use and impact of OERs in Higher Education and lifelong learning more than for specific K-12 curricula, but feedback suggests that significant hurdles remain associated with discoverability, quality control, selection and aggregation in line with user needs.

thus stimulating more investment, more innovation, more choice and a healthy market for growth and development. However restricting choice by stunting innovation, deterring investment through single-text adoptions, state monopolies, or generally investing public funds on the **supply** (production) side, rather than on the **demand** (choice) side, which allows teachers to choose the resources appropriate to their needs, will inevitably lead to specialist educational publishers withdrawing from the market.

Publishers invest from success and experience, using funds derived from revenues accrued from current and previous ventures. Success funds success, so there is a virtuous circle here: by meeting the needs of teachers for resources appropriate to deliver the curriculum and by using technology that works, publishers succeed in a market, so that market gets stronger and provides a wider choice of more resources for more teachers to deliver the curriculum.

Publishers are also creditors of last resort to the supply chain. They are the risk takers, the entrepreneurs, the market makers. If publishers' projects fail, they pick up the costs. They fund the actors in the value chain that connects authors to readers, which includes: editors, designers, illustrators, tech providers, printers, agents, wholesalers, distributors and retailers.

Publishers are media and tech neutral: what works, works. They do not leverage their own preferred technology solutions; instead most will work with partners to deliver solutions that align with the needs of teachers and their classrooms.

2.1.1. Examples of best practice – Successful collaborations

It is not uncommon for publishers to contribute their experience and expertise as partners in developing the curriculum itself, as well as being trusted by teachers to develop the resources they will need to deliver a curriculum. The fruits of successful collaborations can be seen in beneficial outcomes in many countries.

Here are some examples:

- **Finland** has one of the best performing educational systems in the world, as demonstrated consistently by high OECD/PISA[3] results. Apart from the quality and motivation of their teachers[4], a strong factor is the faith that these teachers have in publishers to develop the resources they need at the right time. The Finnish Agency for Education works together with teachers and publishers in a climate of trust to develop the curriculum, and publishers then compete to develop resources and to invest in innovations from which teachers can select the best materials;
- **Singapore** is admired for its educational achievements. The Singaporean Ministry of Education sets the curriculum and publishers win contracts through a tendering process that rewards innovation. Publishers are invited to showcase and share their experience and expertise to develop new resources and formats;[5]
- **Kenya** has a nation-wide Digital Literacy Programme[6] in all primary schools, involving laptops and tablets pre-loaded with interactive digital content in key subjects funded by the Kenyan Ministry of Education. Publishers are encouraged to develop material according to objective standards for approval. The Programme involves 90,000 teachers, 1 million devices, 89% of primary schools and 20 Kenyan publishers;

3 Results of the PISA test in 2018 were published on 3 December 2019: http://www.oecd.org/pisa/publications/pisa-2018-results.htm

4 Teachers in Finland are required to have a Masters degree: https://ncee.org/what-we-do/center-on-international-education-benchmarking/top-performing-countries/finland-overview/finland-teacher-and-principal-quality/

5 https://www.moe.gov.sg/education/syllabuses/approved-textbook-list

6 http://icta.go.ke/digischool/

- **Ghana** is set to become the first country in Africa to have a law on book development associated with a functional national book policy. The Ghana Book Development Agency recognises that the Ghanaian Ministry of Education needs to involve publishers to deliver quality education. A new curriculum for primary schools was introduced in April 2019, and the government will procure three textbooks per subject after evaluation by the National Council for Curriculum and Assessment;
- **Ivory Coast** has encouraged competition in its educational market by guaranteeing a choice of three textbooks per subject, made available to pupils for free. Textbooks are procured through a tender process for books that deliver the curriculum and the required pedagogical approach. The collaboration has resulted not only in more publishers investing, but growth in local publishers succeeding against international competition;
- **Germany** has 16 Länder or regional governments, each with their own curriculum, resulting in curricula comprising around 4,000 active subjects per year, changing at the rate of up to 15% per year. The system involves 43,000 schools, 700,000 teachers and 11 million students. Around 75 publishers and 30,000 authors produce about 8,000 new editions per year of approximately 40,000 titles in stock. The country operates on an approval system for new textbooks, which takes 3 to 8 months. Resourcing such a diverse system is only possible through close collaboration between publishers, authors, teachers, and the system of government approvals that ensures curriculum alignment and compliance with pedagogical standards;
- **Hodder Education**, a significant publisher of resources for UK and Caribbean schools, is best known in **The Bahamas** for the development, trialling and publishing of the primary mathematics resources for students and teachers, in partnership with the Bahamian Ministry of Education, teachers and local and international subject experts. This has enabled a truly local resource with integrated Bahamian cultural examples matched to the Ministry's curriculum;
- **Cambridge University Press** has worked with the Ministry of Education in **Oman** since 2017 to support the successful implementation of maths and science Grades 1-8 reforms.[7] The work involves the translation into Arabic and complete contextualisation of the content, design, and illustration of Cambridge teaching and learning materials, so that they are fully Omani whilst reflecting international standards. Cambridge built a team across their Press and Assessment divisions to support the Ministry in ensuring that the curriculum materials and associated assessment, were the right fit for the Omani classroom context. Cambridge designed a training programme for teachers, which included bringing the original authors of the books over to Oman to support the teachers in understanding the theory and pedagogy behind their creation. They also recorded video interviews with the authors, in which the approach of the books could be described by those who wrote them, directly to those who would be teaching with them. The partnership with the Ministry has included capacity development with curriculum teams in the analysis and review of materials, so that efficient ways of working could be established. Finally, Cambridge supported the Ministry in their stakeholder engagement activity by designing and delivering a communication plan, preparing teachers, parents, and students for the new curriculum.

2.1.2. Examples of bad practice – Strategies to avoid

For publishers to operate — bringing choice, innovation, and collaboration with them — a funded secure primary market needs to be available to attract investment. If the primary market falls away, undermined by lack of funding, or legally enabled appropriations, or illegitimate downstream leakage of heavily invested digital resources through piracy, in time there will be

7 https://www.omanobserver.om/education-ministry-cambridge-sign-pact/

no specialist content produced that is adapted for local needs. The creative engine will stall, and provision through collective licensing or dependence on exceptions will not be able to compensate.

Examples where this is happening include:

- **Canada**, where exceptions in national law enabling unremunerated use for educational purposes of significant appropriations from specialist educational content have undermined the primary market for locally published material;[8]
- **Republic of South Africa**, previously a vigorous and diverse market, where specialist educational publishers now increasingly have fewer opportunities to publish for mainstream education, undermined by state-funded self-publishing by the RSA Department for Basic Education delivering printed textbooks and free-to-use PDFs directly to schools. Also the Copyright Amendment Bill currently awaiting presidential signature threatens to enable the unremunerated use of any content for educational purposes, thereby taking away the right of authors to earn their living.[9] Publishers will not and cannot license quality material into the market if such threats persist;
- **Hungary**, where government policy has completely undermined the primary market for specialist educational publishers.[10] State institutions control accreditations and operate licences for the exclusive supply of content to schools, thereby making it virtually impossible for independent educational publishers to stay in the market for mainstream curriculum material. Choice, innovation and quality are already suffering.

'High-quality educational content' means content that is closely aligned with local needs: language, curriculum, culture, and pedagogic capabilities. Crafting such content requires skill, experience, knowledge and investment. Most successful, durable and widely used educational content is specifically tailored to national, state, regional or provincial needs. Therefore, the educational content has little market potential in other jurisdictions, even between states in a federation, as applies in Spain, Germany or USA. To take away that market, the only market for most specialist educational publishers, through overly broad or uncompensated exceptions is devastating, and inevitably means that publishers will be forced to withdraw from the market, leaving schools, teachers, and students dependent on state-funded provisions, which are often of poor quality and with short longevity, or on material developed for other circumstances and or other jurisdictions. Such strategies can also fuel social inequalities, with better-off parents and schools motivated by their dissatisfactions to source higher-quality textbooks and learning resources from specialist private publishers in a market unavailable to mainstream schools.

3 HOW THE MARKET OPERATES – THE ROAD TO DIGITAL TRANSFORMATION

The physical means for publishers to deliver their content are now very diverse and continue to evolve as tech innovations open new channels to market or change the power structure within existing channels.

For 600 years, publishing — which invests in and adds value to intellectual property, and which evolved from printing as a means to feed the machines and grow output — has delivered product

8 https://www.accesscopyright.ca/media/announcements/access-copyright-statement-regarding-standing-committee-on-industry-science-and-technology-s-copyright-act-review-report/

9 https://www.pressreader.com/south-africa/citypress/20181111/282415580307574

10 https://www.internationalpublishers.org/news/866-educational-publishing-in-hungary-an-interview-with-dr-ildiko-toeroek

to market and connected authors to readers by means of the physical book. Despite the welcome arrival over the last forty years of eBooks, websites, platforms and a plethora of interactive material, for many reading situations, including in the classroom, the seminar room, and for private study, the physical book remains the medium of choice. Digital content sales are growing everywhere, but often at a slower pace than was expected. It is the experience of publishers across many countries that digital sales do not subsume print sales and that a hybrid market is evolving organically. The physical book is a mature technology — portable, readable, personal, attractive, durable, and generally good value for what it delivers: an education for those who choose to read it.[11]

Progressively, the content of most physical books is now also available in electronic form, delivered via portable devices, some dedicated (Kindle), most multi-functional (tablets, laptops), and some from another direction entirely (smartphones). Content is delivered as simple PDFs or more functional EPUB[12] files. But the concept remains essentially the same: specialist, appropriate content, carefully crafted to deliver curriculum needs.

3.1. Publishers and EdTech[13]

In reality, virtually all educational content is delivered through blended or hybrid technologies, a mix-and-match provision of printed textbooks, simple e-textbooks (PDFs or EPUB files), advanced platform-based interactive digital textbooks, and sophisticated learning management systems that may enshrine artificial intelligence and machine learning technologies.

For EdTech to succeed in the classroom, a critical combination of factors is needed: appropriate hardware, operating software, access to the Internet, sufficient bandwidth, digital literacy programmes, teacher training support and — crucially — content that delivers the needs of the curriculum, precisely and completely, 100%.

Larger publishers in populous countries often invest in their own platforms, which enshrine both specialist content and learning management systems.[14] EdTech providers based in countries such as Finland, Estonia, Hungary, and Indonesia[15] have also developed platforms that publisher partners in other countries can use to create and deliver their own specialist content.

The next step along the road to digital 'transformation' is delivery via platforms that enable content to be presented in animated, interactive styles, with associated visuals and with links to related content. Several suppliers offer so-called 'white label' platforms that are used by publishers to flow in and adapt their own content in line with local market needs. These platforms are designed to be intuitive, easy to use and navigate by teachers with only lower intermediate digital literacy skills, and they extend the concept of structured material crafted in line with curriculum needs.

The current high-water mark for technology to deliver educational content operates in association with an overarching learning management platform. A pervasive example for schools is ***Google Classroom***[16], available via Chromebooks and OEMs (Other Equipment Manufacturers). Notwithstanding concerns about Google's seemingly inexorable growth of global market share, combined with worries about data accumulation and treatment, and although Google is careful to point out that technology is only a means to an end and that

11 There is a growing body of research evidence which suggests that reading comprehension is better in print, itself a mature technology, than on screens: http://erearcost.eu

12 EPUB is a technical standard for e-book files developed by the International Digital Publishing Forum: http://idpf.org/

13 EdTech refers to software designed to enhance teacher-led learning in classrooms and improve students' education outcomes.

14 For example: Pearson, Houghton Mifflin Harcourt, Ernst Klett Verlag, McGraw Hill.

15 Finland: http://cloubi.com/; Estonia : https://www.avita.ee/30092; Hungary: https://www.mozaweb.com/; Indonesia: https://www.pesonaedu.com./

16 https://edu.google.com/products/classroom/?mneodal_active=no

student engagement comes through the content, this technology enshrines a suite of tools for classroom management that enable different teaching strategies, including active learning and personalised learning, and claims to support collaboration, problem solving, and critical thinking. Developments in AI (artificial intelligence) and ML (machine learning) applications enshrined in such platforms beckon from the future.[17] Google invites 'integrations' to its platform, including content.[18]

ALEKS Corporation,[19] a part of McGraw Hill Education is a leader with 30 years of experience in the creation of Web-based, artificially intelligent, educational software. ALEKS assessment and learning technologies were originally developed by a team of cognitive scientists and software engineers at the University of California, Irvine, with major funding from the National Science Foundation. ALEKS is founded on ground-breaking research in mathematical cognitive science known as Knowledge Space Theory.[20] Through adaptive questioning, ALEKS accurately assesses a student's knowledge state and then delivers targeted instruction on the exact topics the student is most ready to learn. ALEKS has been used by millions of students in over 100 different mathematics, science, and business courses at thousands of K-12 schools, colleges, and universities throughout the world.

4 CHANNELS TO MARKET: THE DEMAND SIDE

Publishers and authors not only need the physical means for their carefully crafted content to reach their readers, but also channels to the primary market through which funds and revenue can flow back. For K-12 (4-18 year olds) schoolbooks, funding — generally but not universally — involves the investment of public funds, which may be applied on the demand side or the supply side of the primary market. Market characteristics and market diversity will be strongly influenced by the extent of government choices and legislative interventions.

If public funds are applied on the **demand side**, chances are that a healthy organic market will develop, and specialist educational publishers will compete to deliver a diversity of content resources employing a range of technologies that meet teachers' needs. Generally, funding budgets are allocated to schools under various methodologies, which enable teachers to choose the resources they prefer to deliver the curriculum they teach, either from an open market or from lists approved at national or local level. Procurement may be by schools directly, or via trading intermediaries. Value chains (the flow of funds from users to producers) vary widely between nations. In some countries, governments organise tenders to control costs and manage value. But essentially, these demand-fuelled primary markets are open markets and publishers are free to invest and engage at their own risk.

Complementary to the primary curriculum market, there is always demand for supplementary reference (such as dictionaries and atlases), and exam revision and practice material, often funded by parents or students themselves. And in most jurisdictions, there will be a network of private schools that do not depend on public funding and which can choose their own resources and often their own curriculum. In a national market closed to specialist educational publishers by supply side funding methodologies (see below), these private school and supplementary markets are often the only investment opportunities available for publishers.

17 Notwithstanding suggestions that this 'future' is problematic: John Naughton, 'Can the planet really afford the exorbitant power demands of machine learning?' https://www.theguardian.com/commentisfree/2019/nov/16/can-planet-afford-exorbitant-power-demands-of-machine-learning

18 See for example: https://www.pearson.com/us/about/news-events/news/2019/01/pearson-realize_-selected-as-google-for-education-premier-partne.html

19 https://www.aleks.com/

20 https://www.aleks.com/about_aleks/knowledge_space_theory

4.1. Channels to market: Supply side methodologies and funding

It is not uncommon however for governments to apply public funding to the **supply** (production) **side**. This can take several forms. A state-funded monopoly supplier can be set up with a government-approved exclusive licence to supply curriculum resources to schools. Such an arrangement essentially locks out specialist educational publishers, which must then survive on the supplementary markets, choose to withdraw completely, or look to international opportunities. The most recent egregious example of this is in Hungary.[21]

An alternative supply side methodology is the single-text adoption, as for example in Turkey. Publishers there are encouraged to compete for adoption of their materials, but opportunity is restricted, and procurement is usually through tender, forcing down prices. In Africa particularly, this methodology has been common, often funded by aid projects. Over time, indigenous publishers are forced to withdraw from the market. Yet another supply-side strategy is to apply funding to the development of OERs, or to the development of a digital platform populated entirely by publicly funded and freely available resources, such as for example the NDLA in Norway (see below, page 15).

All these supply side strategies have potentially the same result that specialist educational publishers, both locally based and internationally active, reduce their investment in the curriculum needs of the country, or withdraw completely. A further twist can come from exceptions for educational use included in national laws. **If exceptions are too broadly framed, and specialist educational product crafted for local curriculum needs is interpreted as available for use without permission or remuneration, the market for indigenous publishers will collapse**, as has happened in Canada, and as a consequence Canadian schools are increasingly forced to use learning resources produced outside of Canada and without reference to the curricula of Canadian provinces or Canada's cultural, linguistic and ethnic mix.

As specialist educational publishers withdraw, and the educational resources available are reduced to those funded directly by public monies, the quality of these resources tends to diminish.[22] The motivation to innovate and compete is absent, and resources become quickly out of date, but with no mechanism left in the market to replace them. **The result is a drought, not a feast of free content**.

DEMAND VERSUS SUPPLY SIDE CHANNELS TO MARKET

	Demand side	Supply side
A healthy organic market develops	✔	✗
Specialist educational publishers compete to deliver a diversity of content resources employing a range of tech to meet teacher needs	✔	✗
Teachers to choose the resources they prefer to deliver the curriculum, either from an open market or from lists approved at national or local level	✔	✗
Publishers are free to invest and engage at their own risk	✔	✗

21 https://www.internationalpublishers.org/news/866-educational-publishing-in-hungary-an-interview-with-dr-ildiko-toeroek

22 See for example: https://www.bridgeinternationalacademies.com/literacy-and-learning/

5 ACROSS NATIONAL BOUNDARIES

There are market sectors where specialist educational materials can meet needs and travel across national boundaries, through licensing arrangements or targeted publishing initiatives. Prominent examples would include:

- **International schools** teaching the International Baccalaureate, International General Certificates of Secondary Education or Cambridge Assessment qualifications.[23] UK-based publishers are notably adept at developing quality resources for use in international schools. They sell their textbooks directly or through local agents and arrange local licences for their digital learning programmes. International schools often have the financial resources and capability to experiment with EdTech and the use of digital resources in their classrooms. In emerging markets, these schools can be the catalyst and the inspiration for the use of technology in the wider local market;
- **Private language schools** teaching second languages,[24] most prominently English, French, Spanish, Chinese, or Arabic. The large global market for English Language Teaching (ELT) in particular, which includes the teaching of English as a curriculum subject in schools, is the subject of significant investment and constant development by publishers. High-quality resources are available almost anywhere, usually with a strong digital element, which may be web-based or delivered via local licences,. These structured programmes are needed to support language progression, and the motivational material included requires skilled and experienced authors;
- **Distance learning colleges** with no physical presence.[25] Publishers of high-quality content are motivated to license their material for distance learning uses, but they need to be reassured that users will be connected via secure networks. A licence will be negotiated with the parent institution, which is then expected to operate as a trusted partner exercising stewardship over quality material;
- **Nationally-based institutions with campuses in other countries**.[26] Publishers negotiate licence arrangements with reputable parent institutions or with trusted preferred partners that they are satisfied have the required secure technology and digital rights management capability. Licences will empower these trusted partners to deliver content into campuses in other countries, so usually it will not be the publishers themselves that license these campuses separately and directly.

All these markets still need specialist educational content, delivered into classrooms through channels that support commerce and the value chain. Only diverse and healthy markets that respect copyright can expect to benefit from such provisions. Publishers have little incentive to enable licensed access to their material in markets and territories that contain threats from appropriation, infringing uses, downstream leakage, or outright piracy of their content.

It is to be expected, however, that actors in these markets will search for economies of scale, and there are positive examples of public procurement on behalf of an entire sector from a diversity of potential content suppliers. Such arrangements can be sustainable and deliver value for public funds on the basis that the arrangement is fair and not punitive to rightsholders.

23 For examples see: https://www.tes.com/school-directory/international-school-groups

24 For a directory of language schools see: https://www.eurolingua.com/publications/english-interest/1633-international-language-school-directory

25 For examples see: https://www.distancelearningportal.com/

26 For a full listing see: http://cbert.org/

Conversely, publishers with international networks and connections, which often favour those publishing in English, will themselves look for economies of scale by developing content that has potential in a range of national markets. These publishers invest in a core concept that is adapted to local needs for delivery in different local markets, often with a local package of support for teachers who will be using the programme. Here are two successful cases:

1. **Oxford Reading Buddy**,[27] published by Oxford University Press is a good example of how a publisher with a global footprint can deliver investment and expertise to the benefit of local needs. This is a 'digital first' programme with complementary blended (print) elements available. It has been adapted for delivery in both 'native speaker' and 'English as a second language' versions aligned with the needs of curricula in UK, South Africa, Australia, Malaysia, India, Pakistan, and China, and for international schools in territories such as the Middle East and Latin America. Built around a common set of levels, it uses different content libraries to suit local circumstances, and critical factors such as the pace of progression are considered. The programme seeks to use technology in ways that add value to the student experience. For markets in China and South Africa, delivery can be via smartphones, perhaps the most effective technology for reaching the hard-to-reach. Users also benefit from the support elements available from a well-structured international programme committed to high-quality content, including support for teachers in the use of the technology.

2. **Marshall Cavendish Education**[28] produces resources in Singapore or Hong Kong inspired by the successful curriculum development programmes in Singapore that are in demand around the world. Working with partners and through many instances of positive collaborative efforts, their content is in demand in over 70 countries. Authors and illustrators are paid their dues and are recognised for their work and effort because of a robust publishing and licensing system. Digital content is delivered using a variety of models, including subscriptions on a yearly basis or for a one-time payment. In the Philippines, where schools are unable to afford the Singaporean pricing of the content, they have trimmed the contents and deposited these in local servers and made them available to schools at a lower price. In Indonesia,[29] they have licensed their Learning Management System (LMS) to schools through a local partner. Marshall Cavendish Education has also sold printed books in many countries, often adapted to local needs and published with local partners, or licensed to partners for publication in other languages, including Arabic, French, Hebrew, Bahasa Indonesia, as well as for markets in Mauritius, China, and Sweden. They have sold into India and are working to license material to a partner in Pakistan.

6 CHANNELS TO DIGITAL MARKETS

Models that channel funds for digital content are constantly evolving in response to market challenges. The larger specialist educational publishers, especially those publishing in English with branches in international markets, have invested heavily in proprietary platforms, which host their own content along with added-value learning and data management tools. The challenge for schools however is to manage the diversity of these platforms, each potentially requiring a separate sign-on; and for each platform to respect the legal protections required of learning analytics data. The response has been to set up collaborations that enable a single sign-on service, for example the initiatives in the Netherlands and Italy described below. Conversely, there

27 https://global.oup.com/education/content/primary/series/oxford-reading-buddy/?region=international
28 https://www.mceducation.com/mce-intl
29 https://nuadu.com/en/partners

is also evidence that some schools are choosing to retreat from the complexities of managing platforms, especially when budgets are tight, while still using digital content in simpler formats (PDFs and EPUB).

In the **Netherlands**, complexities in the digital content supply chain deriving from multiple approvals and differing processes for integrating content into school systems were causing delays and disruptions in 2017. This led to a joint programme bringing together both public (the councils of Primary and Secondary Education, supported by the Ministry of Education) and private stakeholders who were represented, amongst others, by the Dutch Association of Educational Publishers (GEU). Their common goal was to establish a 'reliable and secure educational content chain'. The result was a clearly defined content supply chain, binding agreements and standard testing. And by the start of school year 2018/2019, there were barely any problems. Over time, the program will be further improved and simplified to ensure sustainable seamless delivery. Working closely with government officials, common resources and tools were developed through successful public-private partnerships, for example ***Basispoort***,[30] a centralised single sign-on platform that automates access to multiple publishers. With this oversight in place, all parties can work together to resolve potential issues very quickly. The curriculum can now be delivered smoothly. Everyone wins, especially the students.

In **Italy**, all textbooks eligible for adoption for primary and secondary schools must have digital elements included. There are three types of eligible product: (i) print textbooks with digital integrations; (ii) blended products (print textbooks + digital textbooks + additional digital contents and tools); (iii) digital textbooks with integrated multimedia, interactive content and tools. Licences for digital resources are granted directly by the publishers. Digital elements are licensed to teachers for use in the classroom as part of the adopted package. Licences for students to access digital learning materials usually have a cross-border scope, and students can access their digital resources in the classroom, at home or anywhere via the Internet using their computer or other personal devices .

Zaino Digitale[31] was launched in September 2017 and has been fully operational ever since. It is an online service promoted by the Italian Publishers Association (AIE) to optimise access to digital educational resources made available in the market by Italian publishers joining the initiative. It provides families, students, and teachers with a single gateway to the digital contents (eBooks and supplementary resources) available on individual publisher's platforms. The technological infrastructure is based on a single sign-on solution and open and interoperable standards. The project is compliant with the new European regulation on data protection. Currently 16 educational publishers (81 imprints) have joined the service, representing more than 80% of the Italian educational market.

There are also examples from **Brazil** of competing publishers collaborating successfully to establish a collective channel that can deliver a mix-and-match/ slice-and-dice combination of curated content from a single source of supply.

- ***Pasta do Professor***[32] (Teacher Briefcase) involves 30 publishers offering book chapters digitally as suggested by their teachers catering for hundreds of thousands of university students;

30 https://www.basispoort.nl/login/leerkracht/
31 'Digital backpack', https://www.zainodigitale.it/#/
32 https://loja.minhabiblioteca.com.br/

- ***Minha Biblioteca***[33], (My Library) supports distance learning by delivering digital content directly to students' PC or mobile phone. Miha Biblioteca involves 28 publisher imprints catering for 200 degree courses, more that 11,000 titles with 126m pages read per year by 3m students in 800 universities. The model requires universities to pay a low fee so that their students can access the content for free, and a new **Clube Minha Biblioteca** enables students to subscribe directly to the thematic digital library of their choice.

7 DIGITAL STRATEGIES AND INVESTMENT IN EDTECH

In many countries, digital resources are used extensively in classrooms, but rarely exclusively. The variance in practice is very wide and virtually every country, every nation, region, state or province is investing in digital technology to assist learning in their public sector institutions. The variety and diversity of EdTech projects is impressive, but also curiously inconclusive. There is little compelling evidence that mere availability of devices and connectivity alone makes a positive impact on student learning (as opposed to say motivation, flexibility or variety of learning experience). Some jurisdictions such as South Korea[34] have attempted to go 'all in' on digital, only to scale back later, while others have taken their time to evolve a strategy, such as in Germany. Progress with 'the digital transition' does not map onto population density, GDP, available resources, favoured devices, or pedagogical traditions. The **Center for Educational Innovations** lists numerous programmes.[35] Which ones matter? Which will prove sustainable, and scaleable?

Although digital resources offer students clear incentives for motivational benefits and richness of experience, compelling evidence that digital brings a learning advantage remains elusive. **There is no 'one size fits all' when it comes to formats for quality educational content, and the enormous variety and diversity of digital EdTech solutions is also its strength**. Case studies in diversity can be found in the UNESCO ICT in Education prize, where 2018 winners were ***ThingLink*** and ***Can't Wait to Learn***. The 2019 prize is on the theme: the use of AI to innovate education, teaching and learning.

ThingLink[36] from Finland is an innovative and affordable digital tool, which helps to foster learning experiences, including learners with disabilities or limited ability for expression. The Web tool and the app allows teachers and students to easily enhance visual media with text, voice, photos, videos and 360-degree images, with a view to increasing knowledge sharing and learning engagement. It supports various learning styles that help to customise lessons to meet learners' individual needs, and ThingLink provides a new way for documenting cultural heritage using local languages.

The ***Can't Wait to Learn***[37] programme, developed and implemented by a broad coalition of partners led by War Child Holland, addresses the needs of the 32 million children who miss out on an education through living in conflict zones. The programme provides a fast, effective and value-for-money solution, including an offline application that enables children to learn through playing educational games on tablet computers. Input from children informs the design of the games. All content is based on national curricula and includes both literacy and numeracy modules. The programme currently operates in Sudan, Jordan, Lebanon and Uganda. The educational content is available in Arabic and English, and games in French will be developed.

33 https://minhabiblioteca.com.br/
34 See: https://blogs.worldbank.org/edutech/e-learning-in-korea-in-2011-and-beyond
35 https://www.educationinnovations.org/
36 https://www.thinglink.com/
37 https://www.warchildholland.org/projects/cwtl/

For EdTech to enhance student learning, a critical combination of elements is likely to need to be in place. If one element is missing, then investments in the rest are at risk of being unproductive in terms of raising standards. These elements are (at least):

- Access to electricity;
- Secure storage and availability of robust and appropriate devices;
- Teachers trained in how to use the devices for pedagogical purposes;
- An appropriate standard of digital literacy among teachers and students;
- Access to the Internet;
- Sufficient bandwidth to enable the technology employed; and
- Access to carefully crafted professional content that meets the needs of the curriculum, assessment needs, local language and culture, in line with social norms.

This last requirement is ***universal***, is independent of the medium of delivery, and is the reason why publishers need to be trusted partners in the delivery of successful outcomes from investments in EdTech, and why provision needs to be made to fund procurement of carefully crafted content.

Strategies for successful EdTech investment vary considerably between countries.

In **Eastern Europe**, for example, there is a strong rising tide in most countries often supported by EU funding to make effective use of interactive digital resources. But digitisation still needs an effective *implementation* model to deliver the benefits, and mere availability of hardware and the Internet is not enough. Attractive content that supports all required standards, offers complete compliance with diverse curriculum goals, delivers 100% of the content needs in different countries and different languages, and still offers total commitment to quality, is essential. Even then, close support for teachers through teacher training is needed to deliver secure outcomes.

The government of **Denmark** invested DK500m (€65 m) in a digital initiative that ran for five years from 2012[38] by way of a subsidy for schools to purchase resources. An evaluation of outcomes is still in hand, but a commercially funded survey of teachers and principals in Danish schools[39] involving 6,000 respondents concluded that 36% of Danish teachers are now primarily using digital teaching materials, 49% believe digital materials prepare students in a better way, 63% perceive digital material to be more up to date, and 62% have participated in digital skills development. However, 43% of these teachers and principals experienced infrastructure barriers to using digital material effectively, only 31% of schools had a digital strategy to improve the IT-didactic skills of students, and 42% of respondents did not know if their school even had a strategy. Interestingly, book sales have not declined during the subsidy period of the programme, so it seems that the technologies may be complementary not substitutional.

Over the last 10 years, **Norway** has operated a **National Digital Learning Arena (NDLA)**,[40] which is a production and purchase enterprise for freely available digital resources, publicly funded through local municipalities. NDLA has completely dominated the Norwegian market for digital learning for secondary schools and is planning to extend into primary. Of

38 http://www.eun.org/documents/411753/839549/Country+Report+Denmark+2017.pdf/7a0b9045-cd44-4831-875a-e42306beeefe

39 https://www.clio.me/wp-content/uploads/2019/08/dk-market-research-2019-main-conclusions-_report_-.pdf?utm_source=DK_BrandSite&utm_medium=Blog&utm_campaign=Dk+Market+Research+2019

40 https://om.ndla.no/about-ndla/

late, however, NDLA has been challenged over the quality of its material and is subject to considerable debate over how it will continue. Meanwhile, the government has established a public grant scheme known as 'technological school bag'[41] with a budget equivalent to €45m over five years to fund municipal purchases from specialist local educational publishers.

