Open Educational Resources and Collaborative Content Development:

A Practical Guide for State and School Leaders

iNACOL
International Association for K-12 Online Learning

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Introduction and Purpose

> *"At the heart of the movement toward Open Educational Resources is the simple and powerful idea that the world's knowledge is a public good and that technology in general, and the Worldwide Web in particular, provide an extraordinary opportunity for everyone to share, use, and re-use knowledge."*
>
> — The William and Flora Hewlett Foundation

More than $9 billion taxpayer dollars annually support textbooks and instructional materials in schools. Today's students are ready to embrace personalized learning beyond textbooks. In the United States until 2011, 50 states have had 50 different sets of academic standards, and every state has reinvented the wheel in buying or creating instructional materials and academic curricula aligned to these state-specific standards. There is tremendous interest today in sharing and collaborating around publicly developed educational content through innovations such as open educational resources.

Open educational resources (OER) are educational materials made available for sharing, accessing and reusing through a public or open license. Without a designation of an open license, the learning resources are "locked down" by traditional copyright laws and sharing is limited. By asserting an open license, all taxpayer-funded educational resources, professional development, and learning materials created can be freely shared within and across state boundaries. Organizations and entities receiving federal or state taxpayer funds to create educational resources have a moral obligation to share those resources publicly.

Individually, states, districts, and schools have limited financial and other resources, but they share a need for high quality, rigorous content to meet the needs of a diverse array of learners and educators. Working collaboratively, states can develop, adopt, and share high quality content and courses for use and re-use. Recent educational reforms, including states' transition to Common Core State Standards for mathematics and English/language arts, offer an unprecedented opportunity for innovative state partnerships to collaborate on learning resources aimed at improving instruction and helping all students prepare for success in college and career.

Leading states are examining closely the development of next generation assessments and accountability systems, requirements in robust new data systems, and identifying frameworks for promoting teacher and leader effectiveness. Importantly, state and local education leaders are also beginning to explore exciting new opportunities to partner with their peers to develop and adopt high-quality, openly licensed instructional materials, professional development content, and tools aligned to college and career-ready standards.

Partnerships aimed at developing high-quality open content — made possible at scale for the first time by the Common Core State Standards — can help to ensure that all students and educators have access to the tools and materials they need to succeed and be prepared for today's society, regardless of their zip code. Achieving this shared objective, however, will require careful planning and leadership, including ensuring that the instructional resources developed with public and philanthropic funding are fully accessible to educators and students, so that the public can access these publicly funded materials. Such planning and leadership will allow states to share, improve, reformat, and update their learning materials, as well as enter into more effective and focused content development collaborations with other states, schools and local peers.

There should be a clear understanding that materials produced with public and philanthropic funds should be openly licensed using a legally recognized license (such as Creative Commons) in order for educators and states to share and reuse locally-developed content across political boundaries (including school, district, and state boundaries).

The problem is that many educators assume that because they have created educational materials they are automatically entitled to freely share them with others. Due to current copyright laws, as well as unclear authorship laws in several states, this is not generally the case. Hence, there should be a clear understanding that materials produced with public and philanthropic funds should be openly licensed using a legally recognized license (such as Creative Commons) in order for educators and states to share and reuse locally-developed content across political boundaries (including school, district, and state boundaries). Designating content and tools developed with public funds as open educational resources is one proven strategy to maximize accessibility and ensure materials can be effectively accessed, shared, and distributed. Such action also helps teachers better personalize student learning and ensure content is up-to-date and aligned to current standards.

