EUROPEAN EDTECH ALLIANCE

THE RESULTS PROMISED BY OPEN EDUCATIONAL RESOURCES ARE YET TO BE PROVEN

A position paper from the European Edtech Alliance

Introduction:

Open Educational Resources (OER) have become a critical part of the education discourse and political actions within Europe. As a direct effect of signing the UNESCO recommendations for OER[1], there have been increased activities in this field by multiple governments and authorities. Additionally, companies have increasingly been developing business models offering OER as a service. Despite this activity and despite all the experience and decades of work invested, the use of OER has not taken off as foreseen or hoped. Importantly, there has been a lack of research to date on the impact, use, and sustainability of OER in education, its place within the wider digital education ecosystem and indeed, the benefits of UNESCO's position.

Open Educational Resources-OER[2]

UNESCO defines Open Educational Resources (OER) as learning, teaching, and research materials in any format and medium that reside in the public domain or are under the copyright that has been released under an open license, that permits no-cost access, re-use, re-purpose, adaptation and redistribution by others.

In order to ensure a stable, quality-driven, independent ecosystem, it is vital to address the topics of regulation and governance, the alignment of OER strategies to key European initiatives, the preservation of quality innovation, the hidden costs of free resources, and the consequences for educators and learning communities if additional responsibilities are required or quality assurance mechanisms are not in place. Within the complex European market of diverse national curricula, scarce budgets, multiple languages and fragmentation, thousands of startups and SMEs are already struggling against a background of archaic policy and a lack of sustainable structures.

A well-functioning market, where the actors compete on equal terms, is a prerequisite for diversity and the continued development of high-quality digital teaching aids and learning resources. It is imperative, therefore, that action plans for OER are critically applied and used.

By highlighting both risks and chances, the European Edtech Alliance intends for this paper to inform decision makers and policy makers in the creation and implementation of policies which support the responsible, future-proofed, quality-driven development and usage of learning resources and the implementation of OER.

Background: UNESCO

UNESCO's member states have signed its recommendation on OER and committed themselves to working towards the objectives of the recommendation. This has resulted in many countries developing their own OER strategies and many debates about their implementation. The German Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung), for example, released an OER strategy[3] in July 2022 with an action plan and recommended funding. Whereas, in the UK, there has been public debate including threats of legal action by BESA over Government funding the permanent establishment of the Oak National Academy[4], which was initially developed as a temporary, covid-response, curriculum resource.

In the Paris Declaration of 2012[5], the potential of open educational resources is described as, among other things, offering significant opportunities for more cost-effective creation, access, reuse, adaptation, sharing, curing and quality assurance of educational materials. It continues by stating that the expected opportunities and potential of open educational resources are predicted to contribute not only to achieving global goal 4, Qualitative education for all, but also to parts of the Declaration of Human Rights.

Recommendation from UNESCO[8]

UNESCO's recommendation on open educational resources, 25 September 2019: UNESCO's member states, have signed the UNESCO's Recommendation on OER and committed themselves to, among other things, working towards five objectives:

(i) building the capacity of stakeholders to create, access, re-use, adapt and redistribute OER;
(ii) developing supportive policy;
(iii) encouraging inclusive and equitable quality OER;
(iv) nurturing the creation of sustainability models for OER, and
(v) facilitating international cooperation.

Risks and challenges

The digital education landscape provides a multitude of opportunities for teachers to share, adapt and develop digital materials for use in teaching and learning. Teachers have always done this, and it is an essential part of their professional toolkit. Whilst the potential benefits, as described in the Paris Declaration seem to be greatly aligned with this, a scarcity of research on the impact, use, and quality of OER to support these essential practices means it is important to assess possible and related risks and challenges.

Regulatory aspects must be addressed so that national work and action plans on OER are critically applied and utilised, thus mitigating the risk that low-quality educational resources are created and become ubiquitous. The sheer volume of content and potential lack of regulatory controls can increase the strain on educators' already limited time as the quality control of such resources will then become another of their responsibilities. Additionally, the responsibility for educators to produce more content to be shared creates pressure regarding not only time constraints, but also questions of liability and understanding of copyright and data protection.

In fact, data protection concerns through a lack of centralised regulation and oversight can pose one of the most serious risks. As was seen during the periods of pandemic-related emergency remote teaching, the increased use of "free", otherwise unregulated apps often resulted in learners essentially paying with their own data and being targeted with inappropriate commercials or even jeopardising student safety, as the Norwegian state investigation on privacy shows[6].

