

FEDERAL OPEN LICENSING PLAYBOOK





Contents

Introduction

Use widely accepted open licenses (Play 1)

- Checklist
 - Key Questions
 - Are different types of licenses appropriate for different resources?
 - Why should open licenses be machine-readable?
 - How does an agency add an open licensing requirement to its grants? What model language can it use?
 - Examples of Use
-

Make content discoverable (Play 2)

- Checklist
 - Key Questions
 - What makes a good repository
 - Classification
 - Metadata
 - Other discovery tools
 - Examples of Use
-

Make resources adaptable and remixable (Play 3)

- Checklist
 - Key Questions
 - Selecting an open license that ensures your content is adaptable and remixable
 - Open File Formats
 - Examples of Use
-

Build for accessibility and inclusion (Play 4)

- Checklist
- Key Questions
- Examples of Use
- Resources

Promote the reuse and enhancement of existing materials (Play 5)

- Checklist
 - Key Questions
 - Examples of Use
-

Prepare staff and grantees (Play 6)

- Checklist
 - Key Questions
 - Examples of Use
 - Resources
-

Provide sufficient funding (Play 7)

- Checklist
 - Key Questions
 - Examples of Use
-

Think long-term: Making resources sustainable (Play 8)

- Checklist
 - Key Questions
 - Examples of Use
-

Measure and monitor success (Play 9)

- Checklist
 - Key Questions
 - Examples of Use
-

Appendix

- What's the difference between public domain and an open license, and why should we care?
- What training or support do federal grantmakers need to fully implement open licensing requirements?
- What additional support do grantees need?
- What questions are grantees likely to have?
- Should the grantee training be required or optional?

Introduction

What are openly licensed resources? Openly licensed resources are works with licenses permitting free access, reuse, and redistribution. They include teaching and learning materials, research, data, and software. A license is a document granting permissions and restrictions for use of a given work. An open license grants permission to access, reuse, and redistribute the work with few or no restrictions.

Federal agencies are increasingly using open licensing to expand the impact and reach of their work, enable innovative use of federally-funded materials, and ensure that publicly funded resources are available to the public. We note shared practices and considerations, common to the federal open licensing efforts thus far.

This Playbook provides a practitioner's guide to using open licenses in the federal context, based on the shared experience. It is not intended to be prescriptive but rather to offer expertise and lessons-learned to federal grants managers interested in exploring or using openly licensed resources as a component of their programs. The Plays are sequential, addressing different stages of program formation. This Playbook ranges from Plays on standards and usability, to training and funding models, to monitoring and sustainability.

Individual Plays and the entire Playbook itself are not universally applicable. It may not be appropriate to openly license certain resources funded by federal grants or contracts because of national security or personal security requirements. Traditional copyright restrictions may also be necessary in some cases. Yet an increasing number of federally funded resources can best serve the public interest by being openly licensed.

The Playbook is designed to be a living document that is updated as new information becomes available. The first draft of this Playbook was developed by the Subcommittee on Global Education of the Advisory Committee to the Secretary of State's Strategic Dialogue with Civil Society. It includes input from multiple federal agencies, as well as private sector and civil society organizations.

If there are questions this Playbook doesn't answer or would like to suggest additions, please let us know at openedresources@state.gov. We welcome your feedback for future iterations of this resource at any time.

Use widely accepted open licenses (Play 1)

Whenever possible, you should require grantees to use widely accepted and interoperable open licenses rather than create agency-specific or permit grantee-specific licenses. Customized licenses should only be considered if no existing open license meets the program's needs. Custom licenses can inadvertently limit the usability of content, because they are often incompatible with each other and with common open licenses. By using widely accepted open licenses, agencies can ensure that their content can be remixed with content from many other sources, including other grant programs and other federal agencies. This also promotes consistency with existing standard practice outside of government. Common open licenses also enable attribution to content creators.

Checklist

- Identify what types of content will be openly licensed (i.e., content, software, or other creative works) under your grant program.
- Review the existing open licensing options and identify which option is best suited for your program.
- Determine if you are pursuing a program- or agency-wide open licensing requirement and identify the most appropriate vehicle for instituting the requirement (e.g., rule-making).
- Identify the circumstances in which it is justifiable to make exceptions to the open licensing policy (e.g., removing the open license requirement for materials related to national security).
- Include language requiring grantees to use the open license(s) you identify in your solicitation documents.
- In cases where you cannot identify a specific open license, identify the important terms the open license must have and require that grantees select a common open license that meets those terms.