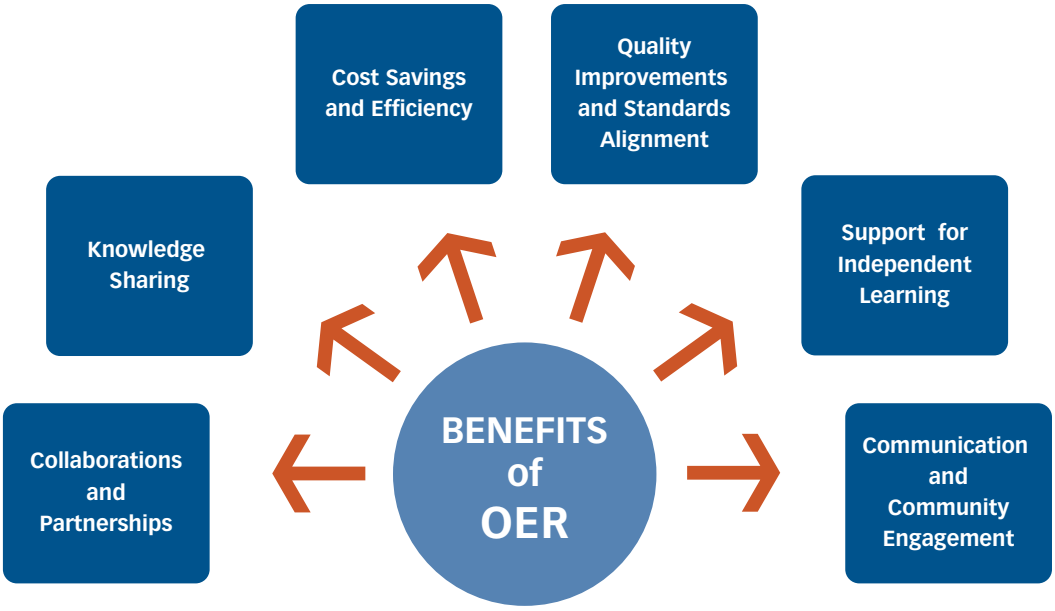
We argue that public funding for public educational materials should be open and accessible. The decision by 45 states and the District of Columbia to adopt and implement a common set of college and career-ready state academic standards opened the door to new opportunities for interstate cooperation. The United States has a rare policy opportunity with most of the 50 states in K-12 education rethinking how to personalize learning in the midst of implementing the Common Core and developing, buying, or sharing educational materials to support learning. These states are addressing difficult practical challenges associated with implementing the Common Core State Standards in a way that ensures that all students are equipped to succeed. This includes the development of standards-aligned assessments and instructional materials, new teacher preparation and professional development materials for focused strategies, improved accountability systems, new assessments, and fresh content development. One solution to the challenges associated with acquiring standards-aligned instructional materials would be to have states increase their ability to share any educational resources or content developed using public funding.

Designating new materials and tools as OER by assigning open intellectual property licenses to the materials that promote — instead of stifle — educator and student collaboration and access could help support a state's successful transition to the new standards. The transition to the Common Core State Standards also provides an opportunity for states to better coordinate, share, and align the acquisition and development of educational content. In fact, leading

states, new federal initiatives, and major philanthropies are already encouraging greater development and use of OER as a core strategy for ensuring that all students have access to the best possible resources and tools for individualizing instruction and helping provide greater digital resources for teachers.

Other countries and important non-governmental organizations are also beginning to recognize the potential of OER. The Organization for Economic Cooperative Development (OECD) explains, "Governments should support OER as good policy because educational institutions (particularly those publicly financed) should leverage taxpayers' money by allowing free sharing and reuse of resources. Quality can be improved and the cost of content development reduced by sharing and reusing. Sharing knowledge is in line with academic traditions and a good thing to do. OER expands access to learning for everyone but most of all for nontraditional groups of students and thus widens participation in education and can bridge the gap between non-formal, informal, and formal learning."

The purpose of this report is to provide state educational leaders with a guide describing the benefits of OER, how they might approach OER policies in their states, options for content acquisition, and strategies for successful collaborative content development across state and other political boundaries. The report also includes an appendix with more details on OER licensing, a link to a useful guide for finding, vetting and using OER, and an example Memorandum of Understanding for sharing.



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The Benefits of Open Educational Resources

OER offer a number of specific benefits to states and other education stakeholders as they implement and develop new instructional materials. These benefits include promotion of collaboration and partnerships, increased knowledge sharing, cost savings and efficacy, quality improvements, support for independent learning, and positive communications and community engagement. The Hewlett Foundation notes OER have "great potential as a mechanism for instructional innovation as networks of teachers and learners share best practices."

Collaboration and Partnerships

As described above, OER provide a foundation to allow multi-state or district collaborations. Importantly, they also create powerful partnering opportunities at the classroom level by enabling educators to see, develop, share, and reuse quality OER to meet their students' unique requirements and needs.