The Ministry of Education and Research in **Estonia**, well known as a state for progressive use of digital technologies, has been running a pilot project[42] to procure digital textbook and learning environment licences for Grades 1-9, which is continuing for a further two, potentially three, years after a successful evaluation. The tender for the second year was won by two platforms, **opiq.ee**[43] and **foxcademy.com**[44]. Opiq.ee is a single learning platform that offers digital textbooks from several publishers at once, enabling teachers to use content under one licence for all subjects and all grades. The Ministry pays a licence fee to the provider which, after taking a commission, shares the rest with the rightsholders according to usage. The platform also provides publishers with usage statistics and shares some learning analytics data with the Ministry. The aim is to return to a normal organic market, where the school makes the order for licences, not the state. Again, sales of 'traditional' print textbooks have held up during the trial. The preference seems to be for textbooks in both printed and digital versions.

Serbia has launched a '10,000 digital classrooms' project,[45] involving all classrooms in 1st and 2nd Grades and many in 5th Grade. A network of over 600 digital ambassadors has been established, and 40% of teachers have attended training events. High-quality digital content derives from licences paid to publishers. The market is funded by an allocation of €150/teacher/year.

CHECKLIST FOR EDTECH SUCCESS IN THE CLASSROOM

- ☑ Appropriate hardware
- ☑ Operating software
- ☑ Internet access
- ☑ Sufficient bandwidth
- ☑ Digital literacy programmes
- ☑ Teacher training support
- ☑ Content that delivers on curriculum needs

8 MARKET CONDITIONS- WHAT IS NEEDED

To deliver on their mission of bringing appropriate, carefully crafted and curated content to readers, pupils, students and their teachers, publishers need both the physical means to deliver

41 https://norwaytoday.info/education/promises-nok-450-million-towards-tech-school-bag/
42 https://investinestonia.com/digital-development-a-priority-for-upcoming-school-year-in-estonia/
43 https://www.opiq.ee/
44 https://www.foxcademy.com/
45 https://www.srbija.gov.rs/vest/en/141773/serbia-to-invest-in-education-creativity.php

their content, and, as already mentioned, a channel to market through which funds can flow back to the investor, the publisher. **Authors and publishers also need a legal framework within nation states and across borders that respects both the Berne Convention's 3-Step Test**[46] **and the rights of publishers and their authors to make available and sell their content in return for fair and secure remuneration, without fear of appropriation through legislation, or of infringing uses going unaddressed**.

The 3-Step Test defines the context for possible exceptions to the author's exclusive right of reproduction for literary and artistic works under Article 9(2) of the Berne Convention. The Test for possible exceptions requires that: *'It shall be a matter for legislation in the countries [that are signatories to the Convention] to permit the reproduction of such works in certain special cases, provided that such reproduction does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the author.'*

Since high-quality educational content has always been crafted and curated to align closely with the precise curriculum needs of local markets, publishers argue strongly that exceptions aiming to legitimise reproduction of such works conflict with the Test in that they clearly do 'interfere with normal exploitation' (the second step of the Test) of works intended for a focused market and in consequence are 'unreasonably prejudicial' (the third step of the Test) to the interests of specialist educational publishers and their authors.

In the absence of such a secure national legal framework, publishers cannot operate successfully and must look to opportunities elsewhere. The DSM Copyright Directive that passed into EU law in May 2019 and is now in the process of implementation into the national laws of the 27 EU member states delivers such a framework in that it aims to provide for a high level of protection for rightsholders, facilitate the clearance of rights and create a framework in which exploitation of works and other protected subject matter can take place.[47]

9 COLLECTIVE LICENSING SOLUTIONS

Collective licensing solutions are an essential complement to the investments of specialist educational publishers in the primary market for learning materials which are closely adapted to the needs of the curriculum and local teachers. Given the inevitable diversity of needs, the primary market and the funding available cannot meet all the needs of all the teachers and all their students all of the time, so licensed use of excerpts from copyright-protected material from a variety of primary sources will still be required to illustrate particular points, or to compile reading lists, course packs, and appropriate background material. The process of clearing these many permissions is potentially burdensome on both rightsholders and on users, so an efficient and effective collective licensing service is beneficial to all actors in an orderly market and serves to complement and complete the solutions available from primary providers.

Collective solutions managed by CMOs[48] potentially also have a necessary role to play in enabling effective use of progressive artificial intelligence and machine learning technologies that draw on rich content repositories for pedagogical and assessment applications. The item banks of individual publishers though valuable are unlikely to be sufficient, and a proliferation of item-level transactional licences will become too burdensome to be effective. Collective solutions

46 https://www.wipo.int/treaties/en/ip/berne/summary_berne.html

47 https://eur-lex.europa.eu/eli/dir/2019/790/oj?eliuri=eli:dir:2019:790:oj

48 See Olav Stokkmo, The Role of Collective Licensing, International Publishers Association, Geneva, 2019: https://www.internationalpublishers.org/images/aa-content/ipa-reports/Licensing_practices_2019-20/Olav_Stokkmo_-_The_Role_of_Collective_Licensing.pdf

with associated new business models that distribute remuneration fairly, according to use are needed to manage and curate the re-use rights that will populate such repositories. For these progressive solutions to operate however, an open, fair, and legally secure marketplace that respects intellectual property rights and restricts infringing uses is the key to delivering the choice, innovation, and partnerships that will fuel these powerful new technologies and deliver the prospect of better learning outcomes.

10 CONCLUSION

Specialist educational publishers are an essential element in any dynamic modern education system. Publishers seek to work in collaboration with policymakers, government agencies, teachers, and authors. They invest in the development of resources that stimulate learning and support the teachers who deliver local curricula in classrooms. **Any successful education system involves catering for a great diversity of needs, and educational publishers are experts at deriving and adapting solutions to meet those needs**. They offer blended solutions using formats appropriate to the way that teachers want to teach. Publishers use whatever educational technologies are appropriate, in line with funding, policy guidelines and pedagogical capabilities and, in doing so, they offer hybrid choices employing all available formats. They work with what works, not just with a particular preferred technology. **Publishers support teachers where policymakers and government agencies leave off**. They stand for choice, diversity, innovation, local solutions for local needs, and collaboration with all the other actors on the educational stage.

To make these investments, however, publishers need a secure national legal framework in which to operate, one that respects copyright, creators' rights, and publishers' rights. This paper gives some examples of successful collaborations that deliver balanced solutions benefitting learners, teachers, and society. Publishers seek the freedom and the opportunity to exploit, at their own risk, their own and their authors' exclusive rights in markets where funding is available, preferably on the demand side, and where market channels enable these funds to flow. With primary provision in place to meet core curriculum needs, there is scope for additional provision from open source material and from collective licensing solutions that provide the means to access extracts from copyright material that is not burdensome either to users or to rights owners.

This secondary market enabled by copyright management organisations complements and completes the primary market enabled by publishers themselves. A secure, balanced collaboration between authors, publishers, teachers, CMOs and technology providers can deliver a synergetic, sustainable, progressive, and scaleable landscape of resource provision to support learners, teachers, policymakers and governments. Effective education works through local delivery, supported by diverse but appropriate resources, developed through productive collaborations ■

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WHAT IS EDUCATION FOR THE 21ST CENTURY? – THE SINGAPORE EXPERIENCE

CONTENTS

EXECUTIVE SUMMARY

With an internet penetration (by mobile) of over 75%, Singapore is a truly digital nation and its government demands an education system that fully reflects this. But it has not always been that way. It had traditionally suffered from low levels of literacy and high ratios of pupils to teachers, with textbooks imported from the UK.

However, after gaining its independence in 1965, the Singapore government recognised that it needed skilled labour in manufacturing and its education system was initially set up to cater for such skills.

Manufacturing developed into engineering and electronics but by the 1980s professional service were forming the basis of the economy, with a national aspiration of attracting overseas investment and a newly skilled workforce. English became the medium of instruction and new curricula were introduced. However, the teacher workforce had still not professionalised and needed extensive support.

It was at this time that the Ministry of Education (MoE) in Singapore set up a modus operandi that continues today. Its textbook division works with publishers to develop Singaporean textbooks, workbooks and teacher guides. This partnership has taken various guises for different subjects but with the combined objective of producing content that was credible and of a superior standard. In the late '80s, as Singaporean publishers started travelling to overseas bookfairs, the content went from being solely for a domestic audience to being licensed for global use.

Singapore today is proud of an education system that has been robustly reviewed and critiqued. It keeps the textbook at the heart of teaching, whether in print or digital format. Recognising that the users of the 21st-century textbooks are digital natives and will not be engaged with simple "text on a page", teaching and assessment methods have changed, and the Singapore textbook of today incorporates augmented reality, weblinks for audio/visual content and animation. Apps and tools will often accompany the textbook. These changes come as the MoE places increasing emphasis on digital learning, ensuring that the content is engaging as well as educational and supporting publishers with digital development through grants and projects. Today's textbook must be "SMART" to gain MoE approval for use.

This new way of producing textbooks brings its own challenges to publishers who now need to be licensees, procuring content from other sources, as well as licensors. Authors and publishers need to be creative as well as factually accurate. Textbook production now requires conceptualisation, robust thinking and planning; it can take a team of 30 people approximately 2 years to produce one textbook, involving the author, editor and digital and art departments. When complete, the publisher must develop ways to maximise access to its content, both domestically and internationally. This involves additional risk, both maintaining the integrity of the content (and the author's and publisher's reputation) and also in collecting revenues from overseas partners. Nevertheless, the ultimate goal of every educational author and publisher is that the content should be used by as many teachers and learners as possible.

Singapore is a success story of how government, creators and publishers can work together to create exemplary teaching and learning content. However, this is only possible if the roles of creators and publishers are valued, supported and remunerated adequately. When they are, governments, parents, teachers and learners can raise a generation of educated global citizens equipped with independent thinking skills who have a clear sense of right and wrong ■

1 INTRODUCTION: PROGRESS AT BREAK-NECK SPEED

The 21st century is indeed an exciting era for us. This is a period where progress in technology is growing exponentially, and there is an endless supply of information being shared continuously and instantaneously, at a speed unseen and unheard of. We live in a time where we can be witness to an event happening in any part of the world as long as there is satellite broadcast. We in Singapore saw the new year celebrated in Sydney, Australia (3 hours ahead), Tokyo, Japan (1 hour ahead), before we celebrated with the rest of South East Asia, and then continued the celebration in London, England and New York, United States, the following day. On a less happy note, we can also see wars and acts of cruelty being waged in real time.

Many of the scenarios that we had read about as kids or could only imagine are now a reality. The Internet has made it possible for people to make any statements they like on any topic and freely post any form of information. They may or may not be the specialists or experts in their subject, but they believe they can comment on any of the topics being discussed. Social media and its various platforms have empowered the ordinary person to pose as a figure of authority if they wish to do so, and, as most of us are aware, it is very easy to copy and paste or forward any information that lands on our devices. How many of us have received pieces of news from our friends only to have someone say later that the information was inaccurate and posted by pranksters?

The Department of Statistics, Singapore cites our population at 5.7m in June 2019 (Channel News Asia 26/9/2019) and the number of users who access the Internet via mobile phones is around 4.3 million. There are also claims that there are more than 5 billion mobile phone users in the world. This has given rise to much emphasis on technology in education and software engineering, but I think our concern should extend beyond that of creating the best hardware and software to feed the consumers. **The concern for the 21st century should be on our students and their ability to cope with the vast strides and progress made in technology.**

SINGAPORE POPULATION STATISTICS

How do we prepare our students for such a world? How do we ensure that while they learn, they are not blindly accepting the information that is being fed to them? They will need to be discerning adults, to decipher and filter all the news and information they come across or are bombarded with. How do we ensure that they can make the right decisions based on the information given to them, since the information is freely available and there is freedom to comment?

When called upon to make decisions, do they do so based only on what the statistics tell them without further thought? Will they be influenced by the autobots to end up being a very efficient machine that can process and analyse information or make decisions based on facts alone, and lose the empathy, creativity and compassion that make them human? More importantly, can they tell right from wrong, and when necessary make the decisions that reflect a gracious and kind human race? If I may borrow and slightly adapt Charles Dickens, these are "the best of times and the worst of times", and we are facing the same breath-taking rollercoaster ride in education.

The evolution of education in Singapore from 1965 to 1990

At the risk of sounding like an old lady reminiscing about the good old days, I do think life — or rather, the goals in education — were simpler in the 1960s. Singapore gained its independence suddenly in 1965. We are an island with very few natural resources, no oil, no timber, no tin, and very little land for farming. Then, we had no option but to venture into manufacturing, producing goods for the rest of the world. For this, we needed skilled labour and priority was given to skills development, so technical and vocational schools were set up. A huge percentage of our population was illiterate, and we needed to educate them as quickly as possible, with the barest of resources, to create a productive and skilled workforce. It was a small group of literate people leading everyone else. The teacher-pupil ratio was 1:50. This was a period of survival; putting a roof over our heads and feeding the population were pressing issues.

Singapore's Ministry of Education (MoE), founded in 1955, decided to focus on skills, literacy and numeracy to cope with these new challenges. Being a former British colony, the basic texts were imported mainly from the United Kingdom. The idea was to teach as many students as possible in the shortest time. The people seemed to realise the urgency of the situation and were eager to be enrolled in schools and acquire new skills. By the 1970s, we had moved to industries which required skills such as precision engineering and electronics. There were factories that were assembling complex components for equipment such as television sets and fans. However, a mindset change was needed by the late 1970s as the other ASEAN countries were beginning to overtake us in manufacturing and production.

By the early 1980s we were venturing into the area of professional services. Our aspiration was to be a country of choice for global companies to invest in, but this would require a different breed of workers. We needed a workforce that was knowledgeable, competent in their skills, and professional. **Our motto going into the 1980s and 1990s was 'Thinking Schools, Learning Nation'.**

There was also a need to be proficient in English language and so English was used as the medium of teaching for all subjects. We needed new syllabuses geared towards the new needs.

By this time, most of the population realised what a valuable commodity education was. They had seen the significant gains made by many in social mobility through education and they wanted the same thing. The government too recognised the significance of having an educated population and yet resources in terms of qualified teachers were lacking.

Many teachers at that time were not graduates or specialists in their subject areas and had to teach several subjects. A graduate in English Language may have had to teach Geography or History as well. In Primary schools, teachers had to teach a core subject such as Mathematics or English and take on other non-core subjects such as Art or Social Studies. Most teachers, understandably, expressed a lack of confidence in teaching subjects that they had not specialised in. The MoE came up with a multi-pronged approach. While the National Institute of Education would train the teachers to teach the new syllabuses, the Textbook Division would work with publishers to equip teachers with the necessary teaching and learning materials. These came in a neat package: one textbook, one workbook and one teacher's guide.

Textbook publishing was introduced formally in the 1980s with the MoE working together with publishers to create our own Singaporean textbooks. The curriculum was drafted by the MoE and some textbook manuscripts were written by MoE officers as they were the subject specialists. Publishers were engaged to edit, design, typeset, print the books and distribute them. Different models were soon developed for different subjects — some textbooks were co-published by the MoE and the publisher; others were produced solely by the publishers with syllabuses provided by the MOE. In all these models, the objective was to introduce content that was credible and of a superior standard. These models served Singapore well and the textbooks were used only in Singapore. **It was only in the late 80's when publishers like Marshall Cavendish decided to participate in book fairs overseas, that Singapore's textbooks were exhibited and introduced to the rest of the world**. A common misconception was that the Singapore textbooks (written according to Singapore curriculum and used in Singapore) would not travel well, unlike the rest of the general and trade books. However, **education being a concern for most countries, Singapore textbooks were in much demand in many parts of the world. Requests for licensing came in and gradually, the scene for textbook publishing in Singapore changed** as well. Many publishers had to learn first-hand about the legality of content licensing as well as coming up with business models that would work for both licensor and licensee.

2 EDUCATION IN SINGAPORE IN 2020: CREATING THE IDEAL STUDENT

Fast forward to 2020. Singapore now has an education system that has been robustly reviewed, critiqued by many and adopted by some. **The textbook is still almost always seen as the base from which all teaching begins, be it in print or digital form**. In addition, we continue to emphasise skills such as critical thinking, communication, collaboration and creativity. The imparting, sharing and understanding of knowledge remains a vital requirement. With the rapid progress in technology and globalisation, there is now an urgent need to make sure that our students do not lack humaneness while acquiring the knowledge. In Singapore, we try to define what the ideal student would be, and this is how the Ministry of Education describes this student in its report on 21st Century Competencies[1]:

1 https://www.moe.gov.sg/docs/default-source/document/education/files/desired-outcomes-of-education.pdf

In sum, he [sic] is:
a confident person who has a strong sense of right and wrong, is adaptable and resilient, knows himself [sic], is discerning in judgment, thinks independently and critically, and communicates effectively;
a self-directed learner who questions, reflects, perseveres and takes responsibility for his [sic] own learning;
an active contributor who is able to work effectively in teams, is innovative, exercises initiative, takes calculated risks and strives for excellence;
a concerned citizen who is rooted to Singapore, has a strong sense of civic responsibility, is informed about Singapore and the world, and takes an active part in bettering the lives of others around him.

To encourage creativity and critical thinking, there is now less emphasis on assessment that tests rote learning. Questions posed to students are in the form of a situation or a problem and they are asked for solutions. Instead of just an exam that tests students on what they have learnt in the last year or the last three years, students are sometimes assessed on project work. The emphasis is no longer on how much they can recall of what they have learnt, but how well can they apply what they have learnt to the situations that are posed to them.

3 EDUCATION IN SINGAPORE IN 2020: THE EVOLUTION OF TEACHING AND LEARNING

Teaching and learning have evolved too. Teachers are exposed to new teaching methodologies and students do not just sit in the classroom and learn from textbooks. In the Sciences, students and teachers work together on experimentation in virtual labs; students sometimes participate via online learning with students from other schools or even other countries for collaborative learning. In the Humanities, students are encouraged to explore, discuss, debate and listen to their peers for different viewpoints and alternatives in dealing with an issue. Gone are the days when lessons would be conducted in a classroom with only a textbook as a learning tool.

The 21st-century lesson now comes in various formats and forms. Take Science for example. While teachers may conduct the lesson in a classroom or a virtual lab, students are increasingly the proactive ones proposing a hypothesis with the teacher acting as co-ordinator. Or students could be outdoors on learning trails (or if indoors, exploring these trails online), doing research on a topic and recording their observations, and collating the data into a report. These reports could be in audio, video or written form. **In the Science textbook of today, one will find augmented reality and web links that provide more information in the form of audio/video clips on a topic. There may well be animation and application software that come with the textbooks to be downloaded onto laptops or mobiles that students can use, such as tools for calculation or for manipulation in the form of a science experiment.** There will invariably be links that will open the door to the Internet for further information on the topics covered in the textbooks.

4 BEHIND THE SCENES: CHANGING TIMES FOR TEXTBOOK AUTHORS AND PUBLISHERS

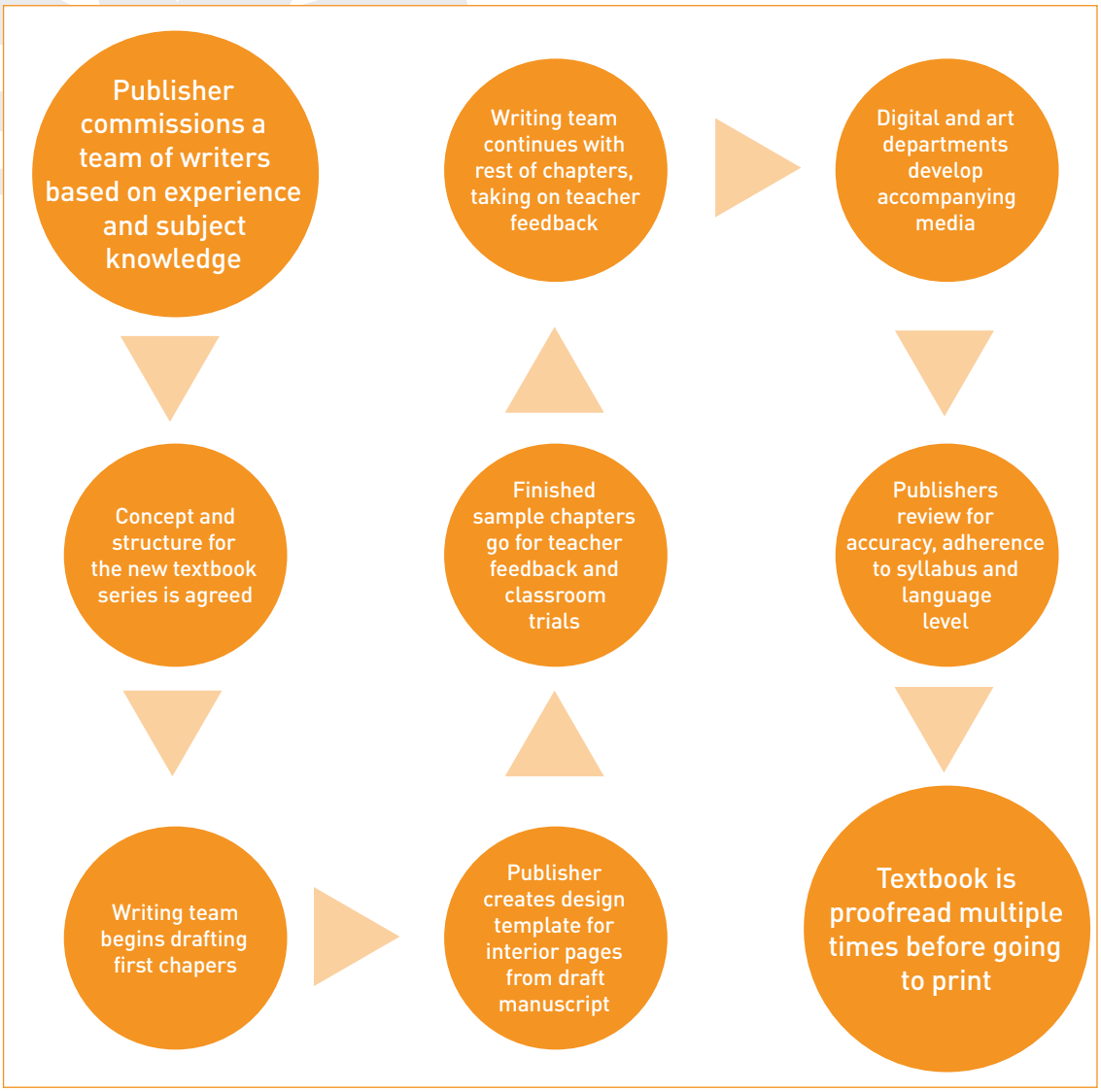
Indeed, many of these changes on the local education scene would not have been possible without the active role played by the Ministry of Education. The Ministry set the tone by creating a better environment with its state-of-the-art schools that emphasise digital learning. **By including digital**

content as part of its curriculum development, it ensures that the new textbooks are engaging as well as educational. In fact, the MoE has been at the forefront of digital learning since the 80s. With its many grants and projects, it has enabled publishers to ride the learning curve of digital development. Although the processes for tendering and publishing of textbooks have not changed, the concept for a textbooks series will have to demonstrate that it has included all these necessary elements of a "smart" textbook before it is approved by MoE and used in schools.

It is an exciting time for textbook publishing as publishers now must cater to all these needs. It used to be that publishing a traditional printed textbook would require a team of authors, editors, illustrators and designers. **The publishers of the 21st century will have to do more. They will now have to be curators of engaging media content as well as producers of movie or video clips related to the subject matter.**

Authors especially face several challenges. They are no longer in the era of "See John run. See Jane run" or "A is for Apple". **The users of the 21st-century textbooks are digital natives and will not be engaged with just text on a page**. Their thirst for knowledge, their familiarity with online games, movies and documentaries, and their cognizance in sourcing additional information make them a very challenging audience. Therefore, authors not only have to ensure that their content is accurate, and facts have been thoroughly researched and are credible, they also must present these facts and information creatively. Many of the textbook authors we have are teachers who are currently in service. Many others work in a day job and write at night or in their spare time.

EDUCATION IN SINGAPORE



Let me share here the scenario in Singapore of what takes place before a new textbook is born. The publisher commissions writers based on their experience in teaching or their reputation as someone who writes well and understands the subject well. Not all good teachers are good writers and not all good writers can be good teachers. Hence the team must work together to cover each other's strengths and weaknesses. As textbooks come in a series based on the syllabus (for example, a Mathematics programme for K-5 would require a textbook for each level), the textbooks need to flow well from one level to the next. Some of the topics are cumulative; the skills or knowledge would have to be built up before the student can go on to the next level of learning. Writing a textbook is demanding because one cannot just produce a textbook independent of other learning materials. The conceptualisation of a textbook series demands much robust thinking and planning.

When the concept and structure for the new textbook series has been agreed on, the writers begin to put together a few chapters. The draft manuscript is then given to the publisher who creates a design template for the interior pages. The finished sample chapters, complete with any necessary illustrations or diagrams and captions, are then shown to teachers for their comments or trialled for use in some classrooms. The writers continue to write the rest of the chapters, taking into consideration the teachers' feedback as they go along.

Writing a book takes time (writing a series, even more time) . It may take six months to a year for a writer to complete a textbook for just one grade. Then there are the workbooks and the teacher's guide. The teacher's guide, which is generally written after the textbook is completed, is like a manual for the teacher using the programme; hence the author would need to anticipate the kind of classroom environment and the lesson that is being conducted in order to write a useful guide. It is most unrealistic to expect a complete set of textbooks and the accompanying materials to be published in the same year that a syllabus is launched. This is for a simple book. **Often it takes a team of 30 people, approximately 2 years to produce one textbook.**

THE PROCESS FOR WRITING A TEXTBOOK

In the meantime, while the writing is being done, the digital and art departments start thinking about the types of media that would help the students gain better understanding of the topics at hand. Questions abound — How can each page be designed engagingly to capture the attention of the students? Should there be more infographics given that students these days do not like reading too much text? Should there be anime or games? Would that distract? Would apps help?

As the content is for use in schools, another important consideration is the relevance, authenticity and the credibility of the information. It is in this respect that publishers play another vital yet undervalued role. Publishers must check and verify the facts, make sure the content adheres to the syllabus, and that the language level is age appropriate. Before the book goes to print, it would have been proof-read multiple times to ensure the final product is of the highest standards required. There are some who think the textbook is irrelevant or unimportant in this age where information can be obtained easily from the Internet; the web has answers to everything, they would say. Yes, but is that information accurate? Factual? Biased? Has it been checked by specialists or experts? Is it even true?

There are, of course, very committed teachers who use materials of their own — either created by themselves or copied or borrowed from somewhere else — in lieu of textbooks and/or to supplement their teaching. Language teachers, for example, are fond of using real texts for teaching. While these teachers should be applauded for their effort and dedication, they must be mindful of the credibility of the information they use and, of course, the issues of plagiarism and copyright. The best teachers stress plagiarism is wrong, that it is essential to cite one's sources, and that one must always acknowledge copyright.

The publisher's role here will fluctuate between that of a licensor and a licensee. If the authors have used materials from other sources, the publisher needs to track these sources and negotiate the fees to pay them. On the other hand, the publisher also must negotiate the best deals possible for its team of authors when content licensing is involved. **The publishers recognise the need for flexibility when it is licensing its assets for distribution.** Customisation is likely to be required and the end product will likely change; as the product evolves through its many stages, more stakeholders may be involved and the processes may render the original rights holders unidentifiable, or not traceable, for example if both language and illustrations had been changed. In this case, the end-product may be a diluted version of the original and due recognition and compensation may not be paid to the original creators of the product, which is a risk that publishers must take. **The licensing can be varied as the end users in some countries have many variations – language, culture, social and religious taboos.**

There are many factors to be considered and the publisher has to negotiate the various curve balls thrown its way but it also has to ensure that in the end; its authors that it represents are getting their fair share of the income; that the partners are not constrained and are able to distribute as well as they can; that the content remains as its rightful assets and that there is no abuse of use. Of course, **for both publishers and authors, the goal is that the content sees the light of day and is used by as many as possible, with maximum impact on learners, especially in the field of education.**

5 CONCLUSION

What then should education in the 21st century be? How do publishers who are the curators and producers of new textbooks help to determine the values in education if their role as content creators is not appreciated or, worse still, trivialised as commercial entities out to exploit their readers? Are they empowered to contribute to the education scene?

To quote Bertrand Russell[2] in 1926 on the exciting possibilities of education:

> *I have tried to bring before the reader the wonderful possibilities which are now open to us. Think what it would mean: health, freedom, happiness, kindness, intelligence, all nearly universal. In one generation. if we chose, we could bring the millennium.*

Well, we have arrived at a new millennium and these aims for education still hold true almost a hundred years after they were first expressed. We want to nurture a generation of global citizens who can think independently, who have a sense of right and wrong and who can work together to create an even better world. As they say, it takes a village to raise a child and in this 21st-century village, I see publishers working with teachers, parents and all who are keen on education to raise our children together ■

2 Bertrand Russell, On Education: Especially in Early Childhood (Routledge, London and New York: 2003) p. 204

ABOUT THE AUTHOR

Brian Wafawarowa

Brian Wafawarowa is the chief content and product officer at Juta & Company in South Africa. He is also the chairperson of the Publishers' Association of South Africa (PASA) and the chairperson of the Inclusive Publishing and Literacy Committee (IPL) of the International Publisher Association (IPA) where he also serves on the executive committee. He also serves on the board of the local RRO- Dramatic, Artistic, Literary Rights Organisation (DALRO). Brian is the former executive director for publishing and learning services at Pearson South Africa and former chairperson of the African Publishers Network (APNET).

Brian started his publishing career at Wits University Press and Juta Publishers as a trainee publisher before becoming Juta's publishing director in 1998. He later founded New Africa Books (NAB) and became its managing director until 2010 when he joined the Publishers Association of South Africa (PASA) as the executive director and executive chair of Cape Town Book Fair. Today Brian is involved in reading, education and developmental initiatives like the Nick Perren Foundation, which sponsors students for postgraduate studies in publishing and the Exclusive Books Reading Trust where he is a trustee, and the Africa Innovation Fund (AIF), where he is a committee member.