Key Questions

- ° Does the chosen open license enable reuse by other grantees, both present and future?
- ° Does the chosen open license support your program objectives?
- ° Are your grantees able to apply the open license to grant products with minimal legal and technical assistance?
- ° Is the open license interoperable with existing open licenses used in your discipline? Will the open license be interoperable with future open licenses?
- ° Is the open license compliant with international copyright treaties and national copyright laws?
- ° Is the open license recognizable and understandable to the public?
- ° Is the open license machine-readable?
- ° What language needs to be included in your solicitation to communicate the open licensing requirement?

Are different types of licenses appropriate for different resources?

Yes. Open source licenses are most appropriate for software, and common open copyright licenses are used on all non-software content (text, images, video, music, etc.).

Many agencies (including the Departments of Labor, Education, and State as well as USAID) require or recommend the use of Creative Commons (CC) licenses, which are widely adopted, broadly interoperable, and applicable across different domains (e.g., works in culture, education, research, science, museums, libraries, and other domains). Creative Commons licenses are not the only option, and agencies may consider other common open licenses.

Software: Open source licenses for software include particular criteria such as technology neutrality and inclusion of source code. The Open Source Initiative maintains a list of the [most commonly used open licenses for software](#).

Data: The best practice for data is to use a public domain dedication (e.g., [CC0](#)) to dedicate the data to the global public domain. Also, both Creative Commons and [Open Data Commons](#) licenses can be used for data and databases.

Why should open licenses be machine-readable?

Machine-readable open licenses can be viewed and indexed by platforms and tools online, making openly licensed content more easily accessible for everyone. When a digital resource is marked with a machine-readable open license, users can use advanced search tools to filter a web search and return only openly licensed search results. Many platforms can also read and display the title, author, source, and license information of a machine-readable open license, ensuring that the author receives proper attribution, and creating opportunities for users to find similar open content to reuse.

How does an agency add an open licensing requirement to its grants?

What model language can it use?

Agencies can specify open licensing requirements relative to particular grants or apply agency-wide policies. Creative Commons provides template language as a resource to federal grant-makers, available online: [Model US Federal Grant Open Licensing Policy Language](#). Agencies may elect to rely on general federal regulations in the Uniform Administrative Requirements at 2 CFR 200.315(b), which state:

“The non-Federal entity may copyright any work that is subject to copyright and was developed, or for which ownership was acquired, under a Federal award. The Federal awarding agency reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use the work for Federal purposes, and to authorize others to do so.”

Examples of Use

Department of State: E-Teacher Scholarship Program

This grant solicitation states:

All courses will be licensed using open copyright guidelines through the use of the Creative Commons Attribution License, version 4.0 or later (CC BY), to ensure that this award will have a significant multiplier effect, be cost-effective, and that it will encourage innovation in the development of new learning materials.

USAID, multiple contracts and cooperative agreements

USAID makes all of the reading “products” developed under the agency’s central programming and Mission contracts and cooperative agreements open source, preferably through the use of a CC BY license. USAID uses software to produce books that will be CC BY licensed by default, requiring CC BY licensing on all products produced with funds under the All Children Reading Contract, putting those products on the Global Reading Network website, and encouraging our other Mission programs to move to CC BY.

USAID’s All Children Reading Contract, or the “Assistance to Basic Education: All Children Reading Indefinite Delivery Indefinite Quantity Contract (ABE: ACR IDIQ)” is a global funding mechanism that supports U.S. Agency for International Development (USAID) missions and bureaus in achieving the goal of improving reading skills among children in primary grades. This contract requires applicants of the competition to:

Allow uploading, through Creative Commons licensing, other kinds of open source arrangements, or agreements with publishers/authors

See the [US AID: All Children Reading Grand Challenge for Development Competition](#) information guide for additional details.

Department of Education: First in the World Program Development Grants and FAQ on intellectual property. In cases where it is not possible or desirable to name a specific license, agencies can be specific about the required license terms to enable maximum interoperability, as shown below:

To ensure that the Federal investment of these funds has as broad an impact as possible and to encourage innovation in the development of new learning materials, FITW grantees will be required to license to the public all intellectual property (except for computer software source code, discussed below) created with the support of grant funds, including both new content created with grant funds and modifications made to pre-existing, grantee-owned content using grant funds.