Knowledge Sharing

OER enables knowledge sharing for the benefit of all students and educators by widening access to high quality resources. Knowledge sharing and improved access to resources in turn encourage college and career readiness and boosts human capital through better education. Open resources also bridge the gap between informal and formal learning by widening access to quality material outside the classroom and promoting lifelong learning.

Cost Savings and Efficiency

By sharing and reusing educational materials, the costs for content development can be cut dramatically and allow educators and states to make better use of available resources. This savings is particularly important given the falling budgets of states, districts and schools. OER maximize and best leverage taxpayers' investments by allowing free sharing and reuse of resources developed by publicly funded institutions. OER also eliminate delays associated with securing permission to use existing digital materials, by allowing educators to openly use material without having to secure the author's permission. OER can also leverage the unique aspect of digital assets — the marginal cost and effort in making copies and distributing online learning resources over a network. The minimal funding for professional development and training to develop content can be far less than the recurring costs for printed materials.

Quality Improvements

OER quality improves over time by enabling continuous improvement of online and other digital learning resources by professional peers. The ability to continuously evaluate and update digital OER starkly contrasts with traditional materials that typically have to be used by students until a new purchasing cycle, even if the material includes significant errors or omissions. OER also creates a web-based, viewable, usable record of quality educational materials.

Support for Independent Learning

OER help students access additional learning resources, enhance supplemental materials in support of academic plans, become better prepared, learn independently, and pursue learning guided by personal interest. OER offer students access to high-quality material that may be more engaging and in-sync with their own interests. Multiple versions of the same concept can be introduced, allowing students to select the option that most piques their interest, thereby engaging learners on a much more personal level. OER give teachers the ability to target content to their students' individualized needs instead of providing a one-size-fits-all textbook curriculum.

Communications and Community Engagement

Use of OER showcases district and school leadership in content development and customization. The materials serve as a tool for engaging with students, parents, and communities and highlight the opportunities available to students who learn through open content.

How to Approach OER Policy

Having clearer OER policies can help states prepare for sharing of educational resources in the era of implementing the Common Core State Standards. As Cable Green from Creative Commons states, "Knowledge wants to be free." How can states ensure that public funds used to create public educational materials are freely available through OER?

At the federal level, the U.S. Department of Education has embedded OER policy requirements in the Administration's marquee initiatives—including Race to the Top—by asking that work products developed using grant funding become openly available. The Department of Labor grant program funded $2 billion over two years for community colleges to develop open courses and OER and make materials freely available. Likewise, major education philanthropies are requiring grantees that are developing Common Core aligned content to license the content as OER. Please refer to the recently published iNACOL Policy Guide, Understanding OER Policy in K-12 Education, for more information and examples of statewide OER policies.

Build or Buy Content?

The promotion of acquisition and development of OER does not preclude states from purchasing content from third party providers, of course. The big idea is that states, districts, and schools that are creating or developing content or learning materials from scratch should apply an open license to allow sharing, collaboration, or even commercialization of these learning materials. States could divide and conquer the range of learning materials, professional development, and academic curriculum needed in their efforts for the implementation of the Common Core State Standards. Such efforts would allow states to share and improve upon each other's best efforts, vastly expanding the number of open resources available for teachers to use in personalized instruction.

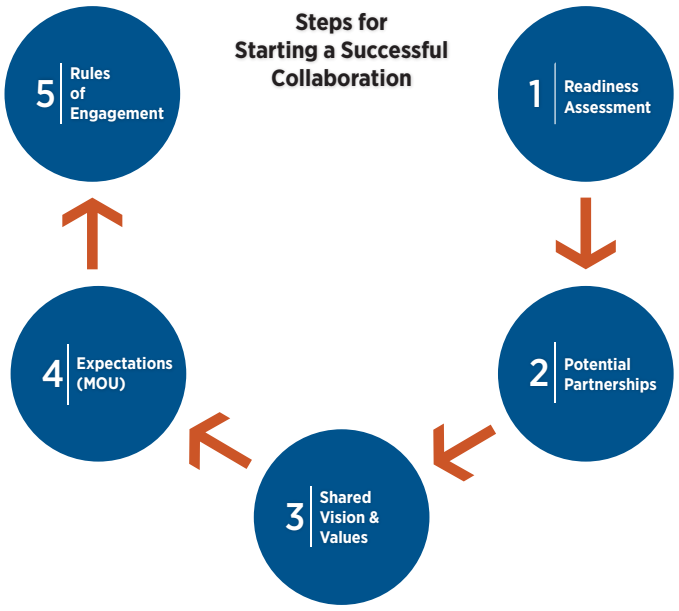
Many educators and policy makers believe that because a state uses taxpayer funding for public materials, those materials are automatically in the public domain for sharing. This is only true if the materials have an open or public domain license attached by the creator at the time of initial publication or creation. Realizing this is an important policy issue, states and districts should take steps to encourage educators to make materials open for sharing.