LICENSING: EXPERIENCES AND PERSPECTIVES FROM AFRICA

CONTENTS

EXECUTIVE SUMMARY

Africa is a continent with a huge, largely untapped publishing potential. With young people accounting for three quarters of the population, the need for education is self-evidently critical and the book publishing industry has a vital contribution to make. Whilst statistics on the size of the entire African publishing market are lacking, in South Africa, a PWC study rates publishing bigger than music, video games and film, noting the substantial contribution that publishing makes to the economy and employment. This potential is clearly important to policy makers considering how best to support local publishing, especially when looking at education, book procurement and copyright policy, given the dependence of African publishers on their domestic education sector.

In recent years licensing by African publishers has grown modestly with initiatives led by the African Publishers Network (APNET), The Global Book Alliance (GBA) and WIPO facilitating trade both between African countries and with the rest of the world. Many examples exist of this type of licensing activity including for schools' editions; low-price editions of higher education textbooks; local licences for scholarly research; and general publications for translation. Licensing has facilitated access to copyrighted works for African citizens for cultural, education and scholarly research purposes (at affordable prices). It has also allowed some African publishers to expand into global markets, especially in children's literature and folklore. Importantly, translation rights licensing has led to the repatriation of African children's stories published in France to Africa with obvious cultural significance. This is the first time that African stories which had been published in France were available in the printed form in Africa.

Digitization in education is also creating further scope for licensing. Whilst the digitization process has been slower than in more industrialised nations due to infrastructural issues, it is now accelerating.

Publishers are creating a growing body of digital content to meet the needs of e-learning in schools and universities, leading to the development of a wealth of new licensing and distribution arrangements. Business models are changing and new players such as mobile companies are entering the market, partnering with publishers to provide new content distribution channels. Schools are licensing content rather than purchasing books and publishers can offer other services such as assessment tools alongside their traditional products.

As challenges around infrastructure are overcome, the next challenge is financing the digital transition and finding suitable business models to ensure a return on investment, while maintaining affordability for educational institutions. In the meantime, there is a mistaken belief among government and education authorities that "digital" should mean "free", and that copyright law is in some way a barrier. There are moves to amend the law to allow technology companies to package other peoples' content with their technology for educational purposes without compensation to the authors and publishers of the original work, to devastating effect for authors and publisher alike.

African publishers have managed to sustain themselves and expand their outreach through licensing with positive outcomes for their countries, especially in education. They are moving forward rapidly with developing the technological capabilities to innovate and supply digital resources and solutions. But they need the confidence that the traditional international copyright regime will continue to ensure that authors and publishers are properly compensated if they to be enabled to play their critical role in the economic and social development of the continent ■

1 INTRODUCTION

Measuring the size of the global book publishing industry can be challenging. It is made up of tens of thousands of small-to-medium publishers as well as a score of large multinationals. Government and industry statistics about publishing and other parts of the media and entertainment sectors exist in some (developed) countries but not in other (developing) ones. The result is a very mixed bag of data and guesstimates.[1]

When the IPA last attempted a comparison of the relative sizes of the global Media and Entertainment (M&E) industries in 2014, book publishing came in ahead of movies and entertainment, magazines, video games and music in that order.[2]

Few numbers are available for the range of M&E industries across Africa. However, the South African experience suggests that book publishing can indeed be the anchor of an African M&E sector. Though on a much smaller scale, the respective turnovers within this sector in South Africa reflects the global scenario: at (South African Rand) R3.828 billion, the book sector is bigger than music (R915 million), video games (R3.0 billion) and takings at the box office for film (R1.2 billion), though smaller than radio (R5.0 billion), consumer magazines (R8.1 billion) and TV (R40.8 billion).[3] This further suggests that in addition to the crucial role that it plays in education and social development, the book publishing sector has the potential to play a much larger role in employment and economic development, something that the continent needs desperately.

1 The IPA in collaboration with the World Intellectual Property Organisation (WIPO) is trying to remedy this by surveying global publishing markets annually. The survey is still in its initial stages but there are promising signs of its future utility. See the 'Creative economy' section of WIPO's *World Intellectual Property Indicators 2019*, pp 185-207: https://www.wipo.int/edocs/pubdocs/en/wipo_pub_941_2019.pdf

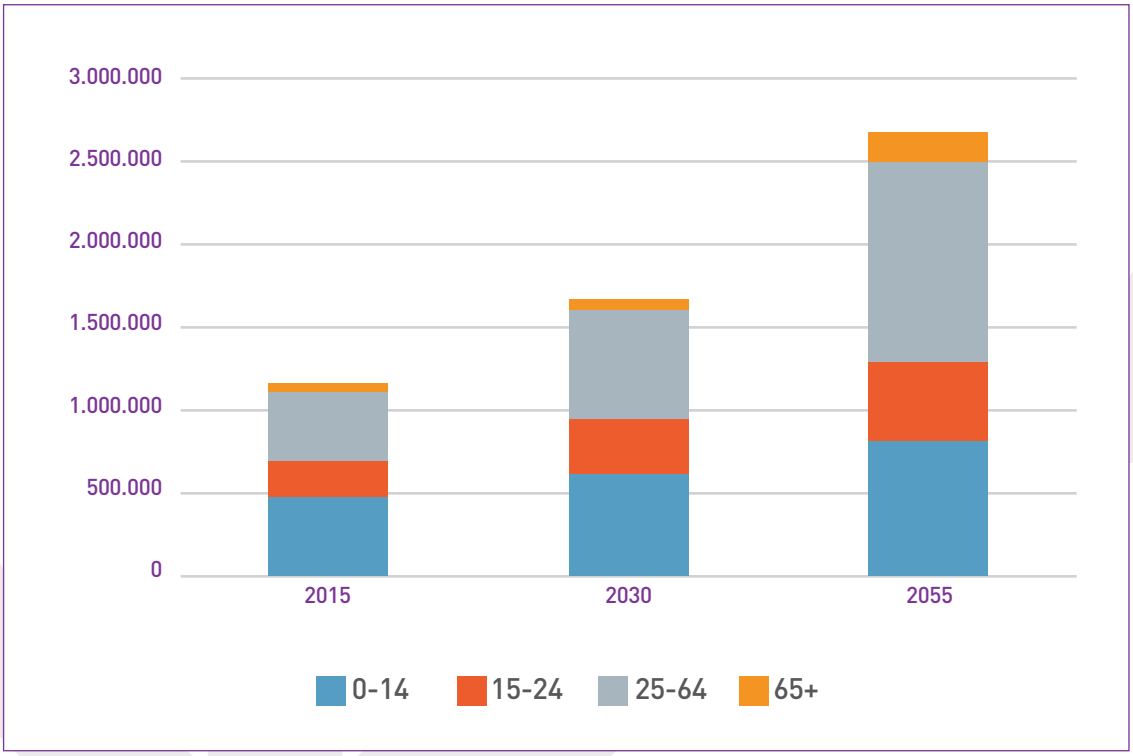
2 https://www.internationalpublishers.org/images/aa-content/ipa-reports/ipa-annual-report-2013-14.pdf

3 PwC, *Entertainment and Media Outlook:2018-2022, An African Perspective*, 9th annual edition, September 2018, https://www.pwc.co.za/outlook

TURNOVER OF MEDIA AND ENTERTAINMENT INDUSTRIES IN SOUTH AFRICA (South African Rand, Billions)

This optimism is buoyed by the UN's estimates that, in 2015, Africa's 226 million youths (aged 15-24) accounted for nearly 20% of the African population and that, if one includes all people aged below 35, this proportion increases to 'a staggering three quarters of Africa's population'. Furthermore, 'the share of Africa's youth in the world is forecast to increase to 42% by 2030 and is expected to continue to grow throughout the 21st century, more than doubling from current levels by 2055'.[4] This youthful population needs development through education and the book sector has a critical contribution to make.

POPULATION PROJECTIONS FOR AFRICA



4 https://www.un.org/en/africa/osaa/peace/youth.shtml

The amount of licensing happening among publishers across the African continent and beyond with the rest of the world is not properly documented. As such, this study relies on what has been observed in the market and at different book events. A comprehensive study that looks at and measures licensing on the continent would be invaluable.[5]

Considering Africa's relatively young population with its huge literary, educational and development needs, the continent should be doing a lot better. It is important therefore that **when policymakers look at the African book sector, they not only view it as a low contributor measured against global benchmarks, but also acknowledge its full potential and the contribution that it could make to social and economic development with the right global policies around copyright and licensing**.

As a conservative estimate, on average, approximately 80% of book publishing across the African continent is in educational books.[6] This overdependence on the education sector by the local industry reduces scope for licensing and trade in published materials between countries on the continent and with the rest of the world. It also makes the publishing sector very vulnerable to adverse policy developments, as education is the anchor for the whole publishing industry.

As in most of the world, curricula in Africa are very country specific. As a result, the use of education materials is generally confined to the country of origin. Despite this, there is significant licensing of trade books and non-textbook materials across the continent, as well as important licensing activity with the rest of the world, especially in the areas of fiction and non-fiction. National book and copyright policy changes are likely to have a significant impact on licensing as African publishers' ability to license their materials will very much depend on how their national laws are aligned to global standards. Where copyright standards are more aligned, it is easier for African publishers to sell and negotiate favourable terms on their publications.

2 A FEW INSTITUTIONAL INITIATIVES

Many initiatives have had positive impacts on the licensing activities among African publishers. Two examples are APNET and the Global Book Alliance.

Founded in 1992 in Harare, Zimbabwe, and now headquartered in Accra, Ghana, the **African Publishers Network (APNET)**[7] is a pan-African, non-profit organisation bringing together 41 publishers' associations to strengthen indigenous publishing. Among its other activities, APNET's matchmaking of different publishers at specific book fairs has boosted licensing and intra-African trade among publishers. The **Global Book Alliance (GBA)**[8] is a collaboration of bilateral, multilateral and non-governmental organisations that seeks to make children's books more accessible in local languages through publisher collaborations and market stimulation. The publishing collaborations are among African publishers from different parts of the continent.

5 Acknowledging the fundamental importance of creating a reliable statistical basis for strategic planning and political advocacy for African publishing, the Africa Action Plan Committee of the International Publishers Association (IPA) has included as one of its 5 Transformation Goals 'Leveraging Data for Advocacy and Digital Transformation'. The IPA's Inclusive Publishing and Literacy Committee has also stressed the need for this kind of basic information to be gathered. See the IPA's *Lagos Action Plan*: https://internationalpublishers.org/images/aa-content/events/other-ipa-events-2019/Lagos-Action-Plan-Report-Website.pdf

6 The ratio of education to general publishing varies from country to country. Less developed markets are more dependent on educational publishing but even in more developed markets like South Africa, Nigeria and Kenya educational publishing still accounts for between 70% and 90% of the total market. (André Breedt, Nielsen Book Data Presentation, IPA African Publishing Congress Nairobi, April 2019). The last comprehensive study on African publishing points out that as much as 95% of African publishing on average is education: Paul Brickhill, Chris Chirwa, and Bengt Lindahl, eds, *Changing Public/Private Partnerships in the African Book Sector*, ADEA Publications, 2006

7 https://african-publishers.net/

8 https://partnerships.usaid.gov/partnership/global-book-alliance

More recent initiatives like WIPO's Publishing Circles are likely to increase licensing between African countries and with the rest of the world. Following up on its Yaoundé High Level Conference on African Publishing[9] in November 2017, WIPO has established a Publishers' Circle Charter[10] that aims to assist African publishers through global mentorship programmes and collaboration among African publishers and their counterparts from the rest of the world. Book fair fellowship programmes (e.g. Istanbul) also exist as an opportunity for African publishers to meet other publishers from around the world and explore co-publishing and licensing opportunities.

The expanding digitization of learning materials and the development of learning tools with digital assets and interactive capabilities is also creating scope for licensing as publishers acquire digital content and assets to augment their textbooks. It is critical therefore that, when they revise copyright laws, legislators consider the increasing role that licensing will play in the development of suitable learning materials and tools. **The African continent needs a regime of copyright laws that adhere to global treaties and enable its publishers to license their materials to the rest of the world and to acquire content that is needed by the local market and education sector.**

For a more detailed view of initiatives over the last 40 years see Hans Zell's *Indigenous Publishing in Sub-Saharan Africa: A Chronology and Some Landmarks*[11].

3 TRADITIONAL LICENSING

As well as the institutional initiatives described above, **individual companies have also undertaken their own initiatives to license books to other African countries and the rest of the world.** Examples of these include Sub-Saharan Publishers in Ghana, New Africa Books in South Africa and East Africa Education Publishers in Kenya.

Many African publishers have been licensing materials to and from other publishers, including in other territories for some time. Traditionally this has included licensing within the same market or territory for other editions, for example schools' editions; licensing cheaper international editions for higher education; negotiating local licenses for scholarly research published outside the continent; and licensing of general publications (for example fiction) to other markets. **These licenses have allowed small trade markets in Africa to expand into global markets and have ensured that much needed scholarly research about Africa initially published in Europe and America, is also accessible to African students and scholars**. The licenses also ensure that novels and other creative work from much smaller local trade markets are expanded into the larger African education markets. If local copyright protection is weakened, then this significant aspect of African publishing will be lost.

3.1. Local licensing

The biggest form of local licensing between markets is the sale of licences for adaptation for the school market. Due to lower general reading habits among the adult population in Africa, trade titles are hardly viable. Many publishers have extended the market for such books by adapting them for the schools' market. Marketing to schools requires experience, infrastructure and specific expertise, which trade publishers lack. Therefore, many of them sell the adaptation rights to educational publishers and receive royalties from sales on schools' editions. A very good

9 https://www.internationalpublishers.org/news/813-educational-publishing-and-the-development-agenda
10 https://www.wipo.int/edocs/mdocs/copyright/en/wipo_hl_cr_yao_17/wipo_hl_cr_yao_17_charter.pdf
11 https://www.academia.edu/40687022/Indigenous_publishing_in_sub-Saharan_Africa_A_chronology_and_some_landmarks

example of this is the licensing of Richard Rive's *Buckingham Palace* by a small trade publisher (David Philip Publishers) to a major international education publishing house (Macmillan South Africa). The licensing arrangement generated much needed revenue for the small publisher through the education market. Due to the dominance of the education market, there are many such examples on the continent. The licences are often expanded to include other African languages taught in schools. One example is the biographies of eminent persons, which are adapted for the schools' market and translated into other languages.

3.2. Cheaper editions for the tertiary market

Many publications that are used in African colleges are produced by leading academic publishers based in the USA and Europe. These books are critical for the delivery of tertiary education in Africa, but the original overseas publications are usually too expensive or inappropriate for the local context. **While most international companies have issued these cheaper local editions through their own local subsidiaries, some have licensed the production of local editions to African publishers, thereby giving them greater scope and enabling local students to have access to cheaper, locally produced, international publications**. In more mature markets like South Africa and Egypt, local publishers have licensed their academic material into other countries in their region. The instability of local currencies and tariffs on imported materials has steadily undermined licensing in this regard, but it was quite a thriving arrangement in the 1990s.

3.3. Local licensing for scholarly research published outside the continent

Some of the key research about Africa has been published outside the continent by companies like Africa World Press and the Red Sea Press in New Jersey, and ZED Books, Pluto Press and James Currey Publishers in London. Their publications on Africa are crucial to African scholarship and are in high demand among academics and researchers in African universities and research centres. In many cases, these publications are produced by African scholars based abroad. For those few publishers that venture into publishing such work, the local market has proved to be too small for a viable print run. All these companies have had arrangements to license local editions to make sure that these highly specialized academic and scholarly titles are available to Africans. **The local publishers have also relied on publishers in Europe and the USA to access larger African scholarship markets through co-publications, joint print runs and shipping copies to each other**. This proved quite expensive but with more modern production technologies such as on-demand printing, they are now exchanging files for local printing of African editions.

3.4. Licensing general fiction

Fiction travels better than educational textbooks. **Many African publishers have licensed their fiction to international publishers, expanding their markets beyond their own countries and continent**. This has been mainly driven by initiatives like LITPROM[12] at the Frankfurt Book Fair, the APNET match-making programmes mentioned above, Agence Culturelle d'Afrique,[13] the

12 https://www.lit-across-frontiers.org/resources/litprom/
13 https://www.lit-across-frontiers.org/literary-europe-live/

Goethe Institut[14] and many others that seek to promote African literature across the globe and has resulted in many translation opportunities for African publishers. But some individual African publishers have also taken their own independent commercial action to license books into other markets. A few examples are East African Educational Publishers (EAEP)[15] in East Africa and David Philip Publishers[16] in South Africa (which bought the rights to many publications from New Africa Books) and more recently younger publishers like Cassava Republic.[17] Other South African publishers, like Tafelberg (an imprint of NB Publishers) [18] and Jonathan Ball Publishers,[19] sell rights to international publishers successfully, while the local outfits of international publishers like Random House and Macmillan also have arrangements where fiction that is originated in South Africa is also published in other global markets.

East Africa's success story with Ngũgĩ wa Thiong'o — who has been writing in his mother tongue, Gĩkũyũ, through EAEP before being translated into several other languages — continues with the publication of his latest work *Kenda Mũiyũru: Rũgano rwa Gĩkũyũ na Mũmbi*, in EAEP's African Classics Series,[20] which according to the company will also be translated into many other languages. The origination of Ngũgĩ's books in Gĩkũyũ and their translation into several international languages is another indication of how African publishers have had and continue to explore broader opportunities for their publications through licensing.

3.5. Licensing Children's Books

The greatest success story for African publishers' licensing activity has been in children's literature and folklore. The Nairobi Children's Book Fair is dedicated to children's books and attracts publishers from all parts of the continent and elsewhere. **Publishers like Ghana based Sub-Saharan Africa Publishers[21] have built their businesses on selling their children's books to the local market and then on to the African and world markets through licensing**. They have also taken many titles from other countries and published them in West Africa. Sub-Saharan African Publishers have a significant presence at Frankfurt Book Fair and Bologna Children's Book Fair where they have won the Bologna Prize for the best children's books, Africa region. While Sub-Saharan Africa Publishers has a great presence in Ghana and publishes other kinds of books, their strength lies in their children's book list and how they have succeeded in licensing their leading titles to the rest of the continent and the world. They have also bolstered their list with titles acquired from other African countries. A further success for African children's books is the repatriation of children's stories published by EDICEF,[22] an imprint of Hachette, in France through a licensing collaboration between African Christian Press[23] in Ghana and New Africa Books[24] in South Africa. The deal included translation rights to English and other African languages. Some of the publications were first published by Ruisseaux d'Afrique[25] in Cotonou, Benin. The transaction had both financial and cultural significance as the series constituted some of the top African illustrated children's stories that had been published in France but were not available in published form in Africa.

14 https://www.goethe.de/ins/za/en/ueb/auf/ssa.html
15 https://www.eastafricanpublishers.com/
16 https://publishsa.co.za/members/david-philip-publishers-pty-ltd (trading as New Africa Books)
17 https://www.facebook.com/CassavaRepublic/
18 http://www.tafelberg.com/en/about-us
19 http://www.jonathanball.co.za/
20 https://www.eastafricanpublishers.com/the-african-classics-series/
21 http://www.africanbookscollective.com/publishers/sub-saharan-publishers
22 https://www.hachette.fr/editeur/edicef
23 http://www.africanbookscollective.com/publishers/africa-christian-press
24 https://www.newafricabooks.com/
25 http://www.ruisseauxdafrique.com/

Some of the best and most comprehensive catalogues of African children's literature like that of EDICEF and the African Writers Series[26] are owned by companies based in the USA and Europe. Though not yet announced publicly, **there is an effort to repatriate a catalogue of top French-language literature to Africa through licensing**.

4 LICENSING IN THE DIGITAL ERA

The use of digital content and the introduction of e-learning has been slow on the African continent due to many issues. These include low internet bandwidth, unreliable connectivity and the high cost of infrastructure development. Beyond these challenges, digital presents greater opportunities for further licensing of African content and enables African publishers to license materials from other parts of the world. For education, the licensing of other education materials beyond print and static illustrations has the potential to improve the learning experience and learning outcomes for African children and students. While licensing will remain important for print materials, digital has the potential to make it even more so.

4.1. Traditional licensing in a digital environment

Digital production technology is accelerating licensing of print among African publishers by making the transfer of files easier, cheaper and quicker. This is also making publishing across languages and countries easier through the sharing of the same illustrations across many languages where cultural and educational contexts permit. The earlier books of Ngũgĩ wa Thiong'o took a long time to be translated into other languages but **Jalada Africa**[27] **published Ngugi's latest short story 'Ituĩka Rĩa Mũrũngarũ' simultaneously in 30 African languages by having many translators working at the same time in different parts of the continent — something that would have been impossible before the advent of digital**.

4.2. Education licensing of digital content

Many countries in Africa are beginning to implement digital content and e-learning in schools and universities. One example of such initiatives includes Kenya rolling out interactive books that are preloaded on tablets, starting with a few selected subjects for primary schools.[28] Kenya's Ministry of Information, Communications and Technology (ICT) is rolling out the Digital Literacy Programme which aims to deliver devices to millions of learners in primary schools. Another example is the ambitious plan announced by the South African President to start rolling out a comprehensive programme of learning materials on tablets across the whole education system including rural schools.[29] In higher education, even rural universities like South Africa's University of Venda have started comprehensive deployment of digital content onto tablets.[30]

26 https://www.goodreads.com/list/show/73176.African_Writers_Series; and https://en.wikipedia.org/wiki/African_Writers_Series

27 https://jaladaafrica.org/

28 https://www.idgconnect.com/idgconnect/analysis-review/1006542/kenya-integrating-books-education

29 https://businesstech.co.za/news/technology/304720/government-is-giving-every-south-african-learner-a-tablet-heres-who- is-getting-theirs-first/

30 http://sabceducation.co.za/news-module/4515-first-year-univen-students-receive-tablets-with-digital-textbooks

4.3. New technology needs, partnerships and licensing

In anticipation of the move to digital content, many educational publishers in many African countries are gearing themselves up to deliver. Doing so requires new digital assets in the form of videos, as well as learner management systems and software to introduce interactivity and feedback. A lot of this content, systems and skills are not available in traditional publishing companies and in some cases they are not even available in the country. Publishers have had to license content and learner management platforms from technology companies or other publishers, or they have had to enter into distribution and content aggregation arrangements with companies that do have these capabilities.

Sometimes, publishing houses have had to license digital assets from companies that have seen a gap in the market and developed these assets. An example of this is **Edukite Learning**[31] in India who have developed huge banks of assets across many subjects and is either selling or licensing them to African publishing houses that are beginning to deliver their content digitally and develop interactive books.

While many publishers have mainly concentrated on delivering offline digital content through tablets and laptops, some have also started partnering with mobile service companies to render on-line content, courses and assessment systems. An example of this is the partnerships between Vodacom and some publishers in South Africa, **eKitabu** in Kenya, and **Eneza Education** in Kenya, Ghana and the Ivory Coast. On the education side, schools are creating comprehensive learning communities by looping in parents, thereby empowering them to participate more in their children's learning through such activities as supervised homework. For example, D6 Communicator creates such learning communities across 2,500 schools globally, including many countries in Africa.

4.3.1. New business models and licensing agreements

As traditional books are augmented by digital content and interactive learning systems, and as traditional textbooks are converted into sophisticated learning tools, the business models of African publishers and their agreements with authors are changing significantly. Some publishers are having to revisit their agreements with authors in order to be a lot more flexible and be able to combine traditional text and illustrations with digital assets, feedback and assessment systems. In some cases, it has become necessary for publishers to be outright owners of content and pay authors out.

Publishers that have acquired or developed digital assets are building more sophisticated learning tools that can transform the learning experience and improve learning outcomes. These learning tools generate more revenue from schools that can afford and are willing to pay for them. Parents are also willing to pay for communication and school management services that enable them to participate more in their children's learning.[32]

Publishing companies can offer and license digital assets to schools and education companies that are increasingly offering services beyond traditional content. These services include assessing learners and coming up with remedial interventions to improve learning outcomes. Others are going further to include school and learner management systems that integrate the home and learning environment into a holistic learning experience. Publishing companies that have licensed or developed digital assets are selling them as stand-alone items to companies that seek to develop further learning tools, and to education institutions that seek to use these assets or combine them with other teaching and learning aids.

31 http://www.edukitelearning.com/

32 URL https://d6.co.za/education/products/d6-school-communicator/

Global initiatives like **Worldreader**[33] have created access to less serviced communities in Africa and other parts of the world while generating revenue for local publishers. Through their eBook programmes in Ghana, Kenya and Nigeria, Worldreader's App is subscribed to by more than 335,000 users and has paid more than USD 2 million to publishers in Africa and India for their content[34] — yet another illustration of how digital technology is enhancing the licensing of African content and generating more revenue for African publishers.

5 CHALLENGES AND THE WAY FORWARD

As already stated, the use of digital content and e-learning is being hampered by antiquated infrastructure, low internet bandwidth and a lack of digital readiness among schools and educators. While this is being rapidly overcome by training and infrastructural development, **the greatest challenge for African publishers is the creation of alternative business models that can ensure a return on investment in technology and digital content on the one hand and ensure that schools and colleges can afford their new offering, on the other.**

5.1. Expensive transition

Just having text on a screen will not improve education outcomes or the learning experience. More advanced interactive materials and learning tools are needed to achieve this, but these materials and tools cost more and must be retailed at a higher price, despite the perception among educators and education authorities that digital is cheaper. The costs of building digital infrastructure in schools and colleges is making the transition to digital content and e-learning even more expensive. The cost of the transition is exacerbated by the dual requirements of print and digital that schools and colleges find themselves in, which ironically results in both print and digital being more expensive to use.

5.2. Unsustainable alternatives and interventions

The higher costs of digital, especially in this transitional phase has led some education authorities to question its viability and to pursue alternatives that are proving to be unsustainable — including amending copyright law, state provisioning of digital materials, and the use of Open Education Resources (OERs) that are not adequately curated to meet learning needs. **There is a mistaken belief among many government and education authorities that digital technology will open access to education and learning materials**. Their concern is that copyright protection as provided by current law will thwart this greater access. **In some African countries there are moves to amend copyright to ensure greater access in the digital environment by enabling technology companies to package and distribute content for education purposes without adequate compensation to authors and publishers. Due to the critical role that educational publishing plays in sustaining the whole African publishing sector, this is likely to have a devastating effect**. In other countries there are moves to amend policies to force publishers to surrender their copyright on materials that are procured in schools or to force publishers to grant perpetual licenses. Neither of these practices are viable if what one wants to achieve is a strong and stable, indigenous educational publishing sector producing high-quality resources that utilize local stories created by local authors and put together by skilled local publishers.

33 https://www.worldreader.org

34 'A Peek Inside African Publishing', Ed Nawotka, *Publishers Weekly*, February 15, 2019 https://www.publishersweekly.com/pw/by-topic/international/international-book-news/article/79286-a-peek-inside-african-publishing.html

6 CONCLUSION

Through licensing, African publishers have managed to expand their operations by accessing global markets, while bringing in much needed publications to support African education, and repatriating African content published elsewhere in the world. Given the continent's limited digital capabilities, licensing will remain predominantly print-based for some time, whether the content is licensed between African publishers or from overseas. Though rather slow now, licensing of digital materials and services is growing steadily and will no doubt eventually become the dominant mode in due course. **As we move into a new digital environment and copyright laws are amended accordingly, it is critical that these laws continue to ensure that authors and publishers are adequately and sustainably compensated, especially relative to new players in the sector.** Traditional rightsholders should be better enabled to license their content to technology companies that want to play in the education space or work with them to get content more effectively to learners.

African law makers have to look beyond the current rather small scale of the sector in Africa and consider the greater role that local publishing can play in creating employment, contributing to economic and social development and earning forex through exports and licensing of African published works. For this to be realized, African publishers need adequate copyright protection — no less than their global counterparts. A good balance between user and copyright holder rights will enable the industry to play a critical role in educational, social and economic development, while still allowing fair and compensated access for users ■

ABOUT THE AUTHOR

John Degen

John Degen is Executive Director of The Writers' Union of Canada (TWUC), and Chair of the International Authors Forum (IAF) in the UK – serving and representing over 700,000 authors worldwide. He is a poet and novelist with three published books. His debut novel, *The Uninvited Guest*, was shortlisted for the 2006 Amazon.ca First Novel Award. John has worked for many years as an arts administrator, arts funder and policy advocate on cultural issues. He is the previous Literature Officer at the Ontario Arts Council, where he administered funding for Ontario's writers, publishers and literary presenters. His essays and opinions have been published widely throughout Canada, including in The Globe and Mail, the Toronto Star, THIS Magazine, The Hill Times, Canadian Notes and Queries, and the Literary Review of Canada.

THE LICENSING OF ORIGINAL WORK FOR EDUCATION: AN AUTHOR'S PERSPECTIVE

CONTENTS

EXECUTIVE SUMMARY

The starting point for an author is *I made this. It's mine. Let's talk about what you'd like to do with it*. Authors create works with the purpose of being read; and where their works are used for educational purposes, they are especially satisfied. Even if the work was originally created for the consumer, being adopted for a curriculum not only raises the profile of the text, it can lead to a long tail of sales. Other content is, of course, created specifically to meet educational needs.

Payments to authors are structured differently, depending on the type of writing. Commercial authors are paid through a royalty system which is sales related. Academic authors are relieved of the pressure of commercial sales and often write as part of their employment (with the employer paying the salary of the author).

Licensing of published content in education is where authors can and frequently are compensated for their work. This can be primary licensing, resulting in entire books being made available in digital form. Educators may also wish to copy an extract, perhaps a whole chapter, and in these circumstances a deal needs to be struck between the educational institution and the rightsholder that grants permission to copy, in return for remuneration.

Over recent years we have seen a surge in "free" content in the educational space. This may be in the form of Open Education Resources (OERs), which may be free to the user, but the costs of creation, production and dissemination have always to be covered by someone. "Open" content has however not diminished the need for access to properly curated content, and instead education has come to depend on licensing models which come in a variety of formats.