That license must be worldwide, non-exclusive, royalty-free, perpetual, irrevocable, and grant the public permission to access, reproduce, publicly perform, publicly display, adapt, distribute, and otherwise use the intellectual property referenced above (except for computer software source code, discussed below) for any purposes, conditioned only on the requirement that attribution be given to authors as designated.

Further, the Department requires that all computer software source code developed or created with FITW funds will be released under an intellectual property license that allows others to freely use and build upon them.

Make content discoverable (Play 2)

Applying an open license to materials is only one step toward ensuring that these materials are openly available. Materials must also be discoverable, searchable, and easy to use and reuse by their intended audiences. Resources should be classified, described, and tagged so they can be found through search tools.

Ultimately, to maximize the impact of work released under an open license, the work must be easy for the intended audience(s) to find and use. Therefore, it is particularly important to understand the intended audience, where and how they search for content, the vocabulary and organizational conventions they use, and how they generally make use of content. Understanding how the audience looks for and uses content will help determine the best way to make it available for them. Additionally, there are a few terms to understand and questions to consider before determining how to make content discoverable in the most applicable and appropriate ways for the content audience.

Checklist

- Identify your intended audience(s).
- Investigate how your intended audience finds existing materials, including identifying commonly used existing repositories and discovery patterns. If possible, consult or interview your intended users.
- Determine whether you will recommend an existing repository or create a new one.
- Develop and issue guidance for grantees on uploading materials to a repository and adding appropriate metadata, open license mark, and classification tags to content.
- Include language requiring grantees to use the open license(s) you identify in your solicitation documents.
- Identify who at your agency will ensure that all grantee content is in the repository and that metadata is accurate.

Key Questions

- Is there an existing open repository for the relevant field? Does it have the capacity and desired management options to house additional materials?
- Does the repository make it easy to add an open license and filter search results by license?
- If you were to create a new repository, does your agency have the capacity to maintain it over time?
- What degree of involvement does the agency want in the use, update, and management of materials? How will the agency promote use of the resources?
- What browsing parameters make sense for your intended audience (e.g., arranging or filtering by date, subject, type of material, or accessibility features)? Are these available in the repository or platform?
- What search capabilities does your audience need? Do your tagging options correspond with these searching needs?
- Is your metadata consistent with other federal agencies (See Play 5)?

What makes a good repository

Where materials are located has an important influence on their use. To maximize use, materials should be housed in a repository that is openly accessible to the public with no login required. Also, housing materials in a centralized repository allows for their easy updating and discoverability. The repository could be developed and maintained by the agency or by a partner organization, or materials could be housed in an existing open repository widely used by the intended audience.

Classification

Classification and descriptive tags help users determine if the resource meets their needs. This is best done by the author at the time materials are uploaded into a repository, so it is important that the upload interface has the right fields to support search and discovery. Materials need to be classified and tagged in ways that make sense to the intended audience, which may not be the same classification system used by the agency. For example, if the materials are intended for education, classification tags should use terms that correspond to common subject descriptors and are specific enough to be helpful to those searching for them (e.g., “U.S. History 1920s” instead of just “History”). Major concepts that the materials cover should also be tagged (e.g., “Ecosystems” and “Water Cycle”, along with “Introductory Ecology”).

Metadata

Metadata include sets of tags describing high-level information about a resource, which make it possible for search tools to automatically filter and match content. These machine-readable standards are important for discovery of materials by criteria such as type of resource, license used, subject matter, author, etc. The [Learning Resource Metadata Initiative \(LRMI\)](#) outlines a set of standards widely accepted for openly licensed educational resources. However, additional classification is necessary to optimize the use of materials.

When considering the best classification and metadata, it is important to consider what is widely used in the industry to facilitate incorporation and discoverability.

Other discovery tools

Metadata and classification tags are two of the most important ways to enable discovery, but not the only ones. Materials created in digital formats that allow their contents to be easily searched, such as standards-compliant HTML, are more readily discoverable than content uploaded in proprietary, closed formats. Using URL patterns that include relevant information about the content makes it easier to index and search for OER. For example, including “englishlanguagecomprehension” at the end of a URL directing users to English language comprehension materials will ease indexing and searching. A robust search tool needs to be implemented to find the materials. The search tool can exist either within the repository or as an external tool, and must be easy for the intended audience to use.