How to Share Open Content: Best Practices for Collaboration

In the development of content and learning materials, states and districts may consider creating their own materials from the ground up. Some states may even desire to collaborate with other states, across districts, or across schools within a district by selecting areas within which they will each work independently to develop content and then agree to later openly share all of the newly developed educational materials. Collaborating on OER development requires a number of considerations, including technical and academic standards, resource issues, planning and organizing the workflow, and developing a plan to ultimately reach the goal of collaborative content development.

Collaborating to develop OER can lead to great benefits for students, but also involves meaningful challenges for organizations. Partnerships for content development from scratch require organizations to work outside of their own well-established bureaucratic boundaries. Particularly, collaborative partnerships require organizations to dedicate human capital, resources, energy, and effort to a process outside of the immediate locus of control to create a new system which functions harmoniously and collaboratively. There are few examples of robust collaboration in K-12 content development prior to state adoption of common college and career-ready standards, but some success stories do exist. This section is designed to help states, districts, and schools understand the process and begin working together on their own collaborative efforts.

This section includes steps to consider for starting a successful collaboration for content development, a Best Practices checklist for collaboration, and an assessment tool to identify strengths and weaknesses in the partnership approach.



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Steps for Starting a Successful Collaboration

Readiness Assessment: Is your state/organization ready to begin a collaboration?

The first question to decide is whether your state is ready to begin a collaborative development project with other partners.

a. What do you gain from participating in a collaborative initiative? What do you lose?
b. Are you prepared to allocate time, staff and other resources?
c. Are needs and market opportunities clear?
d. Is there an available and appropriate technical infrastructure to facilitate digital OER development?

Potential Partnerships: Which states, districts and schools are willing to partner? Which institutions/ governments are willing to partner?

The second question is how to identify institutions with which to partner. When determining partners for collaboration, trust is key as you begin to commit time and resources to the effort. It is helpful to think of building steps of a relationship: the more information you have up front about the plan, roles and responsibilities (as well as outcomes of the collaboration), the more likely the collaboration will be successful. Seeking the right partners is an important step.

a. Which organizations and people have similar goals to ours?
b. Which organizations and people have the knowledge, expertise, and resources to make this happen and will commit them to the effort?
c. Do we trust each other?
d. Which organizations have expertise to expand our knowledge and abilities beyond what we know and do today?

Shared vision and values: Ensuring a shared vision and shared values to continue to build trust is vital.

a. What motivates each partner to become involved?
b. What is the single most important goal to accomplish?
c. What are the partnership goals and objectives?

Expectations: All partners in collaboration need to be aware of what is expected of them.

a. Is membership in the collaboration based on a meritocracy? Is it understood that some partners have more expertise and everyone is welcome?
b. What are the ground rules for participating?
c. What are the roles and responsibilities for each partner? Are people okay with potential unequal roles and benefits for the greater good?
d. Do partners donate staff? How is staff accountable?
e. How will money be collected and distributed?
f. Are all partners comfortable with giving and participating in the project for the greater good and outcome, rather than doing it alone?