The two main secondary licesning models can be differentiated by the need for authors to either "opt-in" or "opt-out" of licensing schemes known respectively as Voluntary Collective Licensing (VCL) and Extended Collective Licensing (ECL). Recent experience, especially in Canada, where a disagreement between rightsholders and licensees ended up in the courts has demonstrated that VCL which is not backed with legislation can lead to a breakdown in licensing agreements. The situation in Canada has been substantially weakened for authors by the introduction of poorly defined exceptions and limitations, discouraging authors from creating new works for the education market. ECL has proven to be a preferred framework for authors and other rightsholders and has recently been encouraged in the EU's Digital Single Market Directive.

The rise in digital content consumption has exacerbated a belief that content should be free and has led to many challenges for licensing. Publishers are using subscription models to deliver content on proprietary platforms in educational settings however their proliferation is leading to resistance from educators. Blockchain technology may answer some of the issues raised in providing a more consoldidated service and an experimental site "Fanship" has been developed in Canada using an *attributable ledger*" with a sales platform ■

1 INTRODUCTION

The professional life of authors — outside the act of creation — involves building and maintaining a complex set of relationships around their exclusive rights to the original work they have created. Through these relationships, authors can negotiate rights to publish, republish, translate, sell in various territories for varying lengths of time, adapt into other formats, and then sell those adaptations. They also negotiate user access, how the work is used and re-used, as well as any copying of the work beyond limited excepted instances.

AUTHOR RIGHTS

For the author, the starting point for these negotiations always is *I made this. It's mine. Let's talk about what you'd like to do with it.* Increasingly, savvy authors with a drive to control their own businesses are comfortable leading these negotiations for themselves, retaining as many of their exclusive rights for exploitation in various markets as they can. Many, however, retain the services of agents for much of this work; and many rely heavily on their primary publisher for secondary rights sales and copyright licensing. With the evolution of author contracts that recognize the equal partnership of author and publisher, the author/publisher relationship can remain mutually beneficial and active throughout the commercial life of a work.

Of course, at the heart of all the rights negotiations listed above, ideally, is a *licence*. Publisher contracts — at least the contracts preferred by authors — typically result in a "licence to publish" that is limited by territory and time. Secondary rights generate secondary licences, and downstream copying for educational purposes should also, ideally and within the agreed upon constraints of exceptions and limitations, be attached to a licence for copying.

While my work with the International Authors Forum has familiarized me with the state of educational licensing around the world, I work and write in Canada, where educational copyright licensing has recently become one of the world's worst-case scenarios. I will, therefore, primarily reference the Canadian experience in this chapter.

2 EDUCATIONAL LICENCE REGIMES

Just as authors feel, or prefer to feel, a sense of real partnership in their publishing contracts, so do they prefer to feel they are cooperating in a mutually beneficial project when licensing their work for copying in educational settings.

Authors delight in their work being used in educational contexts, whether that was the original intent of the creation or a happy accident resulting from the commercial or critical popularity of a work aimed at the general consumer.

To have one's book land on reading lists, and be broadly studied in classrooms can, in fact, be the difference between commercial success or failure, especially in territories with relatively small commercial markets for books. In Canada, for instance, where I write and publish, a book is considered a commercial best-seller once it has passed the 5,000 domestic sales mark. At standard commercial royalty rates, such a low-bar bestseller will simply not return a living income to the author. But should that bestseller find a readership among the country's teachers and scholars, and should they broadly adopt it to their curricula, a long tail of educational second life for the book could mean crucial continued income for many years.

That scenario, of course, depends on the sale of individual copies of books to each student tasked with studying it. But the same is true, theoretically, even when those primary sales are not made and students study only copied portions of works — such as in a college course on short fiction, where individual stories from a number of collections by many authors are put together into a physical or digital course pack collection. If the requirement of copyright licensing is honoured, a deal can be struck between schools, publishers and authors that will be beneficial to all parties.

Where publishers are prepared to negotiate access and copying terms with all educational institutions using their publications, one expects royalty splits and distribution terms to be fairly and reasonably laid out in the contract between author and publisher. In those instances, if content with the terms, authors may be satisfied to have the publisher act as the licensing body.

3 AUTHOR ECONOMIES

Here it is necessary to take a moment to consider the various economies of writing into the educational market. The spectrum of compensation schemes for authors when dealing with education often causes confusion around issues of copyright and continued content ownership.

Commercial authors and academic scholars often have sharply differing motivations around exploitation of their work, and vastly different economic relationships with that work. While both seek a readership, the type of readership and how such readers access the work might not be the same.

For the commercial author writing to a contract structured largely around sales royalties, it is essential that a bulk of readership falls into the category of "book buyer," someone enthusiastically willing to pay the retail price for the work. Continued earnings from such a book depend entirely on reaping a royalty reward from continued sales and/or use of the book, including sales of secondary rights into new territories, and licensing for copying. Therefore, commercial authors are, and should be, concerned with the royalty rates, accelerator clauses, and secondary rights stipulations in their contracts. This is also why organizations like mine, The Writers' Union of Canada, put so much effort into educating members about contracts.

On the other hand, academic authors, whether writing for textbooks or academic journals are generally relieved of the commercial pressure their publishers must still navigate. While a range of compensation models still exist, including traditional sales royalties, academic authors often consider that the work they do toward publication is part of their work at the academy. Here is a succinct expression of that attitude from a scholarly message board:
[The academic author's] "'business model' is very different than the publishers' business model. In my case, I actually did get paid for writing my book — by the university I work for..."[1]

This fundamental difference in how different types of authors view their work accounts for the split one often sees between commercial and academic authors on issues like copyright and educational copying.

To be clear, I work in the world of commercial publishing. While I'm concerned for the rights and working conditions of all authors, on issues of contracts, licensing, and copying, my primary concern is fair compensation for the labour and ownership of creation. The academic economy of reputation and tenure I leave to faculty unions, but when its practices threaten the commercial economy of publishing, including and especially the licensing of published content for educational use, I object.

4 EDUCATIONAL LICENSING: THREE EXAMPLES

4.1. Open Licensing

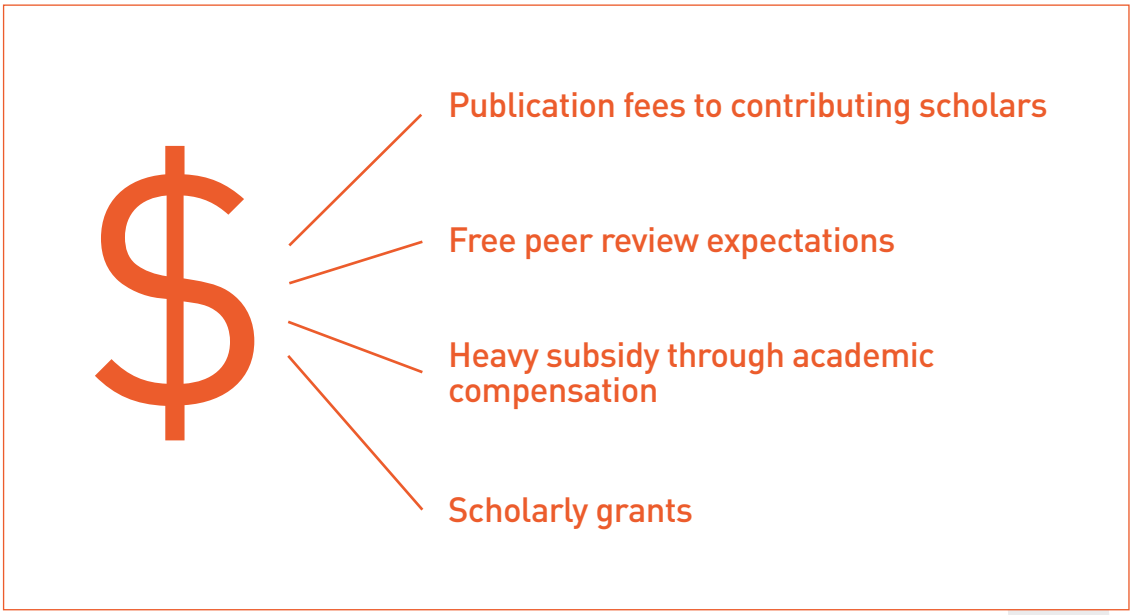
When one searches the Internet for "content licensing in education," the first page of results leads one to Creative Commons and other "open" licensing types. This is likely more a reflection of the dominant search algorithm's preference for free and openly accessible content than it is the pragmatic reality within the educational market.

1 From the academic discussion board at StackExchange.com https://academia.stackexchange.com/questions/63619/how-much-revenue-do-academic-authors-make-on-their-published-books

Despite the Internet's early promise to provide unfettered access to all human knowledge, high quality content — the kind that is of greatest use to educators — is, by necessity, a commercial project. It does not just magically appear without significant investment by both the creator and the publisher, and it cannot be made universally accessible without a balancing compensation mechanism to reward that investment. And while various open educational resource models have been experimented with over the previous decade, none have proven to produce a truly free product.

Costs of creation and other labour, and the relatively high per-reader cost of publication for most specialized scholarly works must still be covered. With open access models, these costs tend to be diverted from budgets outside the process, creating only an illusion of freeness. Publication fees to contributing scholars, free peer review expectations, heavy subsidy through academic compensation, and scholarly granting are all examples of the hidden costs of "free" materials.

THE HIDDEN COSTS OF "FREE" MATERIALS



The need for education to access work outside open or free models has not significantly diminished with the rise of these experiments. Instead of free, education depends on various licensing models[2] in order to get at content that requires compensation. I'll look at two traditional models, their advantages and disadvantages to authors, and one model on the horizon that is showing great promise.

4.2. Voluntary Collective Licensing

Voluntary collective licensing certainly sounds like an ideal solution. It invites one in with its first two words. It's *voluntary*, and it's *collective.* In other words, it represents a repertoire defined by those who have explicitly chosen to be so represented, and who expect compensation for their work. In that way, it might be suggested, VCL solves the problem of conflicting author economies by leaving out the academic authors who don't feel their work belongs to the commercial market.

But recent experience has shown that voluntary collective licensing unbacked by authoritative legislation depends entirely on the good faith of both the licensor and the licensee, two sectors pressured by their own unique budgetary concerns. Where education does not have the benefit

2 For a full description of collective licensing models, see The Role of Collective Licensing, by Olav Stokkmo, in this report (chapter 5).

of progressive, sustainable funding, it quite naturally seeks to cut expenses. Where writing and publishing returns margins that themselves border on the unsustainable, they simply cannot afford to discount their product for any customer segment.

This leads to an atmosphere of conflict that is particularly painful for authors, who see themselves as integral partners in the education of their nation's students. In fact, many authors work directly in education and depend on that sector and writing and publishing for their livelihoods. In a recent survey of Canadian authors, fully "70% of the respondents indicated they had some formal connection to the education system."[3] They are then caught in the middle as their two sectors go head to head in an often painful license negotiation or tariff-setting process.

Since voluntary collective licensing depends on the active affiliation of authors and publishers with their CMO, licensors can find themselves challenged by claims of lack of representation, or of representing a repertoire that lacks value. In their submission to Canada's recent Copyright Review, Simon Fraser University made just such a claim:

It should also be noted that a large percentage of the non-scholarly works used by instructors at SFU are non-textual (e.g., images, videos, websites), and therefore not governed by collective licensing agreements or tariffs through literary collective societies such as Access Copyright. In most cases, fair dealing purposes and the Works Available through the Internet provision (s 30.04) in the Copyright Act allow for these uses.[4]

Of course, this argument errs in defining **Access Copyright**[5] as a strictly "literary" collective, since they, like many CMOs, represent both literary and educational publishers. But it does illustrate a challenge with VCL. The demand to closely define a CMOs voluntary repertoire and to prove its worth to potential licensees can overshadow the moral requirement to pay for all copied work, whether represented by the repertoire or not.

The VCL tariff-setting process can also present problems for the collective if there is not ready agreement on the need for a licence or tariff. Without the authoritative backing of a legislated requirement, VCL carries the danger that the user side of the transaction will simply walk away from negotiations and continue copying based on exceptions and limitations. This raises the very real possibility of litigation as an enforcement method. Take it from a Canadian, authors, publishers and schools fighting it out in court is a particularly ugly outcome of copyright policy. It should be avoided at all costs through progressive legislation that clarifies compensation requirements for industrial copying.

Where such a disagreement does reach the courts, educational users may position the fight as between "wealthy" corporate interests and "poor" students. This has been the experience of rightsholders and collectives in the Canadian copyright disagreements of the past two decades. Since Canadian educational licences have traditionally been calculated on a *per student*, *per year* basis (never in any context exceeding $27 *per student*, *per year*), they are described by their detractors as a burdensome extra fee for students and parents. For instance, here is a group of student advocates claiming to government that a $27 per year increase in fees would have tangible impact on their ability to access higher education:

"As the cost of attaining a post-secondary degree continues to rise, the educational fair dealing provision is increasingly more important to improve affordability and quality of education. Affordability continues to be an issue for students, particularly in relation to educational materials..."[6]

3 Survey of Canadian Authors on Educational Copying.

4 Submission to Canada's Statutory Review of the Copyright Act, by *Simon Fraser University*.

5 https://www.accesscopyright.ca/

6 Submission to Canada's Statutory Review of the Copyright Act by the *Undergraduates of Canadian Research-Intensive Universities*.

Ideally, copying licenses would be paid by educational institutions themselves through a robust materials budget, thereby solving any perceived affordability issues for students, while still respecting the rights of authors and publishers to remuneration for their work.

4.3. Extended Collective Licensing

The widely cast net or blanket approach of Extended Collective Licensing (ECL)[7] makes it attractive to rights holders, especially authors primarily in the commercial market for whom educational use may be a secondary (though important) consideration. Countries with highly developed ECL structures tend to have highly efficient collective management organizations able to identify all rights holders, even those outside their affiliated repertoire.

Through reciprocal agreements with other countries, transfer payments can even be made to the appropriate rights holders outside the territory. The encouragement of ECL in the European Union's Digital Single Market (DSM) Directive is a big step forward in making this structure a global standard for fair balance within copyright[8].

It is true that ECL allows for authors to specifically opt out of the extension to their work, but for authors whose primary concern is the continued creation of work, *any* representation and compensation for difficult-to-track copying is usually welcome. It has been my experience that authors are far more likely to explicitly affiliate with an established CMO once they discover their work has been represented under an extended license, than they are to opt out of future representation. Ignorance of the copying and/or of the existence of a CMO itself is more of a problem for authors than is the accidental competition between CMO and author-chosen representation.

For the author who may not even be aware that their book has been adopted to a reading list in their own or another country, the receipt of a collective licensing royalty payment is a moment of discovery. Learning that one's work is being used in an educational setting can open an author up to that country's commercial market in a way previously unplanned. Reciprocal collective payments through ECL structures alert authors, their agents and publishers to sales potential for future and backlist titles in untapped territories.

Unfortunately, ECL has not been broadly adopted across all territories, and where it does exist it has varying scope and power. In some countries, for instance, an extended collective licence structure combines with national law that preferences reasonable compensation to the rights holder over broad exceptions and limitations to copyright protection. In other words, the law does not allow for an exception claim where a reasonable licence option exists. To authors, this preference indicates a recognition of the value of their labour and is an encouragement to continue with their work. A similar licence preference has been recommended under Article 12 of the EU DSM Directive.[9]

The value of this structure to authors and publishers is clear, since they are the primary focus of the licence protection, but it is also valuable to authors from other territories whose work is used in educational settings. Having such a strong rights regime provides both protection for the rights of global authors whose work has educational value, and an example to other lawmakers of a

7 Extended Collective Licence (ECL) https://www.copyrightlink.org/issues/extended-collective-licence.html

8 DIRECTIVE (EU) 2019/790 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC Digital Single Market Directive

9 The New Copyright Directive: Collective licensing as a way to strike a fair balance between creator and user interests in copyright legislation (Article 12) http://copyrightblog.kluweriplaw.com/2019/06/25/the-new-copyright-directive-collective-licensing-as-a-way-to-strike-a-fair-balance-between-creator-and-user-interests-in-copyright-legislation-article-12/?doing_wp_cron=1595270301.8208930492401123046875

copyright structure that fully understands the balance between access and continued investment in cultural production.

In Canada, which follows the voluntary collective model, licensing is narrowly limited by an affiliation agreement requirement[10], and has also been substantially weakened — some might say rendered irrelevant — by the introduction of poorly defined exceptions and limitations.[11] This has had the opposite effect on authors (and publishers) to an ECL system : discouraging them from continuing to create works for the educational market and indicating to them that their labour is not valued under national law. The effect is then extended to all authors, domestic and foreign, who fall under Canada's various international agreements, creating a compensation-free zone that severely damages Canada's international relationships, and discourages foreign investment in the Canadian publishing marketplace.

Advocates for repair of the Canadian Copyright Act rightly complain the functionality of the current law does not pass the Berne Convention's[12] three-step test for exceptions and limitations, in that the normal exploitation of works by rightsholders has been fatally disrupted within the education space. They have pointed to the EU examples of ECL as preferred solutions to this disruption.

A well-designed ECL system is good not only for rights holders such as authors and publishers, but it is generally good for the education sector as well. By providing predictable certainty to the educational budget-making process, ECL removes the element of risk from education sector copying, provided clear guidelines are negotiated. Institutions are then given dependable, broad access to rich content in a variety of formats, and with a variety of permissions, while rightsholders enjoy the encouragement and compensation of remunerated use in an established market.

5 LOOKING TO THE FUTURE: ONLINE ATTRIBUTION LEDGER[13]

The shift to digital book consumption has challenged long-established licensing structures, as they were generally created in an analog world. Analog licensing relied on physical processing and tracking procedures. In the world of educational copying, this meant the physical counting and documenting of individual copies in order to survey industrial use, and so negotiate a price for that use.

We now work in an age of ubiquitous scanning, anonymous file sharing, "free" content accessible on the open internet in classrooms, private online learning systems, and a growing reluctance by the consumer to pay for online content. It has become extremely difficult to maintain a commercial connection between the content used in education and the original rights holder, so that a licence can be offered.

How can one charge a fee for a use that is never officially reported to the rightsholder? One potential answer is point-of-sale delivery of content that seamlessly incorporates ownership attribution, usage rights, and automatic reporting, even on the "free" internet.

10 https://www.accesscopyright.ca/creators/new-affiliation-agreement/

11 At a Conference on Canada's Copyright Modernization Act: 'Where Does Balance Fit?' https://publishingperspectives.com/2017/11/canada-copyright-modernization-act-conference/

12 https://www.wipo.int/treaties/en/ip/berne/

13 https://attributionledger.com/

ONLINE ATTRIBUTION LEDGER

Challenges of the digital age — **Online Attribution Ledger**

Various private, "walled-garden," subscription models (eg, **Discovery Education**)[14] that have these features already exist for educational content, in which the consumer is locked into a defined repertoire and given a variety of use and copy freedoms for the price of an annual subscription. These models work, but they are facing resistance from educators who prefer not to be restricted by a single repertoire.

The question arises — can we combine dependable repertoire definition, a negotiated licence, and content delivery all at one trackable point of contact? Such functionality exists within the world of blockchain technology but has yet to become widespread on the open internet. Were the smart contracts enabled by blockchain[15] adopted for the creative content of writing and publishing, they could very well become the next iteration of collective licensing.

The Canadian experimental site, **Fanship**[16] (currently at the beta testing stage), was developed by the innovation arm of Access Copyright. Fanship combines an underlying and immutable attribution ledger, proving ownership of content for authors and their publishers, with a dynamic sales platform. Fanship offers immediate e-book sales and delivery with the added functionality of direct consumer-to-rightsholder contact.

While Fanship is not aimed at educational consumers specifically, once it has proven the functionality of the ledger, the sales platform, and the potential for an in-built licence within a smart contract, it could certainly be adapted for that purpose. What that could mean is that educators might pick and choose from an unwalled Access Copyright repertoire on the open internet. All affiliates of Access Copyright, both publishers and authors would then have their rightsholder status guaranteed through the underlying attribution ledger. And all terms and conditions of a standard collective licence would be built into a smart contract that enabled access, use, and defined copying. What's more, royalty splits and payments could happen immediately, providing both real time income for rightsholders, and an accurate record of use.

14 http://www.discoveryeducation.ca/Canada/
15 https://www.ibm.com/blogs/blockchain/2018/07/what-are-smart-contracts-on-blockchain/
16 https://fanship.fan/

6 CONCLUSION

Educational licensing is the author's friend. While often a blunt instrument, collective licensing provides essential representation for creators who have released their work into the world. The complex of relationships that come attached to professional content, especially within a commercial model, can simply be too intricate and attention-intensive to manage on an individual basis. Collective representation and collective action are effective balancing agents for what is from the outset an unbalanced project — tracking, negotiating and enforcing all the potential and actual commercial interactions of one's work in the economy. Both voluntary and extended collective licensing continue to occupy a crucial place in that economy, and possible innovations to licensing structure hold much promise ■

ABOUT THE AUTHOR

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Olav Stokkmo is an Independent Consultant in Copyright and Collective Rights Management with extensive international experience. He is the former Chief Executive Officer of the International Federation of Reproduction Rights Organisations (IFRRO) where he worked for 12 years. Prior to joining IFRRO, Olav worked for 8 years as the Deputy Executive Director of Kopinor, the Norwegian Reproduction Rights Organisation, and for 4 years as the Director of Operations at the Norwegian publishing house, Det Norske Samlaget. Olav Stokkmo is the author of numerous articles on copyright and collective management, he was for many years guest lecturer on copyright at the University of Buenos Aires and is currently tutoring at the WIPO Academy.

THE ROLE OF COLLECTIVE LICENSING

CONTENTS

EXECUTIVE SUMMARY

The international network of Collective Rights Management Organisations (CMOs) provides licensed access to copyrighted works for educational use in flexible, adaptable and easy ways at an affordable price.

Educators and learners depend on being able to copy works legitimately; authors and publishers want to grant access to their works for copying (through secondary licensing) undertaken by CMOs. RROs are the CMOs in the publishing sector. Currently there are at least 110 CMOs carrying out RRO activities in 85 countries worldwide. Almost all CMOs in this sector belong to the International Federation of Reproduction Rights Organisations (IFRRO). They operate under different legal regimes, which in turn has led to three main different models of operation. Those models are referred to as 'Voluntary Collective Licensing', 'Voluntary collective licensing with back up in legislation' which also includes by law works in the same categories by non-mandating right holders, e.g. the Extended Collective Licence Agreement (ECL); and the 'Non-voluntary (Statutory) Licence', with or without a levy on equipment and devices. Examples of all three types of licensing and their mechanisms for implementation can be found across the world. Sometimes these models may be combined.

RROs act as a 'one-stop access point'. They operate in almost any territory and adapt to local conditions, education systems, economic circumstances and cultures. Mandates to include works of foreign rightsholders in the repertoire are acquired through agreements with sister RROs, and, where there is a backup in legislation or a non-voluntary licence, also by law. RROs offer repertoire licences with a blanket authorisation to use all works in the repertoire on standardised conditions, as well as transactional (case-by-case / pay-per-use) licences, for instance when there is a request to copy beyond the copy limit in the repertoire licence.

Generally, the authorisation administered by an RRO allows the reproduction from already published printed and digital works, on paper or in digital formats. The portion of the work allowed is typically 10-20%, a chapter of a book or an entire journal article. Some RRO licence agreements permit a larger portion to be copied if the work is not available, for example because it is out-of-commerce. The selected portion may be photocopied or scanned and printed for distribution in the classroom. If the institution has opted for a licence on digital uses, the portion of the work may also be stored, accessed and distributed electronically in closed networks and made available on Virtual Learning Environment platforms (VLE). Tariffs are negotiated locally taking account of local conditions, needs and requirements. They are most often fixed as a price per page or per student or set as a lump sum.

Collective rights management by RROs contributes to increased opportunities for a sustainable national creative and publishing sector. An objective is the creation of a range of teaching materials founded in local culture and traditions and adapted to local user needs. The benefit is not limited to education and research, the entire society profits. RROs have various ways to contribute to sustainable developments; it may be in the form of special bilateral or unilateral agreements, or as direct support.

User and rightsholder requirements are constantly evolving and so too are the services and activities offered by the RRO. They also vary from country to country and so RROs continue to innovate and be flexible to meet those changing demands. What remains constant however is the need for a sustainable local production of copyright works, with appropriate equitable remuneration for rightsholders to enable them to reinvest in new content and updated services. Agreements between rightsholders and users facilitated and managed by CMOs is what best meets the needs of all parties in both providing easy legal access to published copyright works at an affordable cost and ensuring investment in future educational materials ■

1 INTRODUCTION

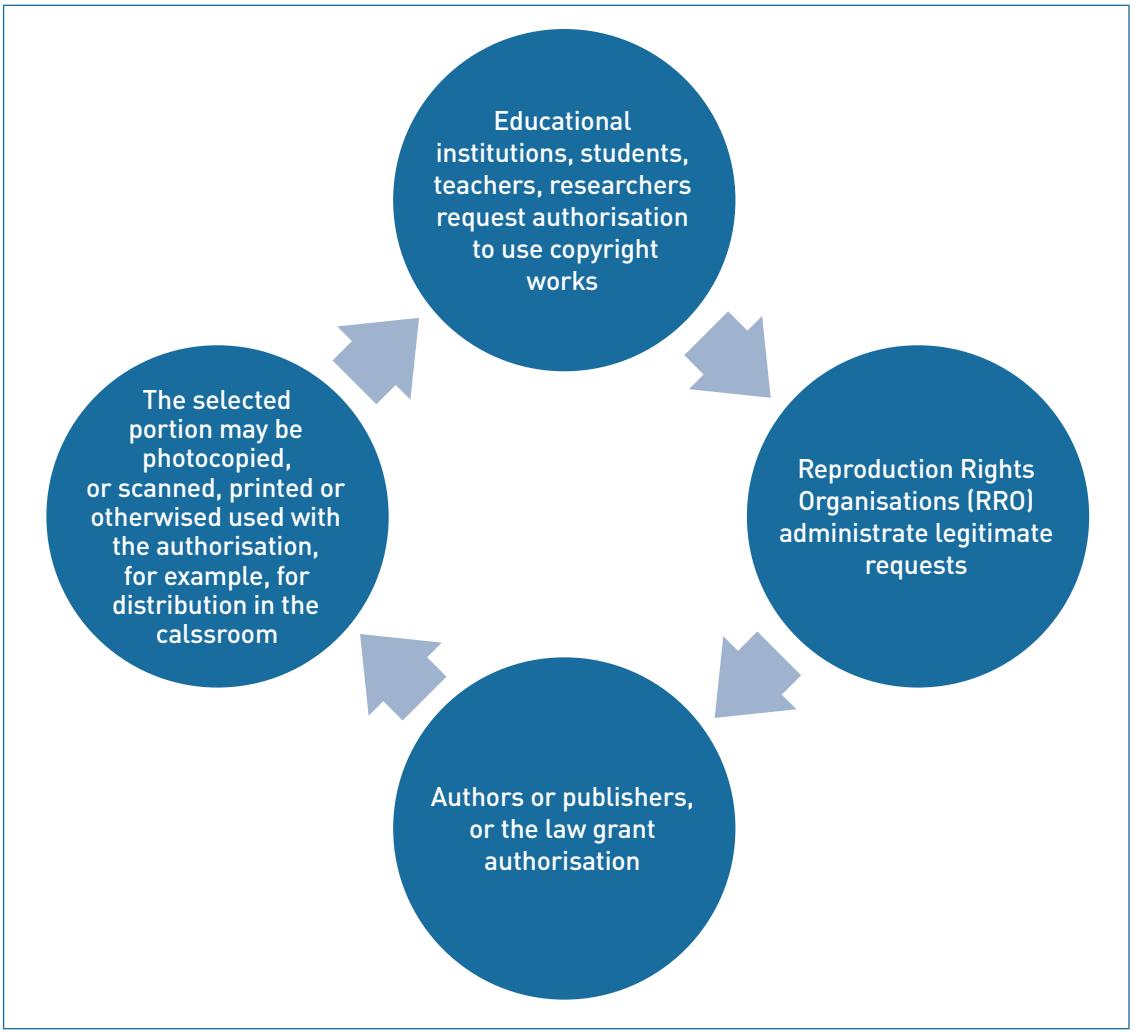
Educational institutions, students, teachers, researchers all depend on access to copyright works. Good local educational resources are needed, in addition to foreign materials. This requires adequate protection of rights, and a proper balance between user needs and the rights of authors and publishers.

Collective rights administration makes copyright work. It complements authorisation granted by authors or publishers directly to use their works when they do not want to or cannot administer the rights themselves. This is typically the case in respect of multiple copying of portions of already published works for use in education. Authors and publishers on all continents have agreed that if students need, for instance, a chapter or some pages only from certain works, it is necessary to find a smooth way to enable and legalise this. **The answer to such legitimate requests from education and research was the establishment of RROs – Reproduction Rights Organisations**.

RROs are the Collective Management Organisations (CMOs) in the publishing sector. **Currently, there are 105 CMOs carrying out RRO activities in 85 countries worldwid**e. They operate under different legal regimes, which in turn has led to three main different models of operation. Those models are referred to as 'Voluntary Collective Licensing'; **'Voluntary collective licensing with back up in legislation' to also include, by law, works in the same categories by non-mandating rightsholders, e.g. the Extended Collective Licence Agreement (ECL); and 'Non-voluntary (or Statutory) Licensing', with or without a levy on equipment and devices**.

RROs act as a 'one-stop access point' to authorise on behalf of rightsholders[1] certain secondary uses of their already published works. They operate in almost any territory and can adapt to local conditions, education systems, economic circumstances and cultures. Mandates to include works of foreign rightsholders in the repertoire are acquired through agreements with sister RROs, and, where there is a reinforcement in legislation or a non-voluntary licence, also by law. RROs offer repertoire licences with a blanket authorisation to use all works in the repertoire on standardised conditions, as well as transactional (case-by-case/pay-per-use) licences, for instance when there is a request to copy beyond the copy limit in the repertoire licence.

1 'Rightsholder' is used throughout as a generic term for authors (which may include illustrators and photographers) and publishers



Generally, the authorisation administered by an RRO allows the reproduction from already published printed and digital works, on paper or in digital formats. The portion of the work allowed is typically 10-20%, a chapter of a book, or an entire journal article. Some RRO licence agreements permit a larger portion to be copied if the work is not available, for example if it is out-of-commerce. The selected portion may be photocopied or scanned and printed for distribution in the classroom. If the institution has opted for a licence on digital uses, the portion of the work may also be stored, accessed and distributed electronically in closed networks and made available on Virtual Learning Environment platforms (VLE). Tariffs are negotiated locally taking account of local conditions, needs and requirements. They are most often fixed as a price per page or per student or set as a lump sum.