Example of Use

U.S. Department of Energy’s [Education Toolbox](#). The Education Toolbox has categorized its resources to make it easy for teachers to find grade-appropriate resources. The toolbox includes search and browsing filters that make sense to teachers, including grade level, subject and resource type. Each description clearly identifies the title of the resource and includes a direct link. Downloadable resources include more detailed descriptions that provide a summary, information about the creator of the resource, and curricular suggestions.

Make resources adaptable and remixable (Play 3)

One of the goals of open licensing is to ensure members of the public are able to create derivatives of openly licensed resources, including by remixing content, translating content, localizing content, and creating accessible versions. There are two key factors for enabling adaptation: ensuring that the open license selected is broadly compatible, and ensuring that the openly licensed materials are in file formats that can be easily edited and tagged.

Checklist

- Consult open license options (Play 1) to determine which open license will best support the needs of your users.
- Investigate how your intended audience finds existing materials, including identifying commonly used existing repositories and discovery patterns. If possible, consult or interview your intended users.
- Try to anticipate users beyond the intended audience and identify their needs, both typical and unorthodox.
- As a default, designate that materials should be in digital formats that allow their contents to be easily searched and therefore become more discoverable, such as standards-compliant HTML.
- Require that all file formats produced with grant funds be digital, downloadable, editable, and unimpeded by digital rights management software or other technical protection measures.

Key Questions

- ° Does the open license maximize interoperability of content with existing and future openly licensed resources?
- ° What open file format would work best for the resources that will be produced?
- ° Are there ways you can ensure materials produced are immediately accessible and adaptable to a broad range of audiences?
- ° How might you ensure materials produced are accessible and adaptable to persons with disabilities or different learning needs (see Play 4)?
- ° Can you incorporate pathways for feedback in the design process for adaptability and remixability?
- ° What search capabilities does your audience need? Do your tagging options correspond with these searching needs?
- ° Is your metadata consistent with other federal agencies (See Play 5)?

Selecting an open license that ensures your content is adaptable and remixable

All open licenses grant users the right to adapt and remix resources. However, some licenses come with additional terms and conditions that can make this confusing or difficult. Using widely accepted open licenses can maximize the potential for remixing. More restrictive open licenses limit the possibility for reuse. See the Creative Commons [license remix chart](#) for limitations on remixability. Less restrictive licenses, such as the Creative Commons Attribution license (CC BY), enable content to be remixed with virtually all other openly licensed works.

Open File Formats

Different file formats are appropriate for different types of content, but all openly licensed content should be produced in formats that are digital, downloadable, editable, and unimpeded by digital rights management software or other technical protection measures. Grantees should have a plan to make files available in both editable formats (e.g., .odt) and view-only formats (e.g., .pdf) to facilitate reuse.

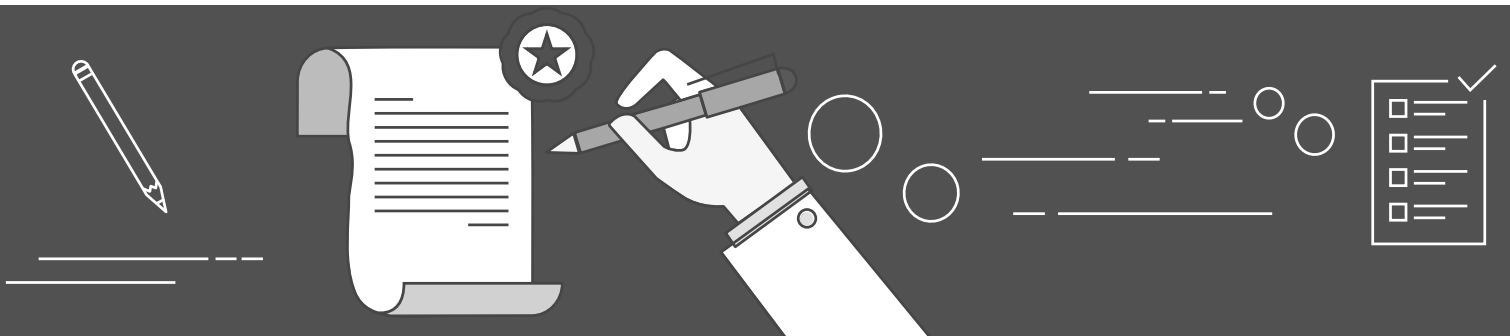
Example of Use

Department of Labor, Trade Adjustment Assistance Community College Career Training (TAACCCT).