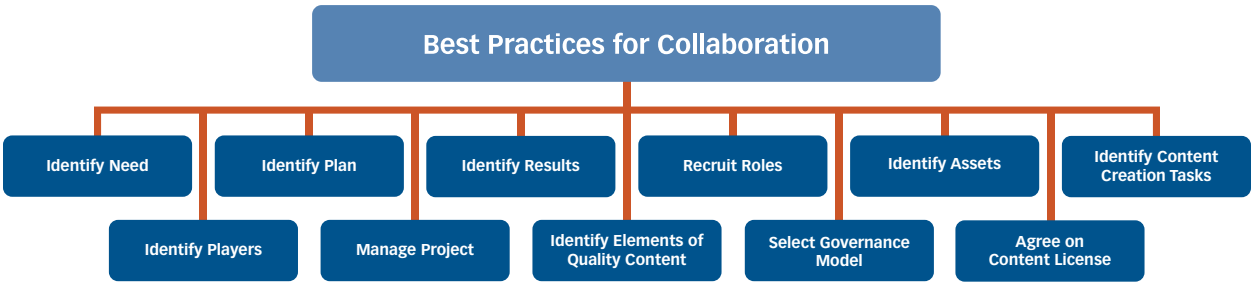
From the beginning of any partnership, the rules of engagement, disengagement and accountability need to be clear to minimize risk and maximize trust for the process.

Resource-sharing expectations can range greatly, and may include staff, physical property, money, knowledge, clients, and services that will be shared to collaboratively develop content. Full cooperation is underway when the partnership begins to work and collaborate by some formalized process of engagement, such as by signing a Memorandum of Understanding or more formal written agreement. Individuals participating, as well as the broader organizations, need to be comfortable with the risks in working with others and the potential gains from learning about how others manage policy, products, and processes. In addition, it helps to have a healthy dose of humility.

True collaborations recognize that all partners have something special to bring to the table. All players are willing to share risks, responsibilities, and rewards. Partners may want to consider the possibility of giving up one area for greater gain of the whole. A sense of trust, willingness that one organization may give or gain unevenly, and a sense of creating content to benefit the whole and for the good of long-term goals are very important. Fairness does not mean everyone will do everything equally, and these concepts of engagement and culture need to be identified and agreed upon by the group as a whole to begin operating effectively.

Formalizing the outcomes of initial conversations in writing through a Memorandum of Understanding or more formal document allows all parties to ensure their needs are being met prior to engaging fully in the collaboration.

Best Practices for Collaboration: A Checklist



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Identify Need

a. What is the gap and opportunity?

Identify Players

a. When in the first stage, try to identify who will help you address a very specific need or opportunity.
b. Identify individual competencies and skills.

Identify Plan

a. Have all partners agreed to the vision of success, strategy, roles, culture, style and plan?
b. What is the timeline?
c. How will you divide up development and share responsibilities?
d. How much money will the partnership need and how will it be secured?
e. Is there a clear budget and financial plan?

f. Have you considered proprietary models in contrast to open models?
g. What is the business model of the project?
h. Is the licensing model open to all (policies in place)?
i. How will competencies be leveraged?
j. What benchmarks are in place to measure success?
k. How can partners reduce the perception of risk?

Manage Project

a. How will the project be managed?
b. Is there a Memorandum of Understanding or membership agreement?
c. Are there bylaws or rules of engagement?
d. Is there a forum to raise and vet community concerns and interests?
e. Has a thorough inventory of existing open content been conducted?
f. What licensing arrangements for use and reuse will apply?
g. Where will the digital content be housed?
h. Is the content interoperable and platform neutral?
i. Is the content easily accessible to others outside of the collaborative?

Identify Results

a. What are the results you expect from the collaboration?
b. How will you evaluate your results?
c. Are there short-term versus long-term results?
d. Who has access to the code and learning materials?

Recruit Roles (which are not necessarily mutually exclusive)

a. Convener, facilitator and conduit
b. Catalysts and influencers
c. Instructional designers
d. Academic content standards experts
e. Content writers
f. Teachers
g. Technical staff and programmers
h. Innovators
i. Partners with critical competencies

Select Governance Model

a. Is it "top down" project management or "open" and flat?
b. Is there radical inclusiveness or a set of criteria to join?
c. Can any partner leave at any time?

d. Do all partners share values and believe in governance model?

e. Do all partners understand each other's goals and what the return on investment is?

f. Is there a management organization?

g. Are there clear boundaries — what will we do? What won't we do?

h. Is the leadership effective? What can we do to improve it?

Identify Assets

a. What will each partner contribute?

b. Where will assets developed within the partnership reside?

c. Will we rely more heavily on some partners that are considered innovators or have a stronger reputation?