Collective rights management by RROs contributes to increased opportunities for a sustainable national creative and publishing sector. An objective is the creation of a range of teaching materials founded in local culture and traditions and adapted to local user needs. The benefit is not limited to education and research, the entire society profits. RROs have various ways to contribute to sustainable developments; it may be in the form of special bilateral or unilateral agreements, or as direct support.

2 FREE IS COSTLY

On renewing its agreement with Copibec, one of the two Canadian RROs, in November 2018, the Université Laval acknowledged that *'collective licensing provides a framework that creates a balance between the needs of its users as well as authors and publishers'*.[2]

'Free' may be costly. **In most circumstances, there is a huge difference between free and cheap. Copyright is no different.** 'Free' would denote usages under an exception to exclusive rights granted to rightsholders by legislation, without payment to those rightsholders. The modification of the Canadian Copyright Act in 2012 introduced new wordings on exceptions and limitations. This resulted in institutions interpreting the law to allow broad use of copyright works without prior authorisation and payment to the rightsholders. When the University of Toronto subsequently cancelled its contract with the Canadian RRO, Access Copyright, a student magazine noted that some students had to *'buy [the] course pack for nearly double the price it cost last year due to the termination of the Access Copyright licence*[3]. Other students saw their costs increased by nearly four times.

The alternative to this false 'free' use is affordable legal access and usages. **Collective management of rights is about easy ways of obtaining authorisation to legally use published works protected by copyright at an affordable price**. This chapter explains how this works in practice.

RROs respond to user demands. The more articulate these demands, the easier it is for RROs, in collaboration with the rightsholders they represent, to provide adequate solutions. The needs of educational institutions are different, depending on the continent, country and even type of institution. Equally important, they have evolved differently. User requests in, for instance, African and Latin American countries, are different from those in, for example, Australia, Japan, New Zealand and European or North American countries.

This is also reflected in the licences signed by RROs. At the beginning of collective licensing of reprographic reproduction from published work by RROs in the 1970s and 1980s, all focus was on photocopying. The basic conditions for the usages that were authorised did not differ much from one RRO or one country to another. This has evolved over time, as the digital era enabled RROs to better address the needs of users and rightsholders' requirements. Therefore, rather than presenting common features of the RRO licensing and collective management arrangements only, this chapter will offer examples of how RROs meet dynamic user needs to use published works on conditions agreeable to authors and publishers. Examples are thus both from RROs offering basic services and from those that have introduced more advanced ones.

3 COLLECTIVE MANAGEMENT OF RIGHTS IN PUBLISHED WORKS – THE RATIONALE; WHY AND WHEN COLLECTIVE MANAGEMENT IS THE PREFERRED SOLUTION

In the publishing sector, collective rights management is primarily concerned with certain secondary uses of already published works. It complements the rightsholders' own licensing; it does not compete with or supplant it. Authors and publishers might want their rights to be

2 http://www.globenewswire.com/news-release/2018/11/14/1651190/0/en/Copibec-and-Universit%C3%A9-Laval-resolve-their-legal-dispute-over-copyright.html

3 https://thevarsity.ca/2014/09/21/after-access-copyright/

managed collectively, or individual direct management of rights may be impracticable, or outright impossible, i.e. there is a market failure. This is typically the case for large scale copying of portions of works, for instance a chapter, for internal, personal use in education. Normally, the user already has a copy of the original work from which the reproduction will be made.

3.1. Collective Management Organisations (CMOs), mandate and membership

RROs are not-for-profit societies, usually set up jointly by authors and publishers, often in close collaboration with their trade associations. Membership and mandates to grant authorisation to use works are acquired by some RROs directly from individual authors and publishers, by others via the authors' and publishers' trade associations, or their CMOs. Depending on the legal and other traditions and the interest of the copyright holder, mandates may be granted on an exclusive or a non-exclusive basis. In some countries, mandates are also granted by legislation. This is typically the case where usages are authorised by law against an obligation to pay remuneration to authors and publishers. An RRO approved by the national authorities will then collect the remuneration and distribute it to the rightsholders. There are also examples of combinations of the alternatives listed above.

Establishment of RROs

RROs were initially set up in response to requests from educational institutions for easy, affordable access to published works in education when the whole book or journal was not needed. Worldwide, as at September 2020, there are at least 110 CMOs in 88 countries[4] carrying out RRO activities. Of those, 106 RROs in 85 countries[5] are members of IFRRO[6] (International Federation of Reproduction Rights Organisations). This means that there are RROs in more than half of the 179 UN Member States that are parties to the Berne Convention. In 2019, the RRO members of IFRRO collected and distributed around USD 1.1 billion to rightsholders:

REPRODUCTION RIGHTS ORGANISATIONS, AS AT SEPTEMBER 2020

110 Collective Management Organisations

88 countries where CMOs operate

3 main models of operation

106 Reproduction Rights Organisations that are members of IFRRO

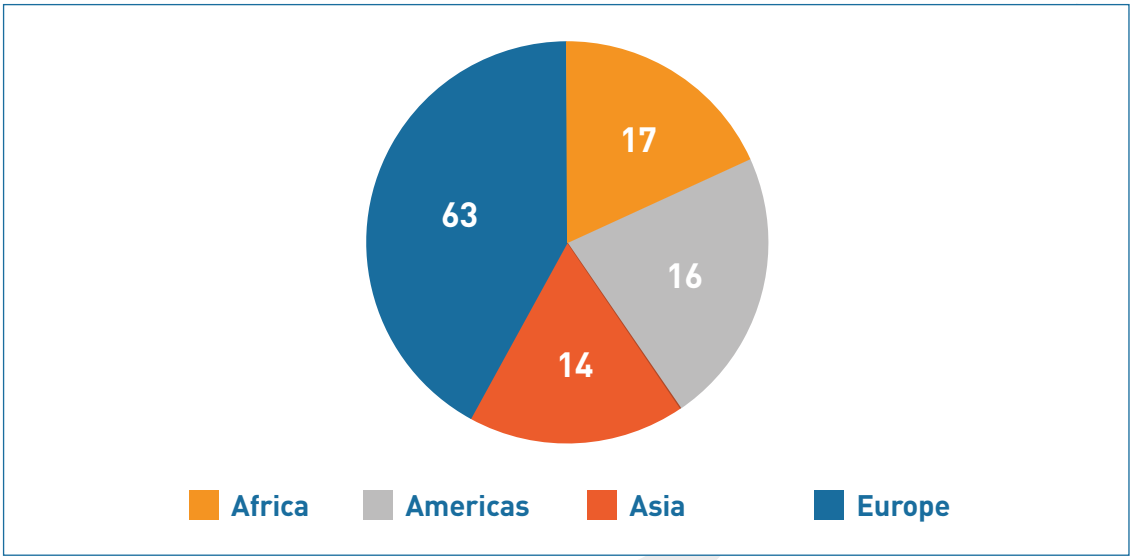
$1.1bn Collected and distributed to rightsholders by RRO members of IFRRO (USD) in 2017

4 ECCLA (The Eastern Caribbean Copyright Licensing Association Inc), covers the six countries Antigua and Barbuda, Dominica, Grenada, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines

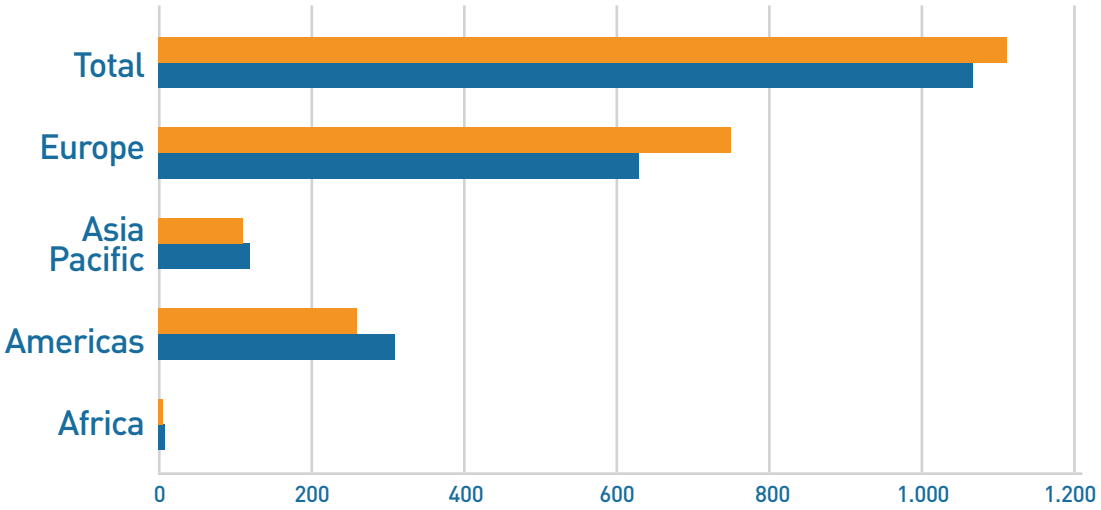
5 For RROs in membership of IFRRO, see https://ifrro.org/RRO; Besides, RRO activities are also carried out in, at least, Estonia, Portugal and Tunisia.

6 https://www.ifrro.org/

THE RRO MARKET: NUMBER OF COUNTRIES WITH RROS



TOTAL FEES COLLECTED AND DISTRIBUTED BY RROS IN 2017 (MILLION USD)



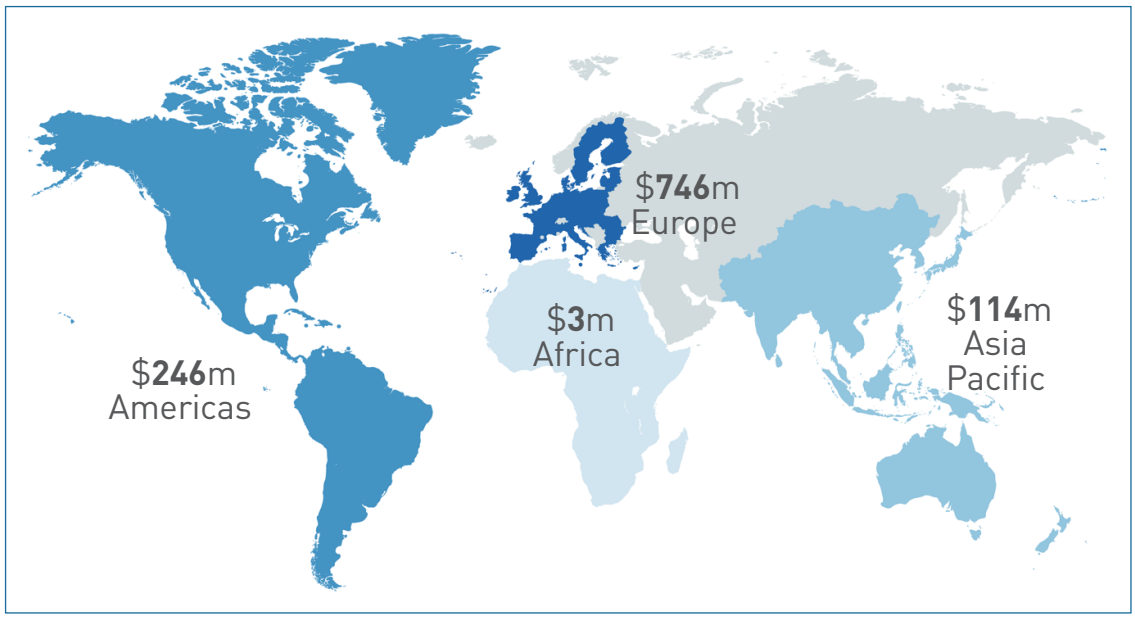
	Africa	Americas	Asia Pacific	Europe	Total
Distributed	3	246	114	746	1.109
Collected	4	320	124	615	1.063

Rights administration by RROs

RROs administer rights of reproduction, making available for distribution already published works. This would, for instance, be in the form of ordinary photocopying; making works available on intranets; Internet downloads; digital copying and certain other digital uses. Authorisation is usually granted by the RRO on behalf of authors and publishers jointly. The user will normally already have acquired legal access to the work in question.

The RRO licence agreement typically grants the user a pre-authorisation to make multiple copies of portions of publications, for a limited number of copies, and for the internal use by institutional bodies such as schools and universities, as well as private corporations and government departments. The copy is not meant for students who have not enrolled in the course and is, as a rule, not allowed to be transmitted or transferred to another institution or commercialised in the marketplace.

TOTAL FEES DISTRIBUTED BY RROS IN 2017 (USD)



4 THREE MAIN MODELS OF COLLECTIVE LICENSING IN PUBLISHING

The choices of authors and publishers and the national legal system determine the way in which an RRO operates and is structured. It is customary to distinguish between three main models of operation, although there are also other variations:

4.1. Voluntary collective licensing

Countries that are parties to the Berne Convention grant authors the exclusive right to reproduce or authorise the reproduction of their works. Upon ratifying the WIPO Internet Treaties, this is extended to include the right to make the work available, communicate it to the public, or distribute it. The basis for *Voluntary collective licensing* is the exclusive rights granted by legislation to the rightsholder, and the mandates from authors and publishers to the RRO on an individual basis. The RRO issues licences on behalf of those authors and publishers who have mandated it to act on their behalf.

Country example: Argentina

Centro de Administración de Derechos Reprográficos (CADRA)[7]**,** the Argentinean RRO offers licence agreements both for reprographic and digital reproduction. The repertoire is made up of mandates from 1,588 national authors and publishers, and thousands of foreign rightsholders through bilateral agreements with 40 RROs, including other Latin American, French, Spanish, US and UK RROs. Of 121 universities, other higher education institutions and libraries that have taken up a repertoire licence with CADRA, 43 have opted to add a licence for digital uses. CADRA's annual fee per student is USD 4 for reprography and USD 8 for the digital licence. In addition, CADRA has licensed 429 copy centres, which also serve educational institutions, at the rate of USD 415 per device per year.

The CADRA licence agreements permit the reproduction of up to 20% of a publication, or a full chapter of a book, or a full journal article, whichever is the greater. If there is a need to copy more than the limits fixed in the repertoire licence, CADRA assists in seeking permission from the author or publisher on a case-by-case (transactional) basis.

International treaties also allow a country's legislation to establish certain exceptions or limitations to the exclusive rights granted to rightsholders, provided the three-step test in article 9(2) of the Berne Convention is observed. Education and research are often beneficiaries. Even when educational exceptions and limitations are considered broad, they are not likely to meet the full needs of dynamic educational institutions.

Country example: Colombia

In the Colombian copyright legislation, there are rather wide exceptions and limitations in favour of education. They do not, however, prevent educational institutions from requiring licensing of usages of printed copyright materials. The national RRO, **Centro de Derechos Reprográficos (CDR),** has signed a total of 1,670 licences covering reprographic reproduction. Fifteen universities and higher education institutions have also taken up licences for digital uses, with an umbrella organisation representing the country's 87 major universities currently negotiating a digital licence (as of September 2019).

In addition to mandates from national authors and publishers, CDR has signed bilateral agreements with several other RROs. This allows CDR to authorise the licensed educational institutions to also copy from foreign works, including those of Mexican, Spanish, UK and US origin. The licence permits the reproduction of up to 20% of a published work. A full article of a scientific journal or other periodical publication may, however, be copied. The digital licence allows institutions to store a digital copy of the portion of the work in a database and make it available to the students enrolled in the relevant course, as well as to pedagogic personnel and researchers. The copy may also be made available on a virtual platform.

For reprographic reproduction, tariffs vary from USD 33 (COL 115,000) to USD 146 (COL 502,000) per photocopier per year, depending on the location of the institution. An additional fee of USD 0.23 (COL 800) per student is charged for digital copying in primary school, up to USD 1.75 (COL 6,000) per student in universities. A rate of COL 30 per page is charged for case-by-case licensing, for instance, if there is a need to copy beyond the limits of the licence agreement.

7 http://www.cadra.org.ar/

Licence override

In many countries, especially those which are inspired by the UK's copyright legislation, the right to use works under an exception may not apply if a suitable licence agreement is available ('licence override')[8]. This means that if the educational institution knows or should know that a licence agreement is offered for the use in question, it may not copy, or use works under the exception. Rather, it has an obligation to negotiate a licence agreement, normally with the RRO, or refrain from using the work. This mechanism applies, in addition to the UK, in countries or economies such as Barbados, Ghana, Hong Kong, Ireland, Jamaica, and Trinidad and Tobago. It is also enabled in general in EU Member States by the EU Directive on *copyright and related rights in the Digital Single Market.*[9]

Country example: Ghana

Section 19.1(c) of the Ghanaian Copyright Act contains certain educational exceptions. However, Section 21(4)(a) of the Act establishes that the right of a library or an archive to make a reprographic copy under and exception only applies *'if there is no collective licence available under which copies can be made*[10], while Section 18 of the Regulations states that *'A reprographic rights collecting society shall determine a fee in respect of photocopying of works protected by copyright and related rights by educational institutions and any other outlets where reprography is carried out commercially'*[11].

CopyGhana is the national RRO. It licenses national and foreign works by virtue of mandates from national authors and publishers and agreements with other RROs, including with CCC in the USA and CLA in the UK. Current licensing in education focuses on tertiary education[12]. Fifteen public and private universities, including technical and polytechnics institutions have taken up the licence.

The licence agreement covers photocopying and digital copying, for instance copying from the Internet. Up to 10% of the publication may be reproduced, a maximum of 30% if the work is not available. The per-page rate is 10% of the market price of a photocopy, equalling USD 0.004 (2 pesewas). A statistical survey has determined that, after the deduction of 10% for permitted uses under exceptions, subscriptions, etc., the average number of copies of copyright material that a student shall pay for annually is 280 pages. The rate per student per academic year thus amounts to, in 2019, USD 1 (GHC 5.60). Nevertheless, it has been agreed with the students' union that, at least for the moment, they shall be charged USD 0.55 (GHC 3) only. **The total collection from licensing last academic year was USD 40,000, with an additional USD 460,000 collected from a private copy levy.**

4.2. Voluntary collective licensing with legislative support

In respect of multiple copying of excerpts of published works, some national legislators have concluded that voluntary collective licensing does not suffice. Instead, the national copyright law provides a back up to voluntary collective licensing. The motive may be to ensure that non-

8 The UK Copyright, Patent and Design Act, Section 36, grants certain exceptions and limitations in favour of usages by educational establishments, including reproduction of up to 5% of a published work. Section 36.6 specifies, however, that 'Acts which would otherwise be permitted by this section are not permitted if, or to the extent that, licences are available authorising the acts in question and the educational establishment responsible for those acts knew or ought to have been aware of that fact.' https://www.legislation.gov.uk/ukpga/1988/48/contents .

9 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0790&from=EN (Article 5.2)

10 https://www.wipo.int/edocs/lexdocs/laws/en/gh/gh012en.pdf

11 https://www.wipo.int/edocs/lexdocs/laws/en/gh/gh018en.pdf

12 In addition, there is a levy on relevant devices also for private copying of published works, which is administered by COPYGHANA on behalf of text and image authors and publishers

mandating rightsholders are treated no less favourably than the mandating ones, to provide legal certainty to users, or a combination of the two. Currently, **there are three mechanisms in use to extend usages authorised by a voluntary collective licence agreement to also include non-mandating ones: The Extended Collective Licence Agreement (ECL); the Legal Presumption of Representation (LP); and the Obligatory Collective Management of Rights (OCM).** All three mechanisms require a high degree of rightsholder representation by the RRO.

There are two key differences between the ECL and the other two mechanisms:

a. Under an ECL, prior mandate to the RRO from many of the rightsholders concerned for the specific uses covered by the collective licence agreement is required for the agreement to be extended.

b. Secondly, the starting point is the voluntary licence agreement; it is this licence agreement that is being extended. Under an LP and an OCM, the starting point is the extension of the RRO representation. The main difference between the LP and the OCM is that, under an LP, the rightsholder who chooses to withdraw from the collective licence agreement can sign an agreement directly with the same user as covered by the collective licence agreement, for the same type of use, and on different conditions. This is not possible under an OCM.

4.2.1. The Extended Collective Licence Agreement (ECL)

The ECL is a method for the rightsholder to exercise exclusive rights granted by the law and thus an element in the administration of the normal exploitation of the work. It is a construction to facilitate voluntary collective licence agreements where it is impossible or impractical to assume that the CMO can pretend to represent all authors, publishers, or other rightsholders to the works in question.

The ECL emerged in the Nordic countries in the 1960s. Currently, it applies to many usages of already published works authorised through collective management, including in education. Also, countries other than the Nordics have adopted ECL for specific usages or are considering doing so[13].

The ECL requires that:

a. the organisation, which signs the agreement, must be representative of the (national) rightsholders and works in question[14];

b. a large number of rightsholders concerned must grant voluntarily a prior mandate to the RRO for the use covered by the licence agreement for the extension effect by law to be granted[15];

c. on this basis, the RRO signs a voluntary collective licence agreement with the user;

d. the law subsequently grants the agreement an extended effect, authorising users to use works of non-mandating rightsholders (i) of the same category of works; (ii) for the same type of usages; and (iii) on the same conditions as covered by the voluntary licence agreement;

e. rightsholders who opt out, or withdraw works from the voluntarily signed agreement, where this right is granted, may choose to negotiate terms and conditions, and thus sign licence agreements themselves directly with the same users for the same type of use as covered by the collective licence agreement.

13 There is an ECL in the Malawi Copyright Act. It is also proposed as a means to facilitating voluntary collective licensing agreements for certain special uses in, for instance, EU Member States, and it is being discussed other countries, including in Australia, China and the U.S.A.

14 Extension must be from the representation of the works of many national rightsholders to include the few, not the opposite, i.e. including the many on the basis of mandate from few national rightsholders.

15 The mandate may be granted as a general mandate to the licensor, or as a specific mandate as long as it is clear that it comprises the specific use covered by the licensing agreement

Country example: Malawi – Licensing under an ECL

Article 58(3) of the Copyright Act of Malawi reads *inter alia*: *'A collective licence agreement permitting the use of works of authors represented either directly or through their associations by the Society, representing, as confirmed by the Minister, a substantial part of the authors concerned whose habitual residence is in Malawi, shall, subject to the terms and conditions of the agreement, extend to the use of works of authors whom the Society does not represent.*[16] The Article further specifies that the ECL applies to reproduction *'for use in education'*. It also sets out the conditions for its applicability.

The 'Society' referred to in the law is **COSOMA (Copyright Society of Malawi)**, the combined copyright office and national multipurpose CMO and RRO. The basis for COSOMA's licensing of educational institutions, including secondary schools, vocational training centres and universities, is the exclusive rights granted to authors in the law, mandates from authors and publishers and the ECL.[17] Both reprography and certain digital uses are covered by the licence agreements. The copy limit is 15% of the publication, extended to 30% if the materials are not locally available. The fees to be acquitted are set at 10% of the market photocopying rate, which in turn is multiplied by the number of pages copied as revealed by a statistical survey. Hotels and business centres pay an annual per-reproduction-device rate, depending on its size.

COSOMA's total revenue collection for copying in education in 2018, for distribution to rightsholders, was USD 62,000. Over the years, the COSOMA licensing activities have led to increased local production of copyright works.

4.2.2. Legal Presumption of Representation (LP)

The Legal Presumption of Representation (LP) implies that:

a. the RRO, which is granted the right to sign a licence agreement based on the LP, must document that it is sufficiently representative of the rightsholders concerned; otherwise it will not be approved and authorised by the appropriate authorities to enter into the agreement with an extended effect;

b. the extension effect by law is on the representation and mandate to administer rights of non-mandating rightsholders of the same category of works;

c. the signing of the agreement between the RRO and the user is on a voluntary basis;

d. rightsholders who opt out or withdraw works from the voluntary collective licence agreement, may choose to negotiate terms and conditions, and thus sign agreements themselves directly with the same users for the same type of usages as covered by the collective licence agreement.

The Legal Presumption model is not much used as a 'stand-alone' mechanism for licensing of education by RROs, rather it is combined with, for instance, non-voluntary licensing or obligatory collective management[18].

16 https://cosoma.mw/index.php/media-centre/downloads/%20documents/1-malawi-copyright-act

17 COSOMA also licenses business centres, which includes Copy shops and Hotel business centres

18 It is, however, frequently used for the licensing of other of out-of-commerce works http://www.ifrro.org/content/german activities, for example in Germany for the national Library and other cultural heritage institutions' licensing of making available -legislation-orphan-and-out-commerce-works

4.2.3. Obligatory Collective Management (OCM)

The Obligatory (compulsory or mandatory) Collective Management model has similarities with both the ECL and the LP models. However, it also includes features that make it distinct from those two mechanisms, established through:

a. sufficient representativeness of rightsholders concerned is a prerequisite for the RRO to be approved by the appropriate authorities as an RRO to administer licence agreements, which are granted an extended effect to also cover works of non-mandating rightsholders;

b. mandates are granted by law on an exclusive basis;

c. the extension effect by law is on the mandate to administer rights of non-mandating rightsholders of the same category of works;

d. rightsholders who opt out or withdraw works from the voluntary collective licence agreement cannot choose to negotiate terms and conditions and thus sign licence agreements themselves directly with the same users for the same type of usages as covered by the collective licence agreement[19].

Country example: France

The French legislation on the administration of reprographic reproduction rights establishes that *'The publication of a work shall imply assignment of the right of reprographic reproduction to a society governed by Title II of Book III and approved to such end by the Minister responsible for culture. Only approved societies may conclude an agreement with users for the purpose of administering the right thus assigned, subject, for the stipulations authorising copies for the purposes of sale, rental, publicity or promotion, to the agreement of the author or his successors in title. Failing such designation by the author or his successor in title on the date of publication of the work, one of the approved societies shall be deemed the assignee of the right'.*[20]

Le Centre Français d'exploitation du droit de Copie (CFC)[21] is the CMO appointed by the French Ministry of Culture to manage reprographic reproduction rights. By virtue of the law, it represents all French and foreign works (books and periodical publications, such as journals, magazines, newspapers, as well as sheet music, whether printed or born digital). Permission to copy is granted to educational establishments based on an agreement with the Ministry of Education for primary and pre-school. Each secondary school or higher education institution is licensed individually on conditions that have been negotiated collectively. Permitted reproduction is limited to extracts of up to 10% of a book and sheet music, and up to 30% of a periodical.

All educational establishments, from kindergarten to higher and further education, whether public or private institutions, are covered by a CFC licence. The licence allows teachers to reproduce and distribute extracts of works from an unlimited repertoire to support their teaching, to the benefit of 15 million pupils and students. The average tariff per student per year varies from USD 1.22 (1.10€) in primary schools to USD 2.78 (2.50€) in higher education, depending on the number of copies made, with a maximum rate of USD 5.42 (4.88€).

In addition to the licensing of reprography, CFC also licenses digital uses under a

19 By definition only the approved CMO can sign the licensing agreement for the specific uses covered by the licensing agreement signed under the OCM.

20 https://www.legifrance.gouv.fr/content/download/1959/13723/version/3/file/Code_35.pdf; https://wipolex.wipo.int/en/text/435178

21 http://www.cfcopies.com/

combination of legal and voluntary licensing[22]. In 2018, rightsholders to 90,000 books and periodicals received 30 million USD (€27 million) for reprographic reproduction of their works, essentially from licensing in education.

4.3. Non-voluntary collective licensing/remuneration rights

In a non-voluntary, or statutory (legal) licensing regime, the right to reproduce the work is granted by law. Therefore, no consent from the rightsholders is required, they only have a right of remuneration. The usages are allowed under a limitation to exclusive rights granted to the rightsholders. In the EU Member States, for example, authorising reprographic reproduction by law under an exception or limitation, is only possible if the rightholders *'receive fair compensation'*[23]. Substantial representation of the rightsholders concerned, through membership and/or mandate, is required for the RRO (or other CMO), to be authorised to administer the remuneration right and thus sign the licence agreements with users and collect and distribute the remuneration therefrom.

In respect of reprographic reproduction of an excerpt of a published work and, in some countries, also for certain comparable digital usages, several countries have opted for statutory licensing. It applies both in African countries, for instance in Tanzania; in Asia, an example is Singapore; in Europe, for instance in France (digital uses in education), the Netherlands (reprography), Spain (higher education), and Switzerland (reprography and digital uses); and in Australia for usages in education.

Country example: Tanzania

In Tanzania, the legislation authorises the reproduction of portions of copyright works for teaching and learning purposes against an obligation to pay remuneration to the rightsholders. In accordance with the Copyright (Reproduction and Rental Rights) Regulations, Part II, the copy limit is 15%, or one chapter of the book per student per year. If the book is *'out of stock'* or *'out of print'*, the copy limit is extended to 50%. The Regulations Article 2 clarifies that *'Reproduction'* means *'photocopying and such similar reproductions of a copyrighted work and includes printouts from digital processes'*[24].

The remuneration to be paid to rightsholders is fixed in the Regulations as a lump sum per institution, depending on the number of registered enrolled students:

22 Since 2006, digital uses as illustration for teaching are allowed through a combination of exception and voluntary licensing (in respect of schoolbooks). A national agreement with the Ministry of Education and Research as well as licences with educational institutions outside of its scope completed the existing scheme for reprography. Teachers have a simple and comprehensive authorisation, which allows reprographic reproduction, in classroom representation and digital reproduction and communication of printed and born digital works. The national agreement also includes use of music and audio-visual works. Licensing limits are consistent across uses.

23 DIRECTIVE 2001/29/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, Article 5.2(a): 'In respect of reproductions on paper or any similar medium, effected by the use of any kind of photographic technique or by some other process having similar effects, with the exception of sheet music, provided that the rightholders receive fair compensation' (https://eur-lex.europa.eu/LexUriServ/%20LexUriServ.do?uri=OJ:L:2001:167:0010:0019:EN:PDF)

24 https://tanzlii.org/content/copyright-licensing-reproduction-and-rental-rights-amendment-regulations-2018

	From	To
Universities	USD 176 (< 500 students)	USD 77,400 (> 95,000 students)
Colleges	USD 156 (< 500 students)	USD 68,700 (> 95,000 students)
Secondary schools	USD 23 (< 100 pupils)	USD 1,160 (> 2,500 students)
Primary schools	USD 15 (< 100 pupils)	USD 774 (> 2,500 students)

The **Copyright Society of Tanzania (COSOTA)**[25], which is the combined copyright office and multipurpose CMO and RRO, signs the licence agreements and collects the remuneration for distribution to authors and publishers. Since the approval of the regulations in November 2018, COSOTA has, as at September 2019, invoiced 33 universities and higher education institutions for USD 195,000 (TZS 449,479,000).