Regarding digital file formats, Grant Round 4 states:

To enable others to easily access and work with all TAACCCT-funded, CC BY-licensed content, content should be made available in a file format that allows anyone to natively and directly edit the content. Content may be made available in multiple formats, but at least one of these formats must be openly editable by providing the original file format used to create the content. The type of file format varies by type of media:

- ° *For documents: Openly editable formats include original Microsoft Office files (e.g., .doc, .docx, .ppt, etc) and other editable document files. An example of a closed document format is a PDF, since files with the .pdf extension do not allow edits.*
- ° *For images: Source files should be shared for images (e.g. Adobe Photoshop), video clips, or Flash (such as FLA).*
- ° *For video: Common video formats include MP4 (H.264), MOV, OGM, WEBM, FLV, and AVI*
- ° *For audio: Common audio formats include MP3, OGG, FLAC, and WAV, Theora and MP4. For audio-only files, exporting to OGG Vorbis and MP3 is recommended. Include high-resolution versions of videos where possible.*



Build for accessibility and inclusion (Play 4)

All products that are created with federal funds should be “born accessible,” or created to ensure immediate accessibility for people with disabilities or different learning needs. Anything that is born digital can be born accessible. Accessibility standards and inclusive publishing practices should be required and applied from design development through production and dissemination. This helps extend the learning experience to the full spectrum of learners (including diversity of language, culture, age, gender, ability, and other forms of human difference).

Inclusive design is an approach that perceives disability as a mismatch between each individual’s unique needs and the design features of a product, built environment, system, or service. Inclusive design considers this mismatch to be conditional, solvable through design, and the result of many factors, including:

- Context (e.g., upon waking up in the morning)
- Environment (e.g., a dark room)
- Hardware and software variations (e.g., desktop or smartphone)
- Unique personal needs and learning approaches (e.g., I prefer to listen rather than read)

Inclusive design considerations expand the usability of openly licensed materials. Making openly licensed materials available in formats that insure their accessibility to every learner amplifies their impact and assures compliance with federal laws. Not every resource must be immediately available in multiple formats or fit every learner; rather, the resource format should permit adaptation to fit user needs. Open standards and formats that work across devices and platforms are more inclusive of diverse learners and situations.

Moreover, it is critical to ensure an ecosystem that supports not only the creation of accessible materials, but also the discovery, proliferation, and distribution of accessible variants. It is important to keep such an ecosystem in mind (for instance, by employing metadata to indicate the accessibility of available materials or discovery tools that allow users to filter for accessibility as well as for availability) to ensure that materials will benefit the broadest possible audience. See Inclusivity Design Research Centre (IDRC) diagram below more details.




Checklist

- Consult the Web Content Accessibility Guidelines [WCAG 2.0](#) standard for perceivable, operable, understandable, and robust web content.
- Consult the [US Department of Justice Guide to Disability Rights Laws](#), regarding regulations specified in Sections 508 and 504. Also see this quick reference guide for 508 compliance.
- Consult [accessibility guidelines for metadata](#) to ensure your materials are compliant with regulations.
- Ensure grant solicitations include language requiring grantees to emphasize “born accessible” materials.
- Require that all file formats produced with grant funds be digital, downloadable, editable, and unimpeded by digital rights management software or other technical protection measures.

Key Questions

- Will a diverse group of users participate in the design or vetting of resources developed through federal grants or contracts?
- Do the tools and templates for creating resources support accessibility?
- Have a full range of modes of interaction been considered and applied?
- Will the resources be flexible and adaptable so they can be personalized to fit a learner’s need or circumstance?◦ Can you incorporate pathways for feedback in the design process for adaptability and remixability?
- Is there a place where openly licensed adaptations of the resources can be gathered and found? Are resources easily discoverable? Modifications of resources by different users can be a better match for some learners’ needs.
- Will the metadata be compliant with commercial standards (i.e. [schema.org accessibility metadata](http://schema.org/accessibility-metadata))?
- Have you incorporated pathways for feedback from start to end?