Agree on License for Shared and Reusable Content (See Appendix A)

a. Creative Commons License (CCBY, CCSA)

b. Public Domain

c. Open Publication License

d. Commercial Friendly Licensing

e. Other

Identify and Agree on Elements of Quality Content

a. Is the content universal for any student to access at any time of year, date-agnostic?

b. Is the content customizable for specific sub-populations of students, such as Special Education, English Language Learners and Honors?

c. Is the content closed or open for adjustments by teachers or technology specialists once it is produced? (i.e. Will educators be allowed to tweak the content for individual classroom needs?)

d. What is the organizing principle of each piece of content (Common Core State Standards, for example)?

e. How is the content developed?

f. What is the most effective sequence to use during content creation (standards, existing OER, teacher-created OER, technology tools, etc.)?

Identify Content Creation Tasks

a. Who will write software?

b. What are the re-use and use policies?

c. Who will develop the instructional scope and sequence for the course, module, or learning objects?

d. Who will provide a style sheet?

e. What will the technical guidelines be?

f. What will the naming conventions for files be?

Assessment Tool to Identify Strengths and Weaknesses in a Collaborative Partnership

Is your collaboration effective? A return on investment will occur when the costs to participating in a collaborative partnership to create digital content are less than the costs of purchasing, licensing, or creating content on your own, especially when the content quality is as good or better than what could have been achieved in isolation.

What are other measures to benchmark a successful collaboration?

a. Partners successfully achieved the specific goals and objectives.
b. Partners learned how to improve their own processes by participating.
c. Partners felt there was broad-based participation and multiple viewpoints.
d. Digital content quality improved access and personalization of student learning.

Indicators of an ineffective collaboration:

a. Partners feel one agenda is driving the work.
b. Collaborative activities limit time for partners' own work.
c. There is not enough recognition for participation.
d. Digital content is not used in courses by the school, teachers or students.
e. Competing priorities or too many goals and objectives.

Assess your collaborative effort using the following rubric.

(Rating Scale: 1= Disagree, 3= Somewhat Agree, 5=Agree Strongly)

COLLABORATION ASSESSMENT INDICATOR	RATING (1-5)
Partners shared decision-making responsibility	
There is a high level of trust	
Roles and responsibilities among partnering organizations and individuals are clearly defined	
Partnership has a written agreement or MOU	
Partnership has a written financial plan	
Partnership has an effective governance structure	
Partnership has clearly articulated goals, strategies and objectives	
Financial and non-financial partners have equal weight in determining the distribution of power	
New members are welcome	
A system of incentives are in place to recognize partners' contributions	
Partnership has an effective mechanism to resolve conflicts among members	
Any identified issues have been addressed in the collaboration	
Partners have the right to leave at any time without risk (can "fork the code")	
Participation in assessing needs, identifying existing resources and solving problems is broad and diverse	
Partners feel it is worth the time and effort to collaborate	
Partner organizations have a better quality product through collaboration	
Partner organizations benefit as a result of this partnership	

[i] Health Research and Educational Trust. "The Collaboration Primer," 2003, at http://www.hret.org, accessed December 5, 2006.

Appendix A

Open Licensing and Creative Commons

We strongly recommend the use of the Creative Commons open license for all openly licensed content (though other licenses are available). The mission of Creative Commons is to help people and organizations share knowledge and creativity with the world. Creative Commons develops, supports, and stewards legal and technical infrastructure that maximizes digital creativity, sharing, and innovation. We invite you to explore the Creative Commons website in depth before beginning any content development or collaboration. In this appendix, we briefly summarize the several useful pages and tools to be found on the Creative Commons website located on the Web at http://creativecommons.org.

About Creative Commons

This page contains answers to various questions about Creative Commons and the CC open licenses, including: What is Creative Commons? What can Creative Commons do for me? Why Creative Commons licenses? What does Creative Commons provide? Where is the work of Creative Commons headed in the future?

History of Creative Commons

This page provides information about the origins of Creative Commons and important milestones in the development of various CC licenses and initiatives.

About the Licenses

This page explains each of the various open licenses offered by Creative Commons, including describing what each license does and how the licenses were designed from the technical and legal aspects. This page is a MUST READ for all potential users of a Creative Commons license.