Additionally, there is a risk of OER limiting large-scale innovation and, without adequate and holistic structures in place, destabilising an already precarious and competitive digital educational resource market, largely consisting of small local startups and SMEs. A well-functioning market for digital educational resources, where the actors compete on equal terms, is a prerequisite for the production of diverse, high-quality digital teaching aids.

"Open" requires ongoing support and shouldn't always mean free

The definition of open educational resources is broad and often open to interpretation. Open content in general is at a stage of development that follows an almost identical path to the development of open-source code. Without consistent support from an actively engaged community, open-source can fail to keep up with market developments including safety, privacy and standardisation requirements. Requiring educators or institutions to be part of this oversight and development community accordingly requires dedication of time and resources. Currently, both the necessary oversight community and a lack of appropriate business models or discussion about what these should entail have hindered the spread of OER to the degree that governments or some organisations would have liked.

Contrary to the UNESCO description, which simply allows for the possibility of accessing OER under a no-cost alternative, the OECD definition of OER stipulates that these digitised materials are "offered freely and openly for educators, students, and self-learners to use and reuse for teaching, learning, and research"[7]. Confusingly in their definition of OER, the OECD continues to include software tools, which are otherwise regulated under open-source software initiatives.

❝ "Free" in an educational setting is a misnomer.

Content does not create and maintain itself. There are time costs for the creators and developers of the content, as well as time and resource costs for the maintenance and development not only of the content to ensure its continued accuracy, but also of the platforms through which this content can be made available, and the cost for support and regulatory mechanisms and communities.

Whilst "free" to the end-user is appealing, without sustainable funding mechanisms, including professional and skills development initiatives to support and empower educators and purchasers, the hidden costs at all levels of the ecosystem will create a deficit, which will hinder the long-term implementation of OER strategies and endanger the development of quality resources.

There is limited evidence regarding the effects, risks, and use of open educational resources

Currently, there is a lack of research and evidence regarding the use of open educational resources in the educational system in European countries. While Open Education has been a feature of educational research and practise for almost thirty years, its adoption has been fragmented and still remains on the margins[9]. Research examining whether OER provides learning benefits has produced mixed results, with most studies showing null effects. The access hypothesis states that OER benefits learning by providing access to critical course materials and predicts that OER will only benefit students who would not otherwise have access to the materials (2019 Grimaldi et al.[10]). This calls into question the applicability of OER in all learning environments. The results promised by OER and its systematic implementation as defined by UNESCO and the OECD are yet to be proven.

In many European countries, there are regulations governing all teaching and education practices in the formal education system requiring them to be based on scientific grounds and proven experience or evidence. These requirements can be difficult to meet when it comes to community-sourced and created open educational resources, as, without adequate quality assurance and technical mechanisms or frameworks in place, the evidence component could rely solely on individual, personal experience rather than large-scale research and testing. This could create a two-tiered quality assessment system where traditional content providers are assessed according to one set of criteria, and community-driven OER creators by another. This in turn could increase intransparency for educators and learning communities with regard to choosing and assessing the best resources for their learning situations.

Evidence is currently lacking in:

→ The effects of hidden or indirect costs linked to the production of open educational resources for teachers and educators: in the light of the global teacher shortage we are challenged with, this workload for educators and institutions is highlighted as being highly problematic[11].

→ Hidden or indirect costs linked to the selection, evaluation and use of an open educational resource such as teachers' working hours and administration.

→ Ensuring consistency and effectiveness for learners across multiple sources, styles and materials.

→ The effects, risks, and use of open educational resources, degree of use, quality, and effect on students' learning.

→ How quality assurance, review processes and the adherence to any relevant requirements regarding the regulation of advertisement or sponsored content in education can be guaranteed.

→ The searchability and usability of OER in terms of the size and scope of resources so that they can be easily adapted, accommodated and integrated in teaching and learning tools.

→ The assurance mechanisms required to limit potential disinformation or the creation of a filter bubble.

Risks in governance, development and operations

To date, there have been limited requirements or guidelines regarding the quality assurance or development, management, and operations of OER. Without insight, oversight and knowledge into these issues, there are inherent risks for schools and educational institutions through the handling of these resources.

These risks are related to:

⚠ A lack of continuity and sustainable development, governance and operations of open educational resources, partly due to unsustainable forms of financing.