Copyright levies for published (text and image) works

Copyright levies are a way of remunerating authors and publishers for defined usages authorised by law under a limitation to exclusive rights. It implies that a fee be paid on equipment, devices and media, for instance, photocopiers, printers and PCs, which can be used to reproduce copyright works. The model was first developed for reprography in Germany in the 1980s and has since been implemented in many countries in Europe, including in the Czech Republic, Romania and Slovakia, as well as in Africa, for instance in Algeria, Burkina Faso, Côte d'Ivoire, Ghana and Malawi. A list of countries, which remunerate authors and publishers of published works through a levy as at 2016, is found in the IFRRO-WIPO report *International Survey on Text and Image Copyright Levies*[26].

In many countries, the equipment levy is combined with a voluntary licence, with or without back up in legislation, as in Ghana and Malawi, or with a statutory licence, which is the case in Spain. In other countries, such as in Austria, Germany, Hungary and Lithuania, the levy on equipment and devices is supplemented by a fee for the copies made. The 'operator fee' is payable by those who own or operate the equipment and reproduce or authorise the reproduction of copyright works on a large scale on that equipment. This includes educational institutions that own relevant equipment and devices.

Burkina Faso is an example where the law institutes both an equipment levy and an operator fee:

Country example: Burkina Faso

The legislation in Burkina Faso provides for remuneration to be paid to authors and publishers to compensate for the reprographic reproduction of published works. It instigates a two-pillar mechanism: a levy on reprographic devices, such as photocopiers, scanners and printers; and a fee to be paid for copies made, payable by institutions that use reprographic devices on a large scale (operator fee). This includes private and public educational institutions. A decree to implement this part of the legislation is currently being prepared. It is scheduled to come into force in 2020, with tariffs proposed as a per-device fee ranging from USD 50 -100 (CFA 30,000-50,000) per year, depending on its capacity.

25 http://www.cosota.go.tz/

26 https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1042_2017.pdf , (see in particular page 30). Since 2016, Spain has reintroduced the levy.

The equipment levy is set at 0.25% of the import value of the device. It is collected on import by the customs authorities. Yearly collection amounts to some USD 56,000 (FCFA 34.5 million). After the deduction of a small administration fee, the levy is passed on to the **Bureau Burkinabé du Droit d'Auteur (BBDA)** for its further distribution to rightholders. BBDA is the combined national copyright office and multipurpose CMO. It is mandated by law to administer copyright and related rights. It will also manage the operator fee.

4.4. Mixed and Combined models

The models may, of course, be combined. This is the case, for instance in France, where reprography is licensed *inter alia* based on obligatory collective management, and digital uses on the basis of a legal licence combined with voluntary licensing.

It will also apply to digital uses in education, at all levels, in Japan from 2020-2021. New legislation instigates a remunerated compulsory licence for occasional reproduction, digitisation, circulation, transmission, electronic storage and online sharing of excerpts of all types of copyright materials – text and images, audio-visual and musical works – both of national and foreign origin. The reproduction made under the legal licence must (a) not be from a textbook, reference or professional works or other materials intended for the educational market; (b) be done by the individual teacher or student; (c) be limited to the extent necessary for the teaching or learning purpose; and (d) not unreasonably prejudice the interest of the rightsholder. The copy must be intended for the specific class; usage in multiple classes, unless it is by the same teacher/lecturer for the same purposes. Systematic or periodic reproduction, or the making of course packs is not permitted.

The compensatory remuneration must be approved by the authorities. A single remuneration collector, the Society for the Administration of Remuneration for Public Transmission for School Lessons (SARTRAS) was incorporated in January 2019.

Usages, which are not covered by the statutory licence, or cannot be made under other exceptions or limitations in the law, requires prior rightsholder authorisation. Three Japanese RROs – Japan Academic Association for Copyright Clearance (JAC), Japan Publishers Copyright Organisation (JCOPY) and Japan Reproduction Rights Center (JRRC) – supplement the compulsory licence and authorisation granted directly by authors and publishers by licensing educational institutions under voluntary collective licensing arrangements based on mandates from rightsholders.

Spain is another example of a mixed system.

Country example: Spain

Universities and public research institutions are authorised by law, under defined conditions, to use up to 10% of a published work, or a chapter or a full article[27]. This includes reprography and digital copies. The institutions must pay remuneration to the authors and publishers via the approved RROs. In September 2019, the rate is USD 9.29 (€ 8.39) per student per year for the combined photo- and digital copying. Nevertheless, an agreement has been reached allowing the universities to pay in the form of an agreed lump sum, to which each university contributes according to the number of enrolled students. CEDRO (Centro Español de Derechos Reprográficos) is the legal licence administrator for textual works, VEGAP (Visual Entidad de Gestión de Artistas Plásticos) for images.

27 https://www.boe.es/buscar/pdf/1996/BOE-A-1996-8930-consolidado.pdf; (articles 32.3 and 32.4)

Schools benefit from a much narrower exception, without obligation to remunerate rightsholders, as copying from textbooks, university manuals or similar publications is not permitted. They therefore also depend on licensing to make multiple copies of protected works.

Through voluntary collective licensing via its Internet-based platform, conlicencia.com[28], CEDRO offers educational institutions usages of protected works that are not covered by the legal licence. Individual mandates from authors and publishers and bilateral agreements with the French, UK, US and other RROs provide access to more than 20 million national and foreign works[29]. Annual and case-by-case (transactional) licence agreements are enabled.

In addition to copying from the work, the institution may store the portion of it, make it available to students and staff on a password-protected network, distribute it via email, and integrate it in a document prepared by the institution for internal use. The annual cost of the licence per student, in 2019, varies from USD 2.40 (€ 2.16) in primary education to USD 9.77 (€8.91). Depending on the education level, it will rise to a maximum rate of USD 11.5 (€10.35) per student per year in 2022.

In addition to the statutory and voluntary licensing, the law establishes a levy to be acquitted on relevant reprographic and digital equipment and devices for reproduction for all uses of copyright works for private purposes. CEDRO manages the levy for texts, VEGAP for images.

5 THE RRO LICENCE – WHAT IS AUTHORISED?

RROs offer two types of licence agreements: repertoire licences and transactional licences.

5.1. The repertoire licence

A repertoire licence is characterised by the RRO granting the institution a pre-authorisation to reproduce and use the works in its repertoire on a blanket basis under predefined conditions and uniform price structures. The repertoire consists of the works of the mandating rightsholders, including those who are represented through agreements with other RROs. In countries with statutory provisions, the work of non-mandating rightsholders – national and foreign – are also included.

Standard conditions in a repertoire licence

The reproduction authorised through a repertoire licence is to copy a portion of the work for internal and personal use only. The portion that may be copied varies from country to country, depending *inter alia* on user needs. Most frequent proportions are 10-15% of the work, or a full chapter from a book or an article from a journal, whichever is the greater.

There are also examples of agreements that allow larger portions to be copied. For instance, in Finland, the Kopiosto university and higher education licence allows up to 20%, normally maximised to 20 pages, to be reproduced. The copies may be made from analogue or electronic sources. In Ghana and Malawi, if a work is not available, the copy limit is extended to 30%, and in Tanzania to 50% of the work.

28 https://www.conlicencia.com

29 6 million works available for transactional licensing

The RRO licence agreement permits institutions to reproduce portions of the work through photocopying, scanning, printing or similar methods. Provided the institution has also taken up a licence for digital uses, it will typically be allowed to download materials from the Internet, store and make portions of materials accessible through password-protected internal networks, which are accessible online. The copied works may also be used in PowerPoint presentations, projected to smartboards, etc., and posted to Virtual Learning Environment (VLE) platforms.

Remuneration, tariffs and tariff setting

Fees may be fixed in legislation or set unilaterally by the RRO. More often, however, they are established through negotiations between the RRO and the educational institution. Rather than negotiating on an individual basis, whenever possible, the institution will leave the negotiations with the RRO to an association or other body representing them, for example, a consortium of deans.

Tariffs are established taking account of, among other things, the type and amount of copies made and the economic and other local conditions. Therefore, tariffs vary considerably. Examples are offered in the country examples throughout this paper.

The tariff may be set as a price per page copied, multiplied by the number of copies made as revealed by investigations, as in Malawi. The basis for the calculation of the per-page rate could be the purchase price of the works used, or the cost of copying. More frequently though, the tariff is set as an annual fee per student, potentially also per staff member, or employee. Occasionally, the remuneration collected by the RRO on behalf of the authors and publishers is in the form of (a sometimes agreed) lump sum, as, for instance, in Tanzania. The fee to be paid is established taking account of the copies that the institution or the student is permitted to make legally, whether under an exception, authorised by the author or publisher directly through direct licensing or authorisation, or otherwise permitted.

The remuneration collected by the RRO is distributed to rightsholders on the basis of an agreed distribution method and split between creators and publishers. In 2017, more than USD 1.1 billion was paid out to rightsholders worldwide. **There is no doubt this has an important impact on the possibility for local creation and publishing. And by contrast, the serious drop in payment from the RROs in Canada following changes to the legislation in 2012 has had serious negative consequences for the national authors and publishers there**[30].

Before the monies are distributed to authors and publishers, a percentage of the collected remuneration, which would normally not exceed 30% and is often much lower, is deducted by the RRO to cover its expenses. The distribution may be based on full reporting from the institution on the use of material. However, under a repertoire licence, given the huge amount of copies made, it is more common to base it on extrapolation from sophisticated statistical surveys and samplings.

EXAMPLES OF COMPREHENSIVE REPERTOIRE LICENCES

UNIVERSITIES

- Norway: https://www.kopinor.no/articles/licence-agreement--higher-education
- France (in French, reprography and digital uses): http://www.cfcopies.com/copie-pedagogique/etablissement-superieur/universite

30 IFFRO report: https://ifrro.org/sites/default/files/canada_after_the_changes_to_the_copyright_legislation_in_2012.pdf

SCHOOLS

- France (in French)

(i) Primary schools (reprography and digital uses): http://www.cfcopies.com/copie-pedagogique/etablissement-primaire-public-et-prive

(i) Secondary schools (reprography and digital uses): http://www.cfcopies.com/copie-pedagogique/etablissement-secondaire/etablissement-secondaire-public-et-prive-sous-contrat

5.2. Transactional licensing

RROs offer to assist in obtaining authorisation from authors or publishers on a case-by- case, pay-per-use basis, for example when institutions need to copy beyond the limits fixed in the repertoire licence. There are several examples of this service in this section, see, for instance, country examples Argentina and Colombia. In this case, the RRO often acts more like an agent for the rightsholder. Fees and other conditions are often set by and the remuneration transferred back to the individual rightsholder who grants the mandate to the RRO. Further distribution to other rightsholders concerned would be the responsibility of the mandator.

Transactional licensing may also be a part of the standard authorisation or the main service granted by the RRO. Licences offered to academia by Copyright Clearance Center (CCC, USA) include a number of pay-per-use services.

Example: CCC (USA) licensing services for academics (including K-12 and higher education)

Copyright Clearance Center (CCC), like other RROs, strives to offer services tailored to meet the needs of the academic market. This includes an **Academic Annual Copyright Licence (AACL),** which provides comprehensive coverage for most content uses on campus as well as convenient 'check & go' copyright permissions. The AACL covers a broad spectrum of standard content uses, including course packs, electronic course materials and class handouts, library reserves, administrative photocopies, internal e-mail, and intranet postings. This broad coverage enables faculty and staff, researchers, off-campus copy shops and course pack providers to collaborate freely while respecting intellectual property rights. As a further benefit, the AACL greatly reduces the time spent securing copyright permissions. Via the searchable online catalogue **RightFind Academic**, users can verify coverage instantly.

In addition, CCC offers several Pay-Per-Use Services: Beginning with the **Transactional Reporting Service (TRS)** for Inter-Library Loan (ILL) borrowing and document delivery permissions, and then the **Academic Permission Service (APS)** for including copyrighted works in print course packs, in its earliest days, CCC provided a compliance mechanism for the photocopying of copyrighted materials. In the late 1990s, the **Electronic Course Content Service (ECCS)** was added to these, essentially as an adaptation of the APS for emerging digital environments including e-course packs, e-reserves, and Learning Management System (LMS) postings.

Get It Now. In 2010, representatives from the California State University (CSU) System approached CCC and asked for its cooperation in the development of a cost effective, academic document delivery system to use in place of borrowing journals articles via interlibrary loan (ILL), which they considered to take too long and be too costly. In response, CCC developed Get It Now which provides library patrons with rapid fulfilment of high-quality, full-text, colour PDF journal articles not subscribed to by their library, 24 hours a day, 7 days

a week. It supplements traditional ILL processes and is tightly integrated with leading library applications and workflows.

With over 17,000 journals and tens of millions of articles available for purchase, Get It Now expands an academic library's 'virtual collection' by ensuring content is available to patrons when they need it, saving libraries time and money and improving patron satisfaction.

The **Student Assessment Licence (SAL)** was developed by CCC in response to a need identified by the Smarter Balanced Assessment Consortium (SBAC), a K-12 (primary and secondary education) assessment consortium of the United States. SBAC's challenge was that it needed permissions to re-use thousands of copyright protected passages in 'high stakes' assessments for nearly 8 million students and had limited time to do so since the tests needed to be administered that spring (some 10 months away). As the SBAC assessment was to be computer adaptive (students are presented different passages and questions based on their responses to previous passages and questions), SBAC did not know the number of students who would be exposed to any specific passage, so they ran the risk of either obtaining too few or too many rights for any passage within their bank. For the rightsholders, the SBAC's permissions requirements did not fit within traditional permissions pricing models, leading either to prolonged negotiations or to SBAC having to rely on public domain or synthetic content (i.e.content created for the test) to fill its needs.

In response, CCC worked with SBAC to create the first collective licence designed for adaptive learning. The SAL is an annual licence that provides coverage for states and school districts – and their contracted test developers – to re-use excerpts from millions of copyrighted works in summative, interim and formative assessments and related preparatory materials. Today, the SAL has been expanded beyond the original SBAC states and now covers more than 75% of test-eligible students in the USA.

6 MEETING THE NEEDS OF USERS AND RIGHTSHOLDERS

RROs are close to the market and work continually to meet user needs to facilitate activities under their agreements. As demonstrated, also with the evolution of CCC's services, licensing by RROs is in constant development to meet progressing demands - from users and rightsholders. The following offers an example from Canada with respect to licensing of schools, and one from the UK regarding higher education.

Country example: Canada

Copibec, the RRO in Québec (Canada) licenses public and private education at all levels on a voluntary collective licensing basis[31]. Mandates are obtained from authors and publishers, and for non-Canadian works from RROs in other countries through bilateral agreements. The licence agreements cover the reproduction of excerpts from print and digital books and periodicals on paper and digital formats, with the exception of those works, which the right holders have excluded from the mandate.

The general copy limit is 15%, or a full chapter, article or musical score. For pre-tertiary level institutions, the authorised reproduction of publications developed specifically for

31 https://www.copibec.ca/en

preschool, elementary, high school or adult education or vocational training purposes, is limited to 10% of the publication, and no more than 25 pages. If a copy of a greater portion of the work is required, Copibec may assist in obtaining authorisation via a transactional 'get permission' online service. The copies may be used for teaching and learning purposes, including distribution by handouts in the classroom, making available on closed networks and projection on smartboards, etc. Students may print out or copy onto a USB or other local storage media.

SAMUEL[32] (Simplified Access for Multidisciplinary Education and Learning) is a digital platform that Copibec offers to educational institutions at pre-university level, at no extra fee under the Copibec - Ministry of Education licence and the Copibec-Cégep (Colleges) licence, to further facilitate their legal use of published works in education. It hosts an online catalogue of (currently) some 30,000 works in full-text format comprising books, periodicals, press photos, artistic works, illustrations, song lyrics and musical works. Within the copy limits of the licence agreements, the teacher/school may browse and consult the entire work in the database, select the pages required, download the portion opted for, and share it with students and colleagues, for instance by posting on an intranet, printing out for the handing out in the classroom, or by projection on a smartboard.

SAMUEL is a proven success. Since its launch in 2014, more than 3 million copies have been used by 2,075 teachers and teaching professionals from 920 schools in Québec. It is also offered, by subscription, to educational institutions outside of Québec.

Country example: UK universities – the CLA digital content store

The Copyright Licensing Agency (CLA) is the recognised UK RRO for licensing text and images from print and digital books, journal and magazine content to the education, (as well as to business and public sectors). It licenses all schools and universities in the UK, as well as most further education colleges, under the licence override provisions in section 36 of the UK Copyright, Designs and Patents Act 1988[33]. Students registered with an educational establishment can access and copy works covered by the CLA licence wherever they may be in the world.

In addition to works for which UK CMOs[34] grant mandates, CLA licenses works from all over the world by virtue of its bilateral agreements with other RROs. The licence agreement allows extracts from published works to be copied, unless a rightsholder chooses to exclude the work(s). In higher education, for example, the copy limit is 10% or one chapter, whichever is greater. The repertoire licence fee per full-time student per year varies from USD 2.44 (£2.01) in primary schools to USD 9.10 (£7.51) in higher education. A transactional permissions service is offered if users want to copy beyond the repertoire licence limits.

In 2016, CLA launched the **Digital Content Store (DCS)**[35] for universities. The DCS streamlines the process of creating copies and license checks for universities, removing the need to report usage as CLA collects data automatically at the point of use. Currently 115 universities use the DCS, which together account for 68% of the digital copying data reported.

32 https://www.copibec.ca/en/samuel

33 https://www.legislation.gov.uk/ukpga/1988/48/section/36#:~:text=%5BF136Copying%20and%20use%20of%20extracts%20of%20works%20by%20educational%20establishments&text=(2)Copyright%20is%20not%20infringed,for%20a%20non%2Dcommercial%20purpose.

34 Authors' Licensing and Collecting Society (ALCS), Publishers Licensing Services Ltd. (PLS), Design and Artists Copyright Society (DACS) and PICSEL

35 https://www.cla.co.uk/digital-content-store

In terms of RRO services, requests from educational institutions vary considerably from country to country, and, often, also among institutions. RROs, in close collaboration with the authors and publishers they represent, make efforts to address the various user needs. Here is a list of different scenarios which RROs deal with:

So, what if the user request is for the:

A ...licence agreement to meet the 'basic' needs of the institution only

Worldwide, there are between five and six million schools, some 22,000 universities and an undisclosed number of colleges and other higher education institutions. Considering it carefully, on a country-by-country basis, how many educational institutions have departments or campuses outside their own country, or even outside their city or location? Is it fair to assume that many institutions (if not most of them) have national campuses only, even within a narrow geographical area; that they have no department or own no subsidiary outside the main location? Those institutions may require an RRO licence agreement to allow for classroom and on-campus use only. They will, however, request that the RRO offers the possibility to copy both national and foreign works and that it assists on a case-by-case basis, when usages are not covered by the licence agreement.

The most apposite way to address those user needs, while, at the same time, observing rightsholder requirements, is in most cases, for the institution to sign a licence agreement with the national RRO. The local RRO is best able to respond to local conditions – domestic laws, user needs, copying practices, negotiating the appropriate licence conditions, including tariffs, as well as dealing with technological changes – while at the same time delivering benefits to all stakeholders in the value chain. It will ensure mandates from the local authors and publishers and enter into agreements with RROs in other countries to enable the institution to also use foreign materials.

This is the way that the large majority of RRO licensing is done.

However, the request may be for...

B: ...students, teachers, researchers to access the licensed material from outside the institution

RRO licences will typically allow the institution's employees and students who have been admitted to the course, paid a tuition fee and given legal access to the institution's network, to access the licensed material, also from outside the campus, from wherever they are in the world. Further use of the material will, however, follow the law of the country where the work is accessed. A student enrolled in a course at Oxford University (UK) moving for a shorter or longer period to another country will have full access to the materials, for instance through the institution's network.

C: ...the licence to cover campuses in multiple countries

The institution has three alternatives. The obvious one and the one that is most frequently used, is for each individual campus to sign an agreement with the RRO in the country where the campus is located.

The institution may, alternatively, include non-national campuses in the licence agreement with the RRO where the main institution is located. As an example, CLA, the UK RRO, offers, at an additional fee, an optional add-on for universities that wish to include those students enrolled in courses at their campus outside the UK.

The third option would be for the institution to negotiate a multi-territory licence, with follow-up services undertaken locally by the RRO of each campus location. This has been the choice of the Universities of the West Indies (UWI) in the Caribbean:

Country example: the Caribbean multi-territory licence agreement

In respect of usages of copyright works in education, the Jamaican Copyright Act provides for a licence override[36]. This means that, when a licence agreement is available, the institution has an obligation in the law to refrain from copying under the exception and negotiate an agreement. Similar stipulations exist in the laws of Barbados and Trinidad and Tobago.

CARROSA was established as a regional organisation tasked to facilitate multi-territory licensing in the Caribbean by the five RROs in the region[37]. It is situated in Jamaica and operates under Jamaican Law. The first licence agreement being negotiated by CARROSA is with the University of the West Indies (UWI) and is to go into effect during the 2019/2020 academic year.

UWI is the largest and oldest fully regional institution of higher learning in the Commonwealth Caribbean. An international university with faculty and students from over 40 countries, UWI serves 17 countries of the English-speaking Caribbean[38]. It has three physical campuses, at Mona in Jamaica, St Augustine in Trinidad and Tobago, and Cave Hill in Barbados, together with the Open Campus through which teaching is delivered to these and the other 13 countries. Within this framework, there is a sub-structure that includes a tangible presence in those countries. The regional headquarters of UWI is in Jamaica. Students move between the three campuses depending on the programme of study; in some instances, starting in one country and completing their programme in another. In addition, UWI has exchange partnerships with multiple universities worldwide[39]. These partnerships allow for the movement of UWI students to these foreign universities for parts of their course of study.

CARROSA's pan-Caribbean licence for UWI allows it to make copies for all purposes within or in support of the mandate of the Institution and extends to all the university's students and faculties regardless of location. This eliminates any potential problems that could arise when students move between campuses in the region or to one of the partnering universities outside of the Caribbean. Through mandates extended through its member organisation **JAMCOPY**, CARROSA can deliver a worldwide repertoire to UWI. By virtue of bilateral agreements with other RROs, JAMCOPY's repertoire currently includes the works of 41 countries, in additional to the national ones. The copy limit is up to 20% or a full chapter of a licensed work, in enough number of copies to provide one for each student, two for each staff member and such number required by UWI for administrative purposes. The licence agreement also provides for the making of accessible format copies as well as copies for the

36 https://www.jipo.gov.jm/sites/default/files/PDF_Files/CopyrightAct.pdf - (Art. 59(3)).

37 JAMCOPY (Jamaica), TTRRO (Trinidad & Tobago), BCOPY (Barbados), BECLA (Belize) and ECCLA (OECS Member States)

38 Anguilla, Antigua & Barbuda, The Bahamas, Barbados, Belize, the British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts & Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago and Turks and Caicos

39 https://www.mona.uwi.edu/iso/university-partnerships

purpose of interlibrary loans. It is applicable in all the relevant countries regardless of their compliance with the WIPO Copyright Treaty (WCT), the WIPO Performances and Phonograms Treaty (WPPT) or the Marrakesh Treaty.

D: .....address special research purposes; Text and Data Mining (TDM)

Licensing of usages of copyright works has time and again proven to be far more flexible than unremunerated exceptions and limitations. For instance, specific research requests, such as TDM, was addressed in licence agreements by rightsholders and RROs long before any exception could be implemented in national legislation.

Country example Finland

Kopiosto, the Finnish RRO, licenses all levels of education, for both private and public institutions. All agreements are signed on the basis of the Extended Collective Licensing Agreement (ECL). Works of national and non-national rightsholders who have not mandated Kopiosto directly may thus also be reproduced and used on the same conditions as those, which apply for the mandating ones.

The copy limits depend on types of uses, level of education and type of copying. Educational institutions, at all levels, may photocopy up to 20 pages of a publication per term, provided this does not exceed 50% of the entire work. Universities and other higher education institutions may scan up to 20% of a publication, maximised to 20 pages. Digital copying and printouts from Internet sources, when the use is not authorised directly by the rightsholders or through CC (Creative Commons) and similar licences, is limited to 20 images or pages corresponding to an A4 size per website per student per course or term[40]. The annual per student rate for copying in university and higher education is up to USD 16.10 (€14.56). Scientific research is covered by the university and higher education licence agreement. However, the copy limits applicable to education, for instance the maximum of 20 % / 20 pages of a publication, does not apply to scientific research activities. The condition is that the materials cannot *'be acquired commercially or otherwise through conventional acquisition methods'*. Moreover, *Copies created for research purposes may be:*

- *saved on the licencee's closed network or server so that they can be accessed by the research group for which the copies were made; and*
- *distributed to the research group via email*

'Copies made for research purposes may be made available to the research group until the research is completed'[41].

Kopiosto signed a licence agreement on TDM for the first time in 2012. It was a separate agreement concerning specific research projects. Provisions favouring research became a permanent part of the Kopiosto's university and higher education licence in 2014. To further assist research, Kopiosto has also licensed, since 2012, **FinClarin,** which offers tools and a

40 Other copy limits in Kopiosto's licensing agreements for education: Primary education may scan up to 5 pages, maximum 50% of the publication, while secondary education can scan 15% of the publication, but no more than 15 pages. More narrow limitations than referred to below apply for the reproduction of special material, such as sheet music and the Finish Standard Association standards, and for copying in preschool.

41 See Article 8: https://www.kopiosto.fi/app/uploads/2018/11/11095521/Brochure-The-Kopiosto-copying-licence-Universities_19.pdf

database for TDM[42]. And a pilot agreement has been signed with the **Finnish National Library**, granting researchers access to its database with all digitised Finnish newspapers and magazines. The publications may be downloaded for TDM and other research purposes.

E: ...licensing of Massive Open Online Courses (MOOCs) and Open Education Resources (OERs)

MOOCs are large virtual classrooms that are accessed online by students worldwide and often sponsored by leading academic institutions of higher education. Increasingly, the list of course readings for MOOCs includes published content such as book excerpts, journal content and magazine articles alongside materials produced by instructors and staff.

Although RROs have declared a readiness, and some have also offered to include MOOCs in their licensing arrangements, there has not been much demand for it. A reason may be the high dropout rate, at about 96% on average over five years according to a Massachusetts Institute of Technology (MIT) study published in early 2019[43]. A MOOC does not necessarily have to be considered a failure because of the low completion rate. Rather, many sign up to MOOCs to investigate course options, without intending to complete them.

Another, and perhaps the main reason for the low completion rate may be that the institution offering a MOOC clears rights directly, be it with university professors or other rightsholders. If the aim is to offer a certificate, then often a MOOC also implies the need to access and use published copyright material in closed networks. Access then depends on the student being authorised to sign into a protected, not-open section of the course platform. If so, and the institution offering the course has a licence agreement with an RRO, the use could be covered by that agreement.

In the words of Achieve OER Institute, OERs ***'are teaching, learning and research resources that are either placed in the public domain or contain an open licence that permits others to share, re-use, and modify them.'*** Challenges that OERs face include the selection of quality materials, and copyright compliance. In the USA, CCC has co-operated with OER platforms on secondary school programs to address those issues.

Subject to mandates, RROs can assist rightsholders in clearing rights for the use on open networks. Requests for MOOC licensing has mainly come from institutions in the USA. Copyright Clearance Center (CCC) offers licensing in relation to both MOOCs and OERs.

The USA: CCC MOOC and select text agreements

A simple, cost-effective way to secure content and permissions for MOOC course materials, developed with CCC's long-time course materials partners **Study.net** and **XanEdu**. Designed by CCC specifically for use in academic MOOCs, this service makes it possible to include published content in course readings and ensure enrolled students use those materials responsibly. Furthermore, it alleviates the burden on the sponsoring institution of having to absorb the cost of permissions on a large scale by passing those costs onto the MOOC participants.

42 Fin Clarin is 'the Finnish part of the European CLARIN collaboration building a research infrastructure for language-related resources in Humanities and Social Sciences'. https://www.kielipankki.fi/organization/fin-clarin/

43 https://www.researchgate.net/publication/330316898_The_MOOC_pivot

SelectText: The introduction of college and career readiness standards combined with a movement towards OER is driving states and large school districts in the US to develop their own curriculum and course materials. The challenge with OER for reading-intensive disciplines such as social studies, language arts, and history, is that, while the standards call for 'authentic content' to be used, the content that can be legally posted online without charge is quite limited. The State of Louisiana faced this when it created the most complete K-12 (primary and secondary school) OER reading program in the US. In response, CCC worked with the State and a course materials partner, XanEdu, to enable school districts to purchase print or electronic versions of readings on demand, bound and packaged for classroom use. This enables the districts to save money and to acquire content in a faster cycle than is typical. This curriculum is now used throughout the country, and CCC works with other school systems, such as Washington DC Public Schools, on similar projects.

F: ...arrangements to address the needs of print-disabled persons

Upon request, RROs have for a long time addressed the special needs of print disabled persons in a learning environment. This could include authorisation to reproduce works beyond the copy limits of the licence agreement or to manipulate the text to enable accessible formats[44]. The Copibec school licence, in Québec (Canada), allows the institution to reproduce documents in large print; modifying the original colours; adjusting the legally purchased document to enable students to enter answers or annotations by using software or an application; and digitally reproduce a document in a format that allows optical character recognition (OCR) software to be used[45].

RRO services for print-disabled persons have also evolved. For instance, Copibec offers **DONA**[46], a service, which provides ***'accessible digital content for students with perceptual disabilities'***. A flat service charge of USD 4.50 (CAD 6) is applied for each document, regardless of the number or copies provided. Since August 2017, Copibec has received more than 1,370 requests for accessible content. The growing need for this service is leading Copibec to develop a new digital platform further facilitating the process to obtain accessible digital content.

7 SPECIAL ARRANGEMENTS OFFERED TO DEVELOPING COUNTRIES

An important objective of RROs' work is to contribute to the stimulation of local creation and the publishing sector. To this end, RROs may sign agreements, which allow a developing RRO to retain fees collected for the use of the works represented by another RRO, at least for a defined period. The purpose of such arrangements is to help strengthen the developing RRO and, eventually, fostering the local creative and publishing sector.