INCLUSIVE DESIGN MAPPING TOOL

-  Current Solution
-  Required Standards
-  Inclusive Solution

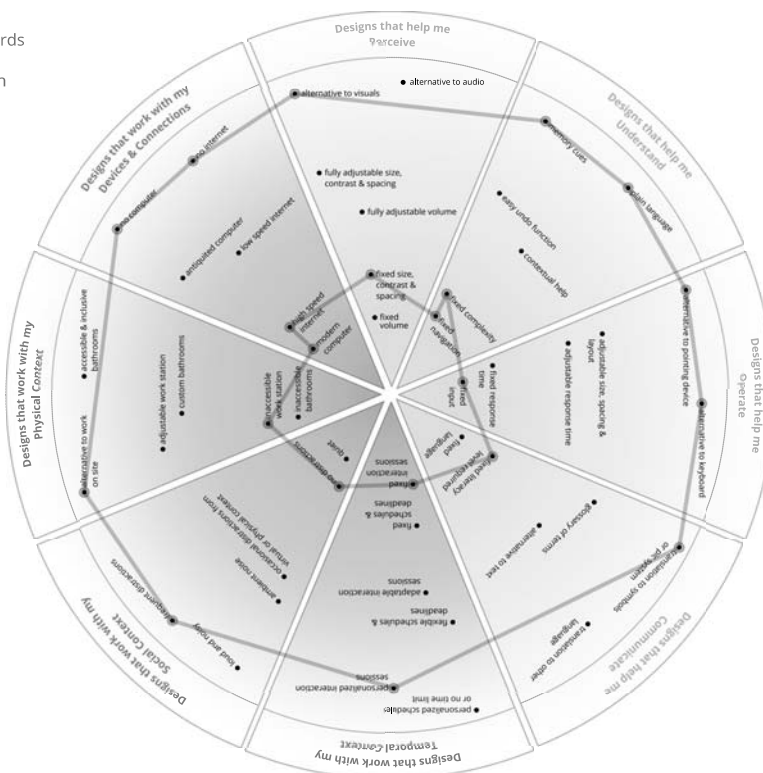


Figure 1: Inclusive Design Mapping Tool. By stretching the design to encompass “edge” requirements in a variety of facets we encompass the needs of a greater diversity of learners, goals and contexts. (<http://idrc.ocadu.ca>)

Example of Use

Department of Labor, Trade Adjustment Assistance Community College Career Training (TAACCT).

Grant Round 4 states:

All online and technology-enabled content and courses developed under this SGA must incorporate the principles of universal design (see <http://www.cast.org/udl/>) in order to ensure that they are readily accessible to qualified individuals with disabilities. The content and courses must be in full compliance with the Americans with Disabilities Act and Sections 504 and 508 of the Rehabilitation Act of 1973, as amended, and the Web Content Accessibility Guidelines 2.0, Level AA (<http://www.w3.org/TR/WCAG/>).

Resources

- For student who needs images with text description: <http://ncam.wgbh.org/> and http://ncam.wgbh.org/invent_build/web_multimedia/tools-guidelines or <http://diagramcenter.org/>

- For student who needs to learn through sense of touch: <http://diagramcenter.org/samplebook/03a-Institutional.xhtml> (embossed braille) or <http://diagramcenter.org/samplebook/09-Haptics.xhtml> (vibrating touchscreen) or <http://diagramcenter.org/samplebook/06b-CarbonAtom.xhtml> (3d model)

- For students who need customized access to interactive curriculum: <http://handbook.floeproject.org/InclusiveLearning.html>



Promote the reuse & enhancement of existing materials (Play 5)

In addition to requiring new grantees to openly license and share new works, agencies can also encourage grantees to leverage existing openly licensed resources produced from previous government grants and to reuse other existing openly licensed content.