⚠ A lack of user support and what the effects will be for educators and other users.

⚠ A lack of requirements regarding how the educational resource should fit in and function within the educational institutions' IT environment (identity and authorisation management, login, transfer of data between services, etc.).

⚠ Compliance with local and European data protection regulations. If the processing of personal data takes place how are agreements secured with possible personal data assistants, how is the data handled, stored, used etc.

⚠ The handling of other data that may be business-critical and which is to be protected, ensuring that data is handled according to a certain level of trust.

⚠ Adaptation according to accessibility requirements.

⚠ Ensuring digital equity for all learning types, cultures and backgrounds.

Without sustainable funding and quality assurance mechanisms, including professional and skills development initiatives to support and empower educators and purchasers, the hidden costs at all levels of the ecosystem will create a deficit, which will hinder any long-term implementation of OER and endanger the developmnet of quality resources.

OER and the Commercial Market

Open Education Resources have the potential to change or even disrupt the education resources market but could also hinder innovation of other resource types if there are not appropriate and equitable governance structures in place. In order to mitigate this risk, it is imperative to ensure an independent and healthy professional market so that qualitative educational resources, innovation and sustainability are guaranteed over time.

Competition rules regulate how public authorities are allowed to operate within a commercial market when this goes beyond their core mission. Public authorities may be prohibited from conducting a certain sales activity, or from applying a certain procedure in a sales activity if it distorts, or is likely to distort, the conditions for effective competition in the market, or inhibits, or is likely to impede the existence or development of such competition. Such rules prevent unfair competition between public and private organisations and protect both the space for local innovation as well as those acquiring and implementing resources. Competition laws also govern situations where the public actor's mere presence in the market can lead to private actors either having to cease their activities or having difficulty expanding their activities[12]. They also stipulate that public and private companies must have similar conditions if they operate in the same competitive market. It is essential to establish OER's place within these regulatory and governance frameworks. This will require the identification of practical ways to maintain a fair market promoting free choice of high-quality, innovative resources.

In a similar vein, in order for the access to quality educational content to be meaningful, it is important to address the practice of including freely procured OER in digital platforms simply to ship them with content and without quality assurance processes or working together with the respective authors and developers or pedagogical experts.

> *It is vitally important to ensure that educational services are produced with experience and according to quality mechanisms aligned with professional production, and to empower educators to critically evaluate and choose the digital resources that are best for their learning and teaching environment.*

In order to protect users, purchasers and developers of content within an education setting, it is critical that all resources are governed and regulated in the same way and according to the same principles of their respective and different environments. This means, for example, assessing quality measurements such as security, privacy, data protection, accuracy and independence. It also means requiring a strategy for the regulation and active inclusion of OER in the market to guarantee that laws and rules are being equitably developed and enforced.

Aligning with important European initiatives and viewing Edtech as a key driver in the education ecosystem

In the development of an OER initiative or strategy, it is important to address how they align with the ambitions of The Digital Education Action Plan (2021-2027)[13]. This European Union (EU) policy initiative sets out a common vision for high-quality, inclusive and accessible digital education in Europe, and aims to support the adaptation of the education and training systems of Member States to the digital age. In the report presented to the European Commission, "Time for Action: Making edtech a key driver in the European digital education ecosystem"[14], it is pointed out that the European Education Technology (EdTech) sector has an immense potential to drive forward the digital transformation and innovation of European education and training. By creating innovative hardware, software, and content, the sector is transforming the way learning and teaching takes place. Notably, it is also this sector which was relied upon during the first two years of the Corona pandemic to enable access and sustainability of education practices. As further detailed in the "Time for Action" report, although the sector is steadily growing, it faces challenges related to inadequate funding and tendering mechanisms at national level. There is, therefore, a need to take the conditions of the

many small and medium sized companies and organisations into consideration.

Fostering a strong and continuous innovation culture in digital education will require an alignment with key European and local strategies and initiatives and the development of an inclusive, independent and sustainable market. In this way, the strength and agility of the edtech-sector, which is relied upon not only to support hybrid and extended learning situations, but also to support tutoring, personal, and life-long learning opportunities, will be guaranteed. Quality in digital education arises at the intersection between technology and educators and we therefore need to ensure that all relevant strategies empower educators and purchasers in their choice and critical evaluation of the resources and edtech they use.