The CCC (USA) milestone agreement

CCC offers extensive support to RROs in the developing world to help them with their own academic and educational licensing programs. The '**milestone bilateral'** was introduced

44 Also, IFRRO, the global network of RROs and organisations in the public sector offers assistance: http://ifrro.org/content/access-persons-print-disabilities

45 https://www.copibec.ca/en/agreement-elementary-highschool

46 https://www.copibec.ca/en

several years ago specifically for small and nascent RROs. It conveys to suitable RROs CCC's full repertoire of rights, identifies development milestones, and in some cases allows royalties due to CCC to be retained for a fixed period by the developing RRO for re-investment locally. CCC also operates a development program for new and nascent RROs known as the **International Advancement Program (IAP)**. RROs can apply for tailor- made support such as training, mentoring, and specific bespoke resources. In recent years, the IAP has supported RROs in Ghana, Jamaica, Zambia, the Philippines, and Argentina.

CLA (UK) pilot bilateral agreement

CLA offers the **'pilot bilateral'** to developing RROs in order to assist them in establishing an effective licensing framework. The pilot bilateral generally has an initial term of one year, although it is renewable. The agreement is usually limited to named institutions in each territory, such as education institutes where the RRO thinks it will be able to sell a licence. The developing RRO is required to establish a policing and anti-piracy programme and all revenue collected for UK rightsholders under the licences sold can be used towards the policing and anti-piracy programme, rather than being remitted to CLA. The developing RRO provides regular updates on progress with licensing and CLA assists with development and training requirements where required. To date, CLA has entered into pilot bilateral agreements with, among others, RROs in Malawi, Ghana, Chile, and the Philippines.

In collaboration with local stakeholders and its own constituency, an RRO may also assist in nurturing the local creative and publishing sector in a more direct way. This is an example from Malawi:

The Malawi schoolbook development project

The schoolbook development project aims at enhancing and creating a local educational publishing industry that is skilled, sustainable and functional in serving the needs of local secondary education. It is a pilot project intended to show fine practice in local schoolbook production in a country under development. Funded by the Norwegian RRO, Kopinor, it is administered by the Copyright Society of Malawi (COSOMA), with support from the local Ministry of Education Science and Technology. Other partners and members of the Steering Committee, chaired by COSOMA, are the Book Publishers Association of Malawi (BPAM), the Malawi Union for Academic Non-Fiction Authors (MUANA) and the Malawi Institute of Education

The project is being implemented from 2017 to 2021. Specifically, it seeks to create a publishing industry that serves the needs of local secondary education, focusing on selected textbooks for English, Chichewa, Agriculture, Geography and History. Through *inter alia* capacity building activities directed towards the various players in the value chain, the aim is to locally create and produce 70,000 textbooks, to be distributed to 60 secondary schools across Malawi. The expected outcome comprises continued cooperation on contracting and editorial work, an improved reading culture and a step towards a sustainable local textbook sector in Malawi.

8 EXAMPLES OF BEST PRACTICE LICENSING OF EDUCATION

This section offers best practice examples from three RROs licensing the whole educational sector, although operating under different legal regimes.

NEW ZEALAND: How licensing of education and research institutions works in Aotearoa New Zealand

Copyright Licensing NZ (CLNZ) has been licensing New Zealand education institutions for over 25 years. Based on mandates from authors and publishers and bilateral agreements with RROs in other countries, CLNZ operates a series of licensing schemes for the education system:

a. Universities;

b. Institutes of Technology and Polytechnics (ITPs);

c. Wānanga (training undertaken *according to tikanga Māori or Māori custom);*

d. Private Training Establishments;

e. Schools – primary and secondary.

All these schemes have terms and conditions that enable access to the material copied under the licence via a 'secure system'. This means that, regardless of where those who are authorised to receive copies are located, they can log in to the institutions' systems (e.g. a learning management system such as Moodle) to view, read and download content. *Authorised persons* are the academic and general staff of each institution. The *authorised purposes* of the licences are the educational purposes of the licencee, including study, research and use in the course of educational instruction.

Up to 10%, or one chapter of a book, whatever is the greater, 15 pages from books of short stories and poetry, or a complete magazine or journal article may be copied. Materials copied relying on the CLNZ licensing schemes can be provided to students in either (or both) digital and paper formats. Any legal hardcopy of a copyright work owned by the institution, or a member of staff, may be copied. The education licensing schemes all include access to New Zealand and international newspapers in both print and digital formats. The access to New Zealand newspapers (and magazines) is provided under an agreement that CLNZ has with the local newspaper licensing agency, PMCA.

The licensing schemes for the tertiary education sector were last settled in 2015. At that time, Text and Data Mining was not considered during the negotiations. Similarly, use of the licensed content for MOOCs was not of interest to the licensees and was not provided for in the licence (note the reference to online access for enrolled students above). Negotiations for the university and ITP schemes are conducted with each sectors' appointed negotiating teams. Licence fees are priced on a per equivalent full-time student basis in tertiary and a per-student basis in schools, for instance USD 2.14 ($NZ 3.36) per secondary student per year in 2019. Total licensing revenue for the New Zealand education sector was USD 3.6 million ($NZ5,582,000) in 2018.

Access to copying of music and broadcast materials is provided by other CMOs that license into the tertiary sector separately. New Zealand schools can access all three licences (print music, video) through one agency in a combined campaign each year known as **Get Licensed**[47].

47 http://www.getlicensed.co.nz/

All CLNZ licensees have access to its online copyright eLearning Modules and Knowledge Base that provide professional development in understanding copyright and responses to questions on copyright – both the law and in practice. Workshops are provided free of charge to licensees. A range of video and other resources that explain the licence terms and that put a face to the licence – those of New Zealand writers – are provided online[48].

NORWAY: How the Extended Collective Licence helped collective licensing of education in Norway

All types of educational institutions are offered easy access to knowledge via **Kopinor** licences:

- **KS, the Norwegian Association of Local and Regional Authorities** has negotiated a model licence agreement on the reproduction and use of copyright protected material in elementary schools, secondary schools, municipal music and cultural schools. The licensees are the school owners, which are all the municipalities and county municipalities that are members of KS;
- The association **Universities Norway (UHR)** has negotiated a model licensing agreement on the reproduction and use of copyright protected material at universities and university colleges. The licensees are the members of UHR;
- Individual private educational institutions at all levels, including kindergartens and adult education are also licensed.

Kopinor licenses text and image-based works; all kinds of texts and literature, pictures, illustrations and musical scores. All published material, Norwegian and foreign is included, as the licences are supported by ECL in the Norwegian Copyright Act. Musical and audio-visual works (sounds and moving images), computer software, computer games, interactive learning tools, and original works of visual art and photographs, are excluded from the Kopinor agreement. Educational use of such works is licensed by other CMOs, such as **Norwaco** and **Tono**, or the individual rightsholders.

The Kopinor licence agreements cover copying and making available for pupils, students, employees (including librarians and researchers), members of the institution's committees, boards and councils, or others with a special link to the institution. Enrolled students and employees at institutions situated in Norway are covered by the agreement and have access to the institution's internal network (e.g. LMS), even when the individuals are not physically on campus or in Norway. Further copying and making available in another country, must follow the law and licensing system of that country.

The licence agreements cover reproduction (from and to both print and digital material) and internal distribution and making available of the copies both in analogue and digital form, within certain limitations; typically, one may copy 15 % of a book. Reproduction shall not replace but be a supplement to the purchase of published material. Reproduction and uses agreed directly with authors and publishers or representatives of these parties are not covered by Kopinor's licence agreements. Any subscription/licence and purchase conditions by which the institution is bound must be respected and takes precedence over the Kopinor licence agreement.

The Kopinor agreements cover internal uses. The copying must, however, not have the character of a publishing activity and works may not be made available on open websites. The production of course packs is permitted in higher education if the book extracts which are copied and made available to students and course participants are registered in Kopinor's digital solution 'Bolk'.

48 http://copyright.co.nz/licences-and-permission/resources

The rates are set through negotiations, *inter alia* based on statistical surveys on copying and use. The full-time equivalent student rate ranges, in 2019, from USD 20.43 (NOK 192.47) per year in schools to USD 22.43 (NOK 204.94) per semester in universities and other higher education institutions. Price per full-time employee per semester is USD 20.46 (NOK 183.66). The total collection for educational usages in 2018 was USD 31.2 million (NOK 280 million), of which the Higher Education sector generated USD 12.7 million (NOK 114 million). The administration cost in 2018 was 11.9 % of the collected remuneration.

SINGAPORE: How the 'Golden Triangle' led to a win-win situation in Singapore under a legal licence

Addressing appropriately the needs of education through licensing in Singapore, could not have been achieved if not for what an RRO executive has described as the 'Golden Triangle' of co-operation involving the Government, rightsholders (publishers and authors) and CLASS, the local RRO. This golden triangle starts with good laws from the Government which makes it fair for both creators and users of copyright works, especially in education, through a statutory regime. Among other things, Section 52 of the Singaporean law provides a statutory licence for the reproduction and usages of excerpts of more than 5% of a published work in education.

Next, the RRO fits into the triangle by making it simple and convenient as a 'one-stop' reasonably priced knowledge buffet for users and creators – in 2019, from USD 0.04 in lower primary school up to USD 22.35 per full-time student per year. Finally, the creators, both local and foreign, involving publishers and authors who support CLASS contribute to make the golden triangle shine.

This golden triangle of co-operation is now a success story. Still, it was a difficult start for CLASS when it first launched its licensing in 2000. For three years, no licence was signed because Singapore, despite its good laws, illegal copying without permission was rife and book pirates had infested the publishing industry. CLASS was the result of the commitment of local and foreign book publishers and authors who set it up to try 'sanitise' a then very bad publishing market.

Using the strategy of reasonable licence pricing and convenient one-stop shop for users of books and journals, CLASS was able to show why it was worthwhile to pay for a copyright licence to use copyright works, rather than face the risks of being labelled as copyright thieves, especially for civil servants who were teachers and principals in Government schools.

Education is paramount. Asian societies are no exception to that. In Singapore, the education system is managed, if not controlled by the Government. This proved to be helpful to CLASS's activities. The backing from the Ministry of Education resulted in support also from the other involved in Government schools and education institutions. When CLASS was able to demonstrate to the authorities its 'not-for-profit' credo and reasonable licence fee pricing, it was also easier to convince more schools to take up a CLASS licence.

The result is that, in 2019, all Government primary, secondary schools and Junior Colleges are licensed. The semi-Government or Mission schools, usually managed by Christian missionaries, local clan groups, as well as the less academically inclined attending the Institutions of Technical Education (ITEs, or trade schools) run by the Government, are also licensed. So are all the polytechnics and Government universities. Finally, non-Government schools, such as those run for expatriate children living in Singapore, have also taken up a licence with CLASS.

In 2017, CLASS started to license the commercially run education centres, the Private Education Institutions (PEI). Unlike the Government and non-profit institutions, which are charged annual licence fees based on student enrolments, the PEIs are charged based on 0.3% of their annual revenue.

A CLASS licence agreement allows licensed institutions to make copies of works belonging to their members or those of sister RROs up to 10% or a chapter of the book, whichever is the greater. Use of the works are restricted to students and teachers involved in the courses in Singapore institutions only. It does not cover those providing instruction to locally based students from abroad unless the school concerned has prior licence with the rightsholders. When required, CLASS also assists institutions in seeking permission to reproduce from audio or visual works.

9 CONCLUSION

WIPO has facilitated studies on the impact of the copyright sector on the national economy and employment. A report from WIPO[49] summarising 40 of the national studies concluded, among other things, that:

- *'There is a positive relation between the contribution of copyright industries to GDP and the GDP per Capita.'* (page 12)
- *'This relationship* [between the Contribution of Copyright Industries to GDP and the Global Innovation Index] *implies that innovation and creativity are inherently and positively connected.'* (page 14)
- *'There is a strong and positive relationship between the contribution of copyright industries to GDP and the Global Competitiveness Index.'* (page 15)

The efficient contribution from the copyright sector to development requires both easy legal access to intellectual property and substantial local production of copyright works. This in turn implies reasonable protection of the creators and producers of intellectual property from infringement on their efforts. Exceptions are important, but unremunerated exceptions should be limited to the instances where primary and secondary markets cannot fulfil a market need efficiently and effectively.

Unremunerated exceptions and limitations cannot respond to dynamic user requests for seamless uses of published copyright works. Agreements with authors, publishers and RROs can! **Access to copyright material – from academic works, through newspaper articles, novels and illustrations – through agreements with rightsholders and RROs, is what best meets the needs of educational institutions to legally access high quality teaching and research material in constantly changing environments. Collective rights management assists educational institutions to obtain and help rightsholders to provide easy legal access to published copyright works at an affordable cost** ■

49 https://www.wipo.int/export/sites/www/copyright/en/performance/pdf/economic_contribution_analysis_2014.pdf

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Carlo Scollo Lavizzari, a lawyer qualified in Switzerland, South Africa, England & Wales, specializes in intellectual property protection with more than 18 years of work experience with law firms in Africa, Europe, Switzerland and the United States of America. He is a strategist and problem solver in negotiations, conflict resolution and policy, participating actively in global advocacy for norm setting and in litigation, on all five continents. Depending on client need, Carlo brings together proven specialists from a range of areas all across the world. Carlo is fluent in four languages: German, English, French and Italian.

OVERVIEW OF STM RESEARCH PUBLISHING AND LICENSING PRACTICES

CONTENTS

EXECUTIVE SUMMARY

The STM publishing industry (defined broadly to include academic, scholarly and professional publishing and related communication services) is a very substantial global business. It is estimated to be worth about US$25.7 billion annually, with the books and journals segment by itself being worth US$13-$14 billion. The greatest share of global revenues comes from from the USA, but China has overtaken the USA as the largest producer of research papers. It has been estimated that there are over 150 million different articles across all Web of Science databases and that there are between 10 and 16 million authors globally. According to CrossRef, there are more than 11,000 journal publishers responsible for around 60,000 individual journal titles.

Enabling access is the primary mission for STM publishers and licensing is the primary business model for journal publishing, given that the format has been predominantly digital for two decades. For book publishing, new business models are emerging space as digital formats become more popular.

Collective licensing is part of the business ecosystem of both journals and books. There are myriad types of licensing agreements and distribution models, including co-publishing, consortium and national licensing, document delivery and interlibrary loan.

A survey of licensing practice conducted in 2015 noted both that licensing allows cross-border access and that licences rarely refer to specific national exceptions to copyright. Other benefits of licensing include; long-term access for future generations to historic collections; authorised users permitted to download works for non-commercial use and structured/unstructured sharing; and wide availability of content for teaching and learning. Licensing builds co-operation between publishers and librarians; both are curators of scientific and more broadly academic content.

Publishers also provide a number of free uses to users, sometimes through joint statements through the International STM Association and through initiatives such as Research4Life which provides free or low-cost access to journal articles to institutions in developing markets.

Open Access (OA) as a business model for journals started in earnest in 2002 with a broader expansion in 2010. There are now over 15,000 OA journals. Journals operate under the "Gold Open Access" model (charging Article Processing Charges – APCs – to authors or their institutions) and the "Hybrid" model, which combines subscriptions with APCs. Under Gold OA, journals are freely available to the end user; under the Hybrid model, publishers offer "offsetting agreements" which either reduce the APC costs or the subscription pricing. Some publishers are now also offering OA books (funded by Book Publishing Charges).

A significant development in the STM world has been the rise in Social Collaborative Networks (SCNs), which offer their platform services for new forms of academic communication and collaboration. Much of the content posted on these networks is without permission, which raises a number of concerns.

Other notable trends in this publishing sector are concerned with big data and increased computer power, fueling developments in Text and Data Mining coupled with the use of artificial intelligence to interpret the data. Discoverability and citability of data sets are also driving new initiatives. Underpinning these developments are the legal conditions which are being addressed through licensing and in some cases, legislation.

STM publishers are engaged in a wide range of access initiatives across the world ensuring access is enabled as broadly as possible for multiple uses. They rely on a copyright framework that provides for licensing and the development of future business models ■

1 INTRODUCTION: WHAT IS STM RESEARCH PUBLISHING?

'STM Research Publishing' is neither only about 'STM' (as in Scientific, Technical and Medical), nor solely about 'Research Publishing' (as in publishing a stand-alone book or journal article that can be placed on a shelf or displayed on a website). Instead, STM Research Publishing is understood to include any form of academic, scholarly and professional publishing and communication. This is well beyond the publication of individual titles of authors, and comprises a host of services around publications, including the underlying data, abstracts, referencing and cross-referencing with permanent, yet dynamic links, creating effectively a web of interconnected resources. Increasingly STM Research Publishing also offers decision tools, text and data mining applications, software, discovery and search algorithms and rankings, as well as videos explaining the research to interested audiences.

Moreover, 'STM' is not limited to the natural and life sciences, but also includes the Arts, Humanities and Social Sciences (sometimes referred to as AHSS)—a field that is of increasing importance with the digital developments of the Fourth Industrial Revolution, the so-called 'Industry 4.0' where new 'soft skills' are needed. Some commentators also include law, accounting and tax and indeed any professional publication in the broader concept of 'STM', while others draw the line at humanitarian law and transparent and ethical accounting and taxation rules.

Rather than a specific discipline of science, or a method of communication, what sets STM apart from its close cousin, the broader concept of tertiary educational publishing, is that STM is predominantly concerned with primary publications (and more recently, digital product solutions and services) as opposed to secondary publications. Primary publications are those that publish new scientific discoveries and scientific claims or present new evidence corroborating or falsifying state-of-the-art scientific hypotheses. In other words, STM publishing is not so much concerned with synthesising, summarising, re-publishing acquired state-of-the-art knowledge about a subject, but is concerned with new findings, which have never been published before.

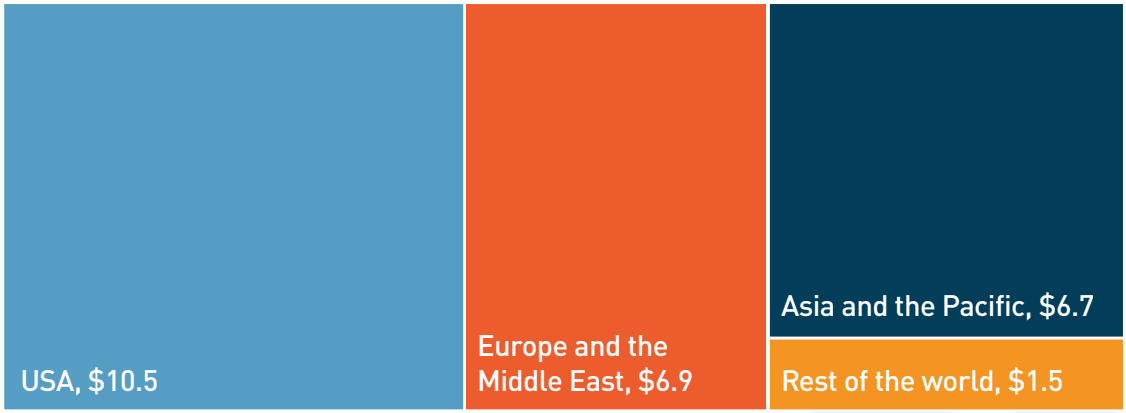
2 THE GLOBAL STM MARKET

The value of the STM books and journals market is estimated at between US$13 and US$14 billion annually, while the broader STM information publishing market (including journals, books, technical information and standards, databases and tools, medical communications and some related areas) has been estimated to be worth about US$25.7 billion annually, with a large proportion attributable to life sciences and medical publishing products and services.[1]

Geographically, about 41% of total global STM revenues are generated from the USA, 27% from Europe/Middle East, 26% from Asia/Pacific and 6% from the rest of the world. The industry employs directly an estimated 110,000 people globally, and in addition some 20-30,000 full- time employees are indirectly supported by the STM industry globally (not counting the supply chain).[2]

China has overtaken the US to become the largest producer of research papers globally, with a share of about 19%. The US accounts for 18% of global articles, while India has also seen rapid growth in recent years, and now produces 5% of global outputs, ahead of Germany, the UK and Japan, each on 4%.

TOTAL GLOBAL STM REVENUES IN US$ (BILLIONS)



As of mid-2018 a good estimate is that there were 33,100 scholarly peer-reviewed English-language journals and a further 9400 non-English-language journals, collectively publishing well over 3 million articles a year.[3] There are also many more journals that are not peer reviewed.

CrossRef is the STM industry body that applies Digital Object Identifiers (DOI) to publications and now also to data. Currently, the CrossRef database includes over 100 million Digital Object Identifiers, of which 73 million refer to journal articles from a total of almost 60,000 journals.

1 It is important to realise that the function of journal articles and books form a core part of scientific research itself. Journals have been called the "minutes of science" and their function is not limited to disseminating peer-reviewed high quality information in certain fields, they also provide a mechanism for the registration of the author's precedence or priority claim to a scientific result; they also provide a fixed archival version for future reference. Books in the field of STM are either monographs, found frequently in AHSS fields, multi-author treatises or collections of standard reference works. The STM book market (worth between US$3 to US$4 billion annually, is evolving rapidly in a transition to digital publishing. As of 2016, about 1/3 of the book market consists of ebooks and this segment continues to grow rapidly.

2 Rob Johnson, Anthony Wilkinson, Michael Mabe (Co-authors), The STM Report: An overview of scientific and scholarly publishing (2018), 50th anniversary edition (5th edition), Oxford/The Hague, pages 22 and 46.

3 Crossref Annual Report 2017-2018, page 12.

More broadly, Google Scholar was estimated to index between 100 and 160 million documents in 2014. **The Web of Science 'Core Collection' included about 70 million article records as of June 2018, out of a total of 150 million items across all Web of Science databases**.[4]

There are between 10 and 16 million authors world-wide. Most STM research publications have more than one author with the average being 4.5 authors per article. Most books are multi-author and perhaps even multi-volume works comprising multiple authors contributing to different chapters or sections. About half of articles have authors from at least two countries.

There are considerably more readers than authors of STM research publications and services. The degree of overlap between authors and readers will vary considerably between disciplines: in a narrow pure science field like theoretical physics there may be close to 100% overlap, but in a practitioner field such as nursing or medicine the readers will be many times more than the authors.

Publishers: according to CrossRef, there are an estimated 11,000+ publishers responsible for some 60,000 journals. The largest ten publishers (with number of journals) are: SpringerNature (>3000); Elsevier (2500); Taylor & Francis (2500); Wiley (1700); Sage (>1000); Wolters Kluwer (incl. MedKnow) (900); Oxford University Press (440); Hindawi (>400); Cambridge University Press (390); and Emerald (>300).

THE TEN LARGEST STM PUBLISHERS

The financial resources to publish may come from readers, authors, research institutions (such as university libraries), corporations with a significant R&D function, research funding bodies (government and non-government, philanthropic), or crowdsourcing. For ebooks specifically, there may be eLending models that can provide a source of funding. All funders have direct interest in STM research publishing and the underlying research output and its dissemination. Thus, the wider stakeholders in this publishing sector, alongside publishers, include libraries of universities, research funding bodies and the public at large.

4 https://clarivate.com/webofsciencegroup/solutions/web-of-science--core-collection/Crossref Annual Report 2017-2018, page 2, available at: https://www.crossref.org/pdfs/annual-report-2017-18.pdf.

3 BUSINESS MODELS AND LICENSING PRINCIPLES

3.1. Journals

STM publishers are at the forefront of electronic and online publishing and there are various ways in which publishers provide content to their readers. Licensing is the legal vehicle, be it for purchase by individual readers, libraries, research or educational institutions, corporations or by other entities. Also, where publishing is otherwise funded, publishers license its use on Open Access terms which is free to the intended readers and the wider public.

Licensing partners on the user side are sometimes entire consortia, or access is provided to an entire region or country through a national or regional licence. Typically, journals are not licensed individually, but as part of a bundle of journals. STM publishers also offer agreements that provide for article rental (for a day, week, or month), for some form of document delivery or inter-library loans (either directly or through licensing agents or collective management organisations).

3.2. Books

The rapidly growing ebook market is seeing new business models emerging with access made possible through a subscription agreement for an individual title or for an ebook collection. Other access models include the rental of full ebooks and/or on a chapter by chapter basis. Some publishers license ebooks for online access only, while others offer to ship a paper copy on request for a small fee.

A significant difference between books and journals is that academics are far more likely to purchase the books themselves to remain well ahead of supply via libraries, whereas articles are mainly obtained from library e-collections. However, for publishers the library market remains crucial for journals, and ebooks account for a growing proportion of book budgets as libraries move from print to electronic collections.

3.3. Collective Licensing

Individual licensing, to an individual library, university or a consortium of institutions, remains the primary way of providing legal access, free of charge at the point of use for the institution's researchers. STM publishers also widely rely on the collective licensing network and systems offered by IFRRO (International Federation for Reproduction Rights) members, the collective management organisations. Moreover, some IFRRO members such as CLA (UK) and CCC (USA) offer bespoke services in the fields of document delivery of individual documents or course packs or chapter licensing services to students. Content is also made available in limited proportions and to less developed parts of the world in a convenient way. As such collective licensing is part of the lifeblood of STM and research publishing alongside individual licensing.

3.4. Access to scholarly and academic published material for higher educational and research institutions

Digital is the main medium for science publishing, communication and sharing. Print remains important in social science and humanities and for preservation, but in all fields the primary tools for access are the electronic versions.

Enabling access to scholarly and academic published material is at the core of the STM publishers' mission and licensing is the primary business model. However, this cannot be done without the copyright framework and the freedom of contract.

Competition between publishers, as well as individual negotiations between publishers and their customers will invariably result in there being different contract terms between different contracting parties. Many licence terms are responses to demands for more rights in the licensing of electronic content. In this regard, subscription licences are no different to most other cross-border supply contracts.

4 PRINCIPLES AND PRACTICES IN LICENSING RESEARCH AND HIGHER EDUCATION INSTITUTIONS

In 2015, the author of this chapter conducted a qualitative survey[5] of licensing agreements and the findings are summarised below.

The chief role of online licensing is to grant access to a defined user group, not necessarily in a defined territory. For academic institutions, most licences are not inherently cross-border only, for example, for travelling professors or faculty who may enjoy remote access through a Virtual Private Network (VPN). For corporate and multinational licences, access and user rights are almost invariably cross-border and use takes place among employees and contractors affiliated either remotely or as part of the corporate intranet.

Licensing allows cross-border uses implicitly where those are needed on institutional networks via the institutional secure internal network or VPN, for the main uses, such as searching, browsing, printing, downloading of individual articles for authorised users. For greater clarity, some uses are explicitly dealt with and it is made clear in what way the uses are permitted, for example inter-library loans.

Licences rarely refer to specific national exceptions. However, this does not mean that the licences do not deal with key customer needs for academic and scientific content. In this sense licences need to be understood as 'exceptions plus', rather than as mechanisms to erode statutorily identified, socially beneficial uses or liability shields and safe harbours, namely exceptions.

Most of the licences reviewed contained lists of permitted uses that clarify for the user what practices are allowed under the agreement, regardless of possible interpretations or expectations regarding education or research copyright exceptions. In some cases, publishers and their licensees spell out how they are to apply exceptions to the specific case of their agreement, for example by setting numerical limits of copies allowed to be made or supplied and by agreeing on reporting and record keeping obligations (number of copies), or the agreements refer to applicable local guidelines that industry or custom, may have locally created (for example **CONTU** guidelines in the USA). In this sense, licensing agreements closely define the parties' understanding of permitted uses under general categories of exceptions.

The survey found no evidence in licensing agreements surveyed that those would declare national exceptions inapplicable by express agreement. Claims that STM publishers attempt to do this are unfounded.

The supply of copies of articles covered by a licence to other libraries or to end users other than persons affiliated with the licensed institution, licensing terms can deal with:

5 Accessibility of STM published material to libraries and their patrons: Report on STM Qualitative Survey on Publishers' Supplying by way of Licensing Journals, Books, Databases and other Published Material to Higher Education and Research Institutions, 5 June 2015.

(1) **Inter-library Loan (ILL);** based on customary practice or local law. The vast majority of all the licences surveyed expressly permit ILL in some form, while some licensing agreements are more specific about ILL than others. The distinguishing feature of ILL is that it is undertaken for non-commercial purposes and in a fairly unsystematic or occasional manner (reacting to ad-hoc requests) and that the overall quantities supplied do not interfere with the normal exploitation of publishers, namely subscription purchase procedures and individual article supply licensing to other libraries and consortia for their bespoke access needs;

(2) **Document Supply;** (also known as 'document delivery') is often described as a systematic delivery of copies of journal articles that goes well beyond non-profit occasional inter-library loan and includes the supply of documents to end-users on a commercial as well as a systematic non-commercial basis. The right of a licensee library to carry out Document Supply is usually negotiated separately in licensing agreements and is often permissible based on special transactional or 'token' agreements.

Licensing enables long-term access for future generations to historic collections and back-files as archival copies. Licensing conditions sometimes offer very long-term or even perpetual access guarantees. Licensing agreements also allow back-up copies, some more explicitly than others, and provide for preservation either by the library or by joint publisher-library initiatives such as **Portico**[6] and **CLOCKSS**[7] and others in case of catastrophic events or bankruptcies. Thus, STM publishers understand very well that they are working not just in the present, building and curating the 'record of science,' but also for posterity, for the general public, and for future generations of scientists.

Licensing enables 'authorised users', as defined (that is, students, researchers, employees, contractors, and unaffiliated 'walk-in users' of libraries) to download (for their own non-commercial needs) individual works (articles) or extracts (chapters of books) permanently. Some licences also explicitly allow for unstructured sharing of content with researchers and research groups, provided the use is non-commercial and unsystematic and it does not create substitutes for additional subscriptions or licensed content. Some agreements allow even structured sharing on or via social networks.

Licensing enables teaching; content can be used by teachers and learners in the academic setting, and the electronic content can be used to produce electronic or print course packs.

Licensing secures electronic platforms and content and builds co-operation between publishers and librarians who are both custodians of scientific content. Rather than creating liability for libraries, many licensing contracts contain clauses whereby the licensee is held inculpable by the publisher in respect of claims of infringement for authorised uses. For unauthorised uses, libraries are not held liable for any prejudice or damage in the licensing agreements surveyed but rather are encouraged to co-operate with the publisher to find and prevent recurring forms of unauthorised access and infringements.