Before Licensing

This page includes things for licensors to consider before applying a Creative Commons license to a creation. These considerations include (a) make sure you work is copyrightable, (b) make sure you have the rights, (c) make sure you understand how CC licenses work, and (d) be specific about what you are licensing.

Choose a License

This page allows you to generate a Creative Commons license tailored to your needs and specifications.

Find Licensed Content

This page allows you to search for openly licensed content from an array of repositories and providers.

Frequently Asked Questions

This page provides answers to a large variety of questions related to using Creative Commons licenses in the licensing process (when creating content) and in the attribution process (when adopting existing content).

Appendix B

OER Guide

This guide, an open educational resource itself, can help states navigate through vast amounts of available resources, give appropriate attribution, and license resources appropriately.

Reference:

https://docs.google.com/a/inacol.org/document/d/1I5pqVlDxsAxrsc676ebAf7hI0XeQduTISPqW8OZibyY/edit?pli=1

Appendix C

Sample* Memorandum of Understanding

This Memorandum of Understanding (the "MOU") is entered into this __ day of _____, 201___, between ___ Org #1 _____ (name of organization), (description of organization), and ___Org #2 _____ (name of partnering organization).

1. Purpose: Org #1 and ___ desire to enter into a partnership relationship whereby Org #1 and Org #2 proactively share information, direction and advice regarding the creation of content using open educational resources.

2. Parameters: The parties anticipate that Org #1 provide consulting and information to ___ on topics including but not limited to the following:

    a.

    b.

    c.

The parties will cooperate to prepare agendas identifying the topics to be addressed. Org #1 agrees to provide _____with any and all requested non-confidential information regarding Org #1 to the best of its representatives' abilities. and vice versa.

4. Anticipated timeline is as follows:

5. Any other desired pertinent details

Dated: _____, 20 _____

Org #1, a nonprofit corporation

_____
Name

_____

_____

By: _____

Its: _____

* This MOU is for sample use only and is not to be used as or as the basis for any binding legal document. An attorney must be consulted to review your organization's MOU.

[i] Health Research and Educational Trust. "The Collaboration Primer," 2003, at http://www.hret.org, accessed December 5, 2006.

Appendix D

OER Projects: Object Repositories, Courses, and Courseware

Carnegie Mellon University (OLI)	http://www.cmu.edu/oli/
Creative Commons	http://creativecommons.org
Curriki	http://www.curriki.org/
William and Flora Hewlett Foundation	http://www.hewlett.org
HippoCampus (NROC)	http://new.HippoCampus.org
Monterey Institute for Technology and Education	http://www.montereyinstitute.org
OER Commons	http://www.oercommons.org/
Mountain Heights Academy	http://www.mountainheightsacademy.org/
Open CourseWare Consortium	http://www.ocwconsortium.org
Rice Connexions	http://www.cnx.rice.edu
Saylor Foundation	http://saylor.org

Open Textbook Projects:

CC Consortium for OER	http://oerconsortium.org/
CK12	http://www.ck12.org/flexr/
Flatworld Knowledge	http://www.flatworldknowledge.com/

More Open Learning Object Repositories, Referatories and Specialized Collections:

ActionBioscience.Org	http://www.actionbioscience.org/
AMSER (NSF)	http://amser.org/
SAS® Curriculum Pathways®	http://www.sascurriculumpathways.com
ide@s (U of Wisconsin System)	http://www.ideas.wisconsin.edu
Khan Academy	http://www.khanacademy.org/
Math Archives	http://archives.math.utk.edu/tutorials.html
Merlot	http://www.merlot.org
National Science Digital Library	http://nsdl.org/
NOAA	http://www.education.noaa.gov/
PhET	http://phet.colorado.edu/en/simulations/category/new
Teacher Tube	http://www.teachertube.com/
Wisc-Online	http://www.wisc-online.com

For more on OER:

Connexions online course about working with OER:

http://cnx.org/content/m15211/latest/

UNESCO OER Toolkit:

http://oerwiki.iiep-unesco.org/index.php?title=UNESCO_OER_Toolkit

WikiEducator OER Handbook for Educators:

http://wikieducator.org/OER_Handbook/educator_version_one/Introduction/Why_OER%3F

For more on copyright considerations:

http://creativecommons.org/

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