Final Remarks

The ability for educators to work with resources in a way that is intuitive to their practice is an integral part of content development. With a history of development and public support, OER can offer one option for the inclusion and creation of content. However, the relevant quality and regulatory assurances must be in place in order to guarantee sustainability and innovation within the entire digital education ecosystem. The current discourse around OER, predominantly initiated through the UNESCO recommendations, have made it timely to highlight risks and challenges associated with the development and implementation of OER. Furthermore, it is important that each country conducts a comprehensive review to ensure continued quality and sustainability in the digital ecosystem of services where learning resources play an instrumental role. Different countries have different conditions, but within Europe, there are a lot of commonalities and it is these that should be focussed on across all levels of the ecosystem to mitigate risks and create sustainable structures.

In order to ensure good competitive conditions, a high degree of innovation, and necessary transparency, it is important that OER action plans provide a clear definition of the roles and responsibilities of all stakeholders and also define how actions of all the stakeholders ensure fair and equal conditions. This is necessary to support a well-functioning and independent ecosystem of digital educational resources and equitable processes as a prerequisite for the development and use of diverse, high-quality digital teaching materials. For this market to sustainably function, it is vital that governments and responsible bodies address the following through a research-informed and quality-driven approach:

- Developing and aligning technical standards, taxonomies and data structures making it possible and easier to find and evaluate digital learning content.

- Empowering educators and purchasers in their ability to critically evaluate, choose and implement the learning resources they need.

- Ensuring an equitable and competitive market through the governance and adherence to stipulated regulations and the development and documentation of sustainable strategies for all stakeholders.

- The adherence to or development of relevant public-private partnerships strategies

- Taking the known risks of OER into account when forming policy.

The amount of content that educators can use and choose from will continuously grow whilst the public budgets for their procurement are expected to stagnate and the demands on educators' time increase. It is vitally important to ensure that the quality, sustainability, independence, and accuracy of digital education content is upheld as this has far-reaching consequences for society, education and for our democratic conversation. The coming of age of OER, which might see the challenge of sustainable business models being solved, needs to emerge in an educational context where teachers have a high degree of empowerment in finding, evaluating, and choosing digital learning resources from a safety, quality, evidence, and efficacy perspective.

Any state-imposed production of free curriculum resources risks the creation of unregulated or inequitable market structures and new demands on the already limited time of educators and learning communities. Without frameworks including the regulation of OER and clearly defined guidelines for the implementation and creation of OER, important educational structures or values can be destabilised. Understanding that 'free' in an educational context is a misnomer, this can have a direct effect on the cost of quality education and, in the worst case scenario, student safety. As evinced by the development of open-source software, open systems require an unwavering community involvement and practice, or they are inevitably unable to keep up with the rapidly evolving digital (edtech) world.

There are real and emergent risks to the implementation of OER plans without adequate research and a comprehensive view to ensuring the sustainability of the entire digital education ecosystem. It is vital to establish the quality assurance mechanisms necessary to guarantee the accuracy of information, the safety of users and security of systems being implemented. It is also imperative to include representatives from all affected levels of the ecosystem in order to develop pedagogically-sound, innovative and effective resources and the structures necessary to make these sustainable, accurate and safe.

The European EdTech Alliance is a not-for-profit consortium of edtech trade associations, clusters and organisations that represents more than 2500 Edtech start-ups and established companies across 20 countries in Europe. The mission of the European Edtech Alliance is to support sustainable innovation and growth of the European Edtech sector, and to connect and strengthen the pan-European Edtech ecosystem. Through enabling cross-border cooperation and investigating policy needs within Europe, our goal is to achieve a higher quality, equitable and accessible education for all.

Authors

Beth Havinga, Managing Director, European Edtech Alliance
Svenia Busson, First Chair of the board and startup taskforce lead, European Edtech Alliance
Jannie Jeppesen, Second Chair of the board and policy taskforce lead, European Edtech Alliance

on behalf of the members of the European Edtech Alliance e.V.
Edtech France | IKT Norge | Swedish EdTech Industry | BESA | Bündnis für Bildung e.V. | EdTech Finland | EduTech Cluster Spain | EdTech Poland | EDUvation | EdTech Austria | EdTech Denmark | AFINEF |SEK lab | Swiss EdTech Collider | EdTech Lithuania | xEDU | Dutch Edtech | SuperCharger Ventures | The Dutch School | EduCloud Alliance | TechEd Hungary | EdTech Italia | EdTech Ireland | EdTech Station | Campus Founders Ventures |

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