5 ACCESS TO PUBLISHED MATERIAL OUTSIDE FORMAL LICENCE AGREEMENTS

Apart from their participation in access partnerships such as Research4Life, covered elsewhere in this chapter, STM publishers, particularly those that make their published content available by

6 https://www.portico.org/
7 https://clockss.org/

way of subscription licensing agreements, have signed up to a number of statements organised through the International STM Association allowing certain uses free to the user:

a. **STM Text and Data Mining Declaration**[8], allowing access to subscribed content for text and data mining, free of a copyright fee if it is for a non-commercial purpose.

b. **Safe Harbour Provisions for the Use of Orphan Works for Scientific, Technical and Medical Literature**[9].

c. **Safe Harbour Provisions for the Digitization and Making Available of "Out of Commerce Works"** forming part of the Scientific, Technical and Medical Literature[10].

d. **Statement on Document Delivery to Qualifying Institutions under the Research4Life Program in United Nations-Designated Least Developed Countries**[11], allowing document delivery to qualifying institutions in Least Developed Countries free of permission and without a copyright fee.

5.1. Case study examples from around the world

5.1.1. Co-publishing Quality Content from South to North:

Taylor & Francis, incorporating the **Routledge** imprint, publishes a suite of top academic research journals with **NISC** of Grahamstown, South Africa.

Benefiting from state-of-the-art international and local publishing services, these journals are available to purchase as online and print, or in online-only editions, with differential pricing available for Africa. Nine of the ten journals are ranked in the Thomson-Reuters Journal Citation Reports and all are fully accredited by the South African Department of Higher Education and Training.

Many titles deal with the distinctive African environmental heritage, including marine science, forestry, and ornithology. **Ostrich**, founded in 1930, competes for the place of oldest South African journal. Other NISC journals are dedicated to music and language in African contexts and key health challenges such as HIV/AIDS and mental well-being.

The NISC-Taylor & Francis collaboration optimises the best of the local and global.[12]

5.1.2. Consortium and National Licensing: Examples Europe and South Africa and Brazil

Europe: The **'EU Big Deal Licensing Report: A mapping of Major Scientific Publishing Contracts in Europe'** presents data from 28 negotiating consortia in 2016 and 2017. The survey focused on the functions and working process of consortia, as well as on the conditions of contracts for big deals concerning scientific periodicals, databases and ebooks. The results of the survey show that consortia broadly represent the interests of relevant stakeholders from the university and library sectors and are largely driven by researchers' needs. The updated report conducted in 2017-2018 gathers data from 31 consortia covering an unprecedented 167 contracts.[13]

8 http://www.stmassoc.org/2013_11_11_Text_ and_Data_Mining_Declaration.pdf
9 http://www.stmassoc.org/2014_03_04_Safe_Harbor_Provisions_for_the_ Use_of_Orphan_Works.pdf;
10 https://www.stm-assoc.org/2014_03_04_Safe_Harbor_Provisions_for_the_Use_of_Out_of_Commerce_Works.pdf
11 https://www.stm-assoc.org/2013_10_07_STM_Statement_on_Document_Delivery_to_least_developed_countries.pdf
12 http://niscjournals.com/
13 https://eua.eu/resources/publications/829:2019-big-deals-survey-report.html.

South Africa: SANLIC the South African National Library and Information Consortium negotiates on behalf of Institutions of Higher Learning in South Africa, and on request also for other institutions. Its 2019 model licences[14] and its list of current members[15] are both available for download.

Brazil: The **CAPES Portal de Periódicos** is the Brazilian national electronic library consortium. It is a virtual library that aggregates high-quality content, provided through publishers and international scientific associations. The program is maintained by CAPES, a public foundation attached to the Ministry of Education, whose mission includes the consolidation of the post-graduate system in Brazil. Its role also includes access to, and communication of scientific production. More than 3 million faculty members, researchers, graduate and undergraduate students and technical personnel from more than 400 institutions, have free access to the full text of more than 32,000 leading journals and the premier multidisciplinary and subject databases covering all areas of academic activity.

5.1.3. Collective licensing collaborations North and South: USA twinned with Ghana and Argentina

USA: Copyright Clearance Center has, over many years, supported several RROs in their developmental work. The support has been organised under CCC's ongoing International Advancement Program and has been deployed for the benefit of selected RROs in Africa, the Caribbean, Latin America and Asia. Each program is bespoke, designed to meet the specific needs of each RRO, and to complement other developmental support offered by organisations such as IFRRO and NORCODE.

Ghana: The Ghanaian RRO, **CopyGhana**, identified two priorities as it sought to launch its first educational licensing program. First, it sought to include in its annual copyright licence the large repertoire of rights from American publishers and authors represented by CCC. US content is used intensively by teachers, students, and librarians in Ghana's universities and polytechnics, so the inclusion of the US repertoire was an essential ingredient for the success of the CopyGhana licence. CCC deployed a type of bilateral agreement specially prepared for such circumstances. Under the terms of this agreement, CopyGhana was entitled to include CCC's vast repertoire of US works in its annual academic licence and to retain for a fixed period the royalties it generated that would otherwise have been payable to CCC's rightsholders. The agreement stipulated a list of milestones that CopyGhana agreed to meet in order to renew the agreement beyond the initial term. Second, CopyGhana's management asked for a bespoke training course to support its efforts to launch and sell its annual licence. Two senior CopyGhana staff travelled to CCC's offices in the United States for a period of intensive training, organised, delivered and funded entirely by CCC. A close, continuing relationship between CCC and CopyGhana was maintained over several years. This has contributed to CopyGhana's great success in launching and selling its annual copyright licences to Ghana's universities and polytechnics and led to the first payment of royalties to US rightsholders in 2018.

Argentina: CCC's support for the RRO in Argentina, **CADRA**, was tailored to the needs of an established RRO seeking to diversify into new markets and to modernise their communications. CCC helped fund a market study that sought to quantify the prospects for business licences in Argentina and provided staff to train CADRA's sales personnel in Buenos Aires. CCC designed and produced promotional brochures for several different markets and supported the production of several podcasts and a short promotional video for CADRA.

14 https://sanlic.org.za/for-publishers/
15 https://sanlic.org.za/about/#currentmembers.

5.2. Licensing for widest possible access: Individual initiatives

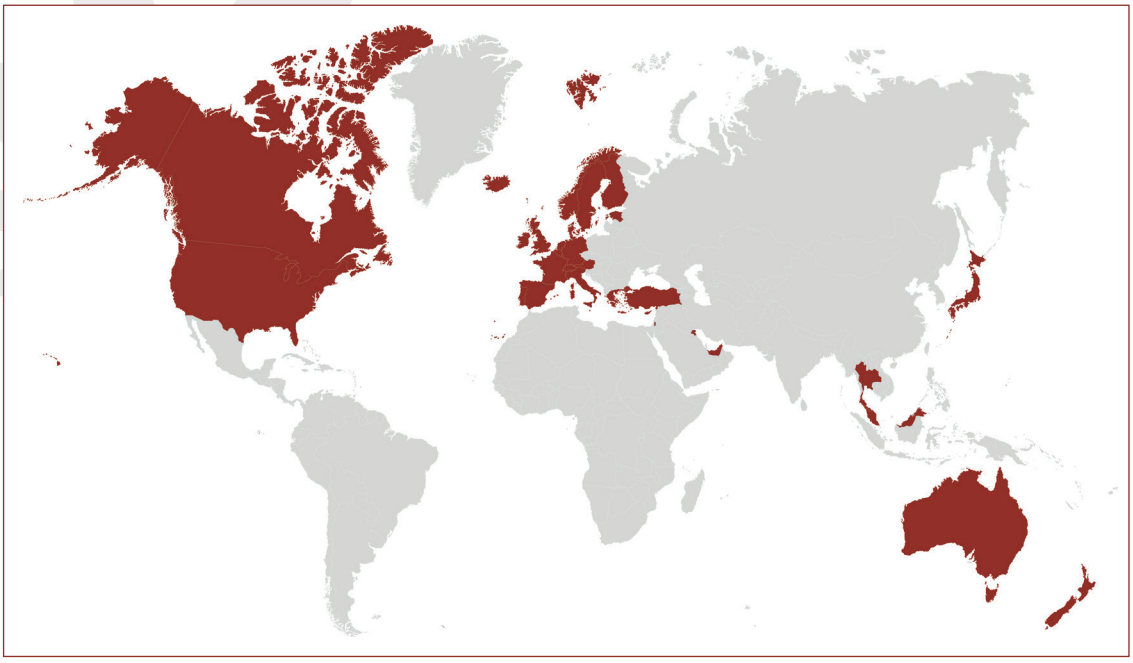
Two examples illustrate publishers' commitment to providing digital access:

SpringerNature's ebooks and MyCopy

SpringerNature offers one of the most complete collections of peer-reviewed eBook subject collections spanning Science, Technology and Medicine (STM) and Humanities & Social Sciences (HSS) available today. Institutions, organisations, and businesses worldwide trust SpringerNature ebooks to help excel research and learning for their library users. For every level of learning, education, and research, SpringerNature's ebook collections offer a rich mix of book types such as textbooks, proceedings, monographs, reference works, handbooks, and more.

MyCopy allows library patrons to order their own personal print copy of a SpringerNature ebook for US$24.99. The MyCopy service continues to expand and is currently available in the following countries:

MYCOPY SERVICE PROVISION AROUND THE WORLD



Subito: Licensing and Document Delivery Internationally

Subito is a German library consortium of 30 libraries in Germany, Austria and Switzerland. Through a comprehensive collection of licensing agreements with both individual publishers and also the German CMO, **VG Wort**, as well as the CCC subsidiary **RightsDirect**, Subito is able to legally supply individual articles to libraries for use by patrons and faculty members of receiving libraries (Subito Library Service) and also to individuals (Subito Document Delivery).

6 OPEN ACCESS AND TRENDS FOR BOOKS AND JOURNALS

OA started in earnest as a business model in 2002. From about 2010, a second phase of OA has seen a broader expansion of Open Access with most traditional scholarly publishers adopting (to a greater or lesser extent) Open Access publishing practices, and new Open Access journals becoming well-established within their disciplines.

OPEN ACCESS AND TRENDS FOR BOOKS AND JOURNALS

Less than **1%** of all academic & professional ebook publishing

Approx. **13.7k** journals

3/4 of journals published in English

20-30% of articles across all disciplines

As of September 2020, the number of Open Access journals was over 15,000 (of which three quarters were published in English) according to the Directory of Open Access Journals (DOAJ)[16]**.** 70% of journals in the DOAJ do not charge author-side fees and their sustainability may therefore not be assured. Among the current accepted Open Access sustainable funding models is Gold Open Access as well as the hybrid model. Both essentially rely on Article Publication Charges (APCs). In 2018, Open Access articles as a proportion of all articles across all disciplines ranged between 20% and 30%. When Green OA, which still essentially relies on the subscription model is excluded, that proportion fell to about 15-18%, but it is anticipated that journal articles available through Open Access will continue to grow as a share of all articles for the foreseeable future.[17]

By contrast, despite strong year-on-year growth, the OA book market is still less than 1% of all scholarly and professional e-book publishing. According to some estimates there were only around 10,000 e-book titles available in 2016, with humanities and social sciences (HSS) accounting for almost three quarters. Among the more successful OA book publishers are **The University of California Press** and the **University College London Press (UCL Press**). Among commercial publishers, **Ubiquity Press** has an important role in supporting university and society-based publishing and driving growth in the sector. Ubiquity also works outside English-speaking countries where growth in OA publishing among not-for-profits is slower.

For commercial book publishers the dominant OA business model is charging Book Publishing Charges (BPC). A typical BPC is currently around £10,000. **Palgrave**, which is the humanities and social sciences imprint of SpringerNature charges BPC ranging from £11,000 to £17,000. **Taylor & Francis/Routledge** also has OA book options. These charges and the current lack of

16 https://doaj.org/
17 https://doaj.org/oainfo

funding at this level for book authors is hampering the spread of open access in the academic book market. An alternative solution, pooling library resources, was promoted by **Knowledge Unlatched**. French platform *OpenEdition* operates on a 'freemium' model, offering a catalogue of over 6000 ebooks in the humanities and social sciences. Books are made freely available online, but libraries can choose to pay for premium services such as downloadable file formats.[18]

6.1. Offsetting deals

Over the years publishers have globally discounted the subscription rates of journals which also benefit from APC revenues, however, uneven take-up of these 'hybrid' journals to date has resulted in some countries and institutions experiencing increased costs. Meanwhile the corresponding savings on global subscriptions are widely distributed and may be obscured by price changes arising from inflationary pressures, increasing article volumes and a range of other factors. Thus, in response, several publishers have entered into local offset agreements designed to reduce the overall cost faced by research organisations or consortia. Under an offset agreement, OA publication costs are offset by lower subscription costs. There are different approaches to achieving this.[19] Some offset agreements reduce the cost of APCs and some reduce the amount an institution pays for a subscription in proportion to the amount it pays for APCs. Some publishers offer credits against future APCs when subscriptions are taken out; others offer credits against future subscription payments when APCs are paid; a third approach bundles subscriptions with future APCs for modest additional payments.

7 INITIATIVES FOR ACCESS TO RESEARCH INFORMATION AND PUBLISHING OPPORTUNITIES

Research4Life[20] is the central element in STM's Responsibility programme. The original drive for setting up Research4Life came from a need to empower authors of less developed countries to write manuscripts that meet the standards of global scientific practices. Without the ability to cite and research prior work, it is hard to find the correct shoulders of giants to stand on. In other words, without offering access to state-of-the-art research, it is almost impossible to craft a manuscript that would be accepted in a peer-reviewed journal. Research4Life has gone a long way to addressing this imbalance. **It is a partnership of United Nations agencies, leading universities and publishers for the following programs HINARI, AGORA, OARE, ARDI and GOALI (since 2019) that make journal articles available for free or at very low cost to institutions in developing countries**. The partnership's original goal was to help attain six of the UN's eight Millennium Development Goals by 2015, reducing the scientific knowledge gap between industrialised countries and the developing world. The programmes collectively provide some 8,500 institutions in 118 developing countries with free or low-cost access to some 20,000 journals, 69,000 books and 120 other information resources from 180 publishers.

While the progress towards Open Access in well-funded, developed economies is gathering pace, there are concerns that a business model based upon payment for publication rather than for consumption will reinforce existing inequities in the global research community. Thus, the original mission of Research4Life empowering authors and researchers of the less-developed markets to

18 https://resource-cms.springernature.com/springer-cms/rest/v1/content/16216770/data/v1, page10.

19 See for instance SpringerNature : https://scholarlycommunications.jiscinvolve.org/wp/2016/10/24/offsetting-models-update-on-the-springer-compact-deal/ /; or Wiley: https://openaccess.mpg.d46e/2336450/deal-contract-with-wiley-signed.

20 http://www.research4life.org

contribute to world science could inadvertently become compromised. Moreover, poorly funded disciplines may struggle to include the costs of dissemination in their budgets, while researchers in the less-developed markets risk being excluded completely from adding their work to the international corpus of scientific output. A rapid shift to Open Access without considering these risks could, unintentionally, replace a barrier to access with a barrier to publishing opportunity.

Offering Article Publication Charge (APC) waivers is not a long-term sustainable solution because they simply spread the costs of publication across fewer contributors, add to the unpredictability of the model and may actually dis-incentivise publishers from accepting articles from authors who are unable to pay. Indeed, any model which places the cost burden on the individual author is unlikely to be accepted by the market in any part of the world, while poorly funded institutions in the less-developed markets would find it virtually impossible to create a special fund to cover the payment of APCs for their staff. More work is needed in this area as Research and Innovation Publishing evolves into the 21st century and Research4Life offers a discussion platform to find appropriate solutions.

Other schemes:

1. **HighWire Press** offers free access for developing countries to a list of journals, based simply on software that recognises from where the user is accessing the site. Some publishers offer similar schemes independently, for example the Royal Society of Chemistry and, the National Academies Press;
2. **INASP**[21]**'s SRKS scheme** ended in 2018 and its replacement programme, SERKS (strong and equitable research and knowledge systems), will embrace their **AuthorAID** and local **Journals Online** (JOLS) activity, but will significantly downsize the licensing and access component which was the cornerstone of the previous **PERII** and **SRKS** five year programmes;
3. **EIFL (Electronic Information for Libraries)** partners with libraries and library consortia to build capacity, advocate for access to knowledge, encourage knowledge sharing and initiate pilot schemes for innovative library services.

8 STRATEGIC ISSUES BEYOND OPEN ACCESS AND GLOBAL ACCESS

8.1. The changing nature of scholarly communications: Social Scientific Networks

One of the most significant developments in the STM landscape is the rapid rise of **Social Scientific** or **Collaborative Networks** (SCNs), most notably Mendeley, SSRN, ResearchGate, Scholix, Figshare and Academia.edu, which offer their platform services for new forms of science communication, collaboration and for integrating science, data, clinical evidence and experiences into an exciting new mix of scientific discourse and engagement.

Typically, SCNs are platforms aimed at connecting researchers with common interests. Users create profiles and are encouraged to list their publications and other scholarly activities, upload

21 https://www.inasp.info/about/history

copies of manuscripts they have authored, and build connections with scholars they work or co-author with. However, much of this content is posted without permission and contrary to the STM Principles (see below).

Academia.edu is probably still used more by researchers in the social sciences and humanities but there is pressure to pay for a premium service that is off-putting to many researchers. Some academics have thus created *ScholarlyHub*[22], a non-profit OA repository that gives access to academic papers, research projects and researchers. The platform aims to become a member run and owned SCN that aggregates research, teaching and other professional resources. Another network, *Colwiz* (collective wizdom)[23], launched in 2011 and provided interactive digital collaboration and free reference management services for researchers in academia, industry and government globally. Colwiz also developed the ACS Chemwork platform for the American Chemical Society. In 2013, Taylor & Francis incorporated Colwiz's interactive PDF reader into their journals' platform and in 2017 its parent, Informa, acquired the whole company. In 2016, the company also developed the wizdom.ai research intelligence product. At the time of writing, Colwiz functionality was being merged into wizdom.ai to develop an intelligent research assistant under the wizdom.ai brand.

Bibliography management software, such as *Endnote (*Clarivate Analytics),[24] *Flow* (Proquest)[25], *Pages* (SpringerNature), *Zotero*[26] etc., also allows users to share their research libraries with other users but typically the sharing is inherently one-to-one or one-to-few, or restrictions on the numbers of users with whom content may be shared are explicitly enforced.

The popularity of SCNs is perhaps an indication of the way in which authors prefer to share their articles. However, uncertainty over the copyright status of academic papers hosted on social networking sites raises concerns over the persistence of such content. To counter this, the STM Association has developed **the 'STM Voluntary Principles for Article Sharing'**[27]. The principles were developed between 2014 and 2015, and provide a very useful baseline for any SCN or platform offering SCN services. The website https://www.howcanishareit.com provides more information and a tool to check the status of published works and links to the sharing policies of individual publishers.

8.2. Access to research data and finding a reward model for making scientific data discoverable, curating data, verifying and assuring provenance, ethical collection of data

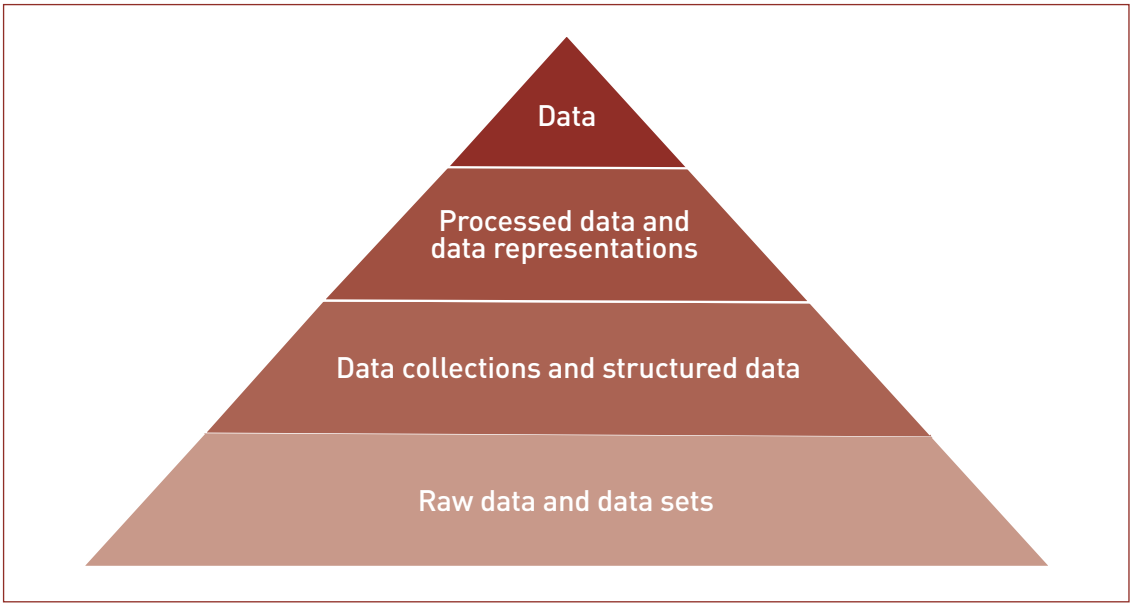
One of the over-arching trends in research publishing is linked to the global trends of big data and increased computing power, which also underlies the developments in text and data mining and artificial intelligence discussed below.

In order to understand the role of data, STM's Eefke Smit, Director for Innovations and Standards has coined the term *'Data Pyramid'* to structure the discussion. At the top of the pyramid sits the 'data' that forms part of research publications; the layer below includes processed data and

22 https://www.scholarlyhub.org/
23 https://www.wizdom.ai/
24 https://endnote.com/
25 https://flow.proquest.com/
26 https://www.zotero.org/
27 https://www.stm-assoc.org/2015_06_08_Voluntary_principles_for_article_sharing_on_scholarly_collaboration_networks.pdf

data representations (which form the basis for data in publications); that pyramid layer is in turn supported by data collections and structured data; which in turn relies and is sourced from both 'raw data' and data sets.

DATA PYRAMID



A key element that the STM Association has collaborated on with Datacite[28] (the main organisation driving the discoverability and citability of data) is to make the different layers of the pyramid more interconnected. DataCite in turn is working with Crossref.

There are various competing initiatives that try to define or imagine the 'article of the future' as a collection or node rather than a fixed document. In this way, it is possible to envisage the future article really to be a 'knowledge stack'.

8.3. Text and Data Mining

TDM (text and data mining) has the potential to transform the way scientists use data. TDM draws on natural language processing and information extraction to identify patterns and find new knowledge from collections of textual content. Semantic enrichment and tagging of content are likely to enhance TDM capabilities. At present TDM is most common in life sciences research, especially within pharmaceutical companies, but relatively little used elsewhere.

Until recently, the main challenges for more widespread adoption of TDM were legal uncertainties as to what was permitted; the lack of an efficient licensing regime; technical issues such as standard content formats including basic common ontologies; the need for content aggregation to permit mining cross-publisher corpuses; the costs and technical skills requirements for mining; limited incentives for researchers to use the technique; and a lack of understanding on the part of publishers.

These challenges have been addressed through various initiatives:

- The STM Association and **PDR**, the leading pharmaceutical sector research infrastructure

28 https://datacite.org/

group, issued an updated joint sample licence[29] in 2012 that includes a TDM clause. TDM is one of the developments that has been prevalent in the corporate R&D world for some time and as it became a more used practice, the academic sector approached STM and governments to address licensing issues;

- STM publishers issued a statement in November 2013 committing its signatories to implementing the STM sample licence clause, or otherwise to permit non-commercial TDM of subscribed-to content at no additional cost; to develop the ability to mine content; and to develop platforms to allow integration of holdings across institutions for TDM purposes. The statement has been subsequently updated, with most recent version dating from 2017[30].
- CrossRef's text and data mining tools (originally **Prospect**)[31]: this offers a metadata API and services that can provide automated linking for TDM tools to the publisher full text, plus a mechanism for storing licence information in the metadata, and optionally, a rate-limiting mechanism to prevent TDM tools overwhelming publisher websites;
- Copyright Clearance Center (CCC) offers a service targeted at life science companies. **RightFind XML for Mining**[32] provides access to approximately 10 million articles in XML content from more than 60 STM publishers with normalised metadata, and consistent licensing terms for mining the content for internal research. The system reduces the necessity for one-off licensing negotiations, along with the associated administration costs, while providing additional royalties to rightsholders when their content is used for text mining;
- STM publishers continue to develop the field and also to accompany the implementation of the EU's Digital Single Market (DSM) Directive that provides an exception for reproductions necessary as part of TDM with certain safeguards and for 'Research Organisations' as defined, if they have lawful access to the content in question (for example, a subscription). The DSM Directive also makes it clear that commercial uses generally and non-commercial uses falling outside scientific research or of non-subscribed content remains subject to licensing[33].

9 ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) emerged as one of the hot topics of 2019, as predicted by the Future Lab of STM's STEC back in 2017/2018. AI here is simply understood as any human-machine co-production in which the machine performs tasks it has learnt through any type of data analysis. Whilst itself a fast-evolving subject, all practical AI to date rests on the availability of 'clean data' which is fit for use in reinforced, supervised or unsupervised machine learning, either immediately or after pre-processing. As further elaborated above, 'data' can be both completely unstructured (like plain text and video) and highly structured (like metadata, tables and well-formatted records), any combination thereof or anything between that falls into one of the layers of the 'data pyramid'.

For at least the next three years, it must be anticipated that individual STM publishers will rightly seek to realise the tremendous opportunities but also be faced with great risks

29 https://p-d-r.com/wp-content/uploads/2019/08/2012-Model-Licence.pdf

30 https://www.stm-assoc.org/2017_05_10_Text_and_Data_Mining_Declaration.pdf

31 https://www.crossref.org/education/retrieve-metadata/rest-api/text-and-data-mining-for-researchers/

32 http://www.copyright.com/business/xmlformining/

33 https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32019L0790&from=EN#d1e953-92-1 (See Articles 3 and 4 of the DSM as adopted)

associated with AI. Publishers' valuable services and skills in generating, curating and validating data need to be seen by all relevant stakeholders for what they are: an indispensable piece of the puzzle to humanise and make AI useful and ethical.

As a sector, STM will focus immediately on the creation of an enabling framework for responsible human-machine co-production, including establishing standards and regulations as well as processes for testing and validation of data, taking into account:

- The fast-evolving nature of AI;
- The need for data markets for training, testing and validation data;
- The risks and efficiencies associated with intensive and wide data usage;
- The need to balance negative incentives for data harvesting, generation and marketing with positive incentives;
- The need to take public security, safety and the legitimate interests of third parties into account;
- The need to enable diverse and parallel usability of data as input, output, by-product and training data;
- The need to consider network effects and benefits and risks of data pooling.

10 SUMMARY AND CONCLUSION

Licensing of electronic content is the lifeblood of STM publishing. Licensing as a vehicle is incredibly flexible and able to accommodate all kinds of business models, from outright purchase to rental, whether itemised or as collections, databases; tailor-made for all shapes and sizes of users, be it the scholarly community in a large or small country, in the developed or developing world, or a country or region in transition; or commercial enterprises, whether SMEs or large multi-national corporations. In addition, licensing allows the provision of access to copyright-protected content in a commercial setting and for segmentation to non-commercial, reduced-rate or nil-rate segments. Licensing also permits the development of new licensing models such as Open Access (author-pays) or hybrid 'offsetting deals'.

Finally, as this chapter illustrates, STM publishers are engaged in a wide range of access related initiatives across the world. By leading and/or actively participating in access projects STM's members demonstrate their commitment to delivering the highest level of sustainable access to high-quality content to the widest range of stakeholders ■

THE WAY FORWARD

by José Borghino

This report has demonstrated the rich and extensive licensing options that publishers and authors make available to users every day and on every continent, either directly or through intermediaries like CMOs. These offerings are a result of the copyright system that operates more or less consistently across the globe—a system that has nurtured and delivered works of unimaginable scope, quality and variety for the past three centuries since the Statute of Anne was passed into law in Great Britain in 1710, and similar laws were adopted by other countries and jurisdictions.

But the legislative regime that has encouraged writers to risk their time to create new works and enabled entrepreneurs to risk their capital to find readers/consumers is not invulnerable. Copyright has proved immensely flexible and adaptable over the years, but over the past two decades it has come under concerted attack from two directions: from libraries and other public institutions of longstanding value that are feeling the effects of government budgetary restrictions; and from the biggest corporations that the planet has ever known that see copyright as an impediment to their ever-growing appetite for revenue and profits.

Publishing across its three main sectors—trade, education and research—can easily coexist with the excess and exorbitance of creativity that is the Internet. In fact, while a billion flowers are blooming on the Internet, publishers concentrate on delivering the killer ingredient that differentiates their content from what is 'freely' available on the Big Tech platforms: quality. But quality costs money to produce. And the Big Tech behemoths would rather harvest the paid-for output of others than risk investing in the many failures one needs to create and learn from to produce a bestseller.

The way forward for publishers requires concerted effort across many fronts. In the area of educational publishing, the main subject of this report, individual publishers must continue to explain to government that quality comes at a price, that publishers are the risk-takers and investors who will compete to deliver the best quality resources that experience and money can buy, and that if governments, teachers, researchers and publishers can collaborate effectively, the outcome is a generation of global citizens who have been educated, socialized and primed for the knowledge economy of the future.

Educational publishers have always been willing to work with schools, teachers and government authorities to provide the best outcomes for a well-functioning, self-sustaining society. But to do so, authors must be paid a wage that allows them to become and remain professional, to send their children to school and pay their electricity bills. Publishers, in turn must be allowed a return on their investment that encourages them to continue to risk their capital. The best (and only) way at the moment for both those things to happen is for there to be strong, enforceable and enforced copyright laws around the globe.

This is the best kind of virtuous circle. It is no coincidence that those nations with robust copyright laws are nearest the top of surveys that measure innovation and creativity.

Copyleft zealots and tenured academics whose livelihoods depend on the largesse of Big Tech or the parsimony of government higher education budgets, will sometimes lecture authors and publishers that 'information wants to be free'. Information, however, is an abstract noun. It doesn't want anything. By contrast, the people who create information and those who disseminate it do want many things including a secure income and food on the table for their families.

Copyright is the system humans have invented to animate and incite human innovation and creativity. It is unabashedly a market mechanism. And it requires governments to legislate to maintain a delicate balance between producers and users/consumers.

The way forward in the strategically important educational ecosystem is to develop public policy and to strengthen the national and international regulatory frameworks that protect rightsholders in a global digital content market so that they can continue to produce work that inspires, instructs and entertains for years to come ■

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