Checklist

- Add text in your grant solicitation incentivizing grantees to reuse, revise, and remix existing openly licensed content where appropriate.
- Encourage grantees to develop a dissemination plan that details how they will promote their openly licensed resources to the public.
- Provide templates and sample text grantees can use to integrate information about their openly licensed resources into their existing outreach and communications strategies.
- Make it easy for grantees to upload/submit their openly licensed deliverables to an open content repository (see Play 2).
- Develop a communications plan to advertise and promote the reuse of publicly funded openly licensed resources.
- Promote open content sharing within and across federal agencies in order to save time and money, and reduce duplicated effort.
- Tag openly licensed resources and information about the grant program with descriptive metadata to maximize discovery and leverage complementary projects across the federal government (see Play 2).

Key Questions

- ° How can you revise your solicitation text to encourage grantees to build on existing openly licensed content? ° Does the chosen open license support your program objectives?
- ° How might you build a community of current and former grantees that encourages collaboration, knowledge sharing, and reuse of existing openly licensed content?
- ° How are your grantees currently disseminating the resources they produce?
- ° What are grantees currently required to share with your agency at the close of the grant?
- ° What technical assistance might your grantees need in order to more effectively disseminate the resources they develop using grant funds? If you are using a repository, what training might grantees need to efficiently upload/submit their openly licensed deliverables?
- ° What communication platforms are most effective for reaching your grantees, potential grantees, and key stakeholders? What communication platforms do you currently have at your disposal, and how might they be used to raise awareness about the openly licensed resources being funded by your program?
- ° How can you make other federal agencies aware of the openly licensed resources funded by your program and learn what other openly licensed content is being funded across other federal agencies?
- ° What descriptive metadata and common vocabulary should grantees use when describing the openly licensed resources they have produced and uploaded into the selected repository?

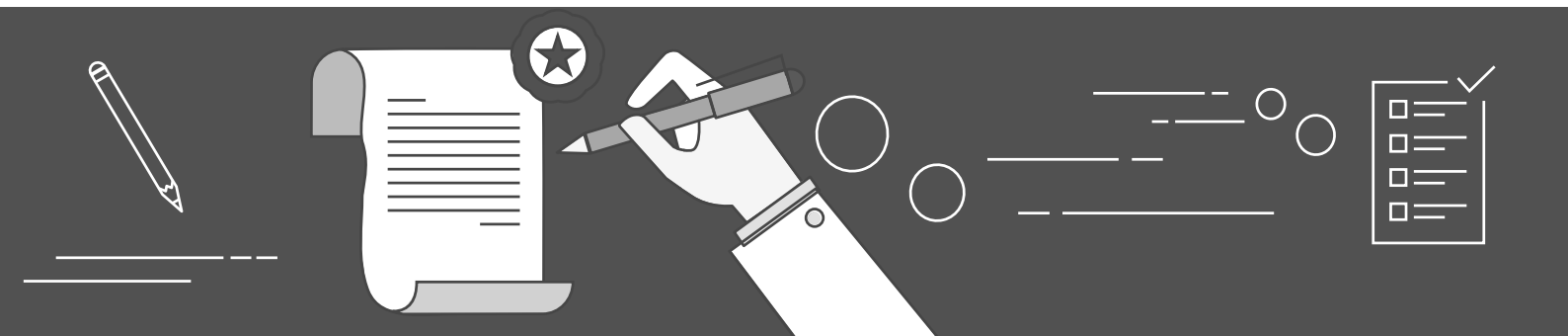
Example of Use

Department of Labor, Trade Adjustment Assistance Community College Career Training (TAACCT).

In rounds 3 and 4, Labor asked TAACCT grantees to consider reusing, revising, and remixing CC-licensed open educational resources from round 1 and round 2 grantees in the same grant:

Applicants will also incorporate existing Open Educational Resources (OER), including those resources developed in previous TAACCT projects, into their programs, as appropriate to reduce program costs, including the cost of program development. This reduction in program costs could include savings to students for learning materials, textbooks, and other resources whether required or recommended for the program of study. Reduction in the cost of program development could include the costs to develop digital content and objects, such as open textbooks, 3-D modules, and simulations.

As a result, a TAACCT grantee was able to reuse a collection of wind turbine technician training materials and simulation modules, which a National Science Foundation (NSF) grantee created with an open license.



Prepare staff and grantees (Play 6)

Effective implementation of an open licensing policy requires training and support to both federal grantmakers and grantees. Both grantmakers and grantees (or potential grantees) require training during policy development and program implementation.

Checklist

- Plan for regular and ongoing technical assistance for federal grantmakers and grantees by estimating and allocating up-front training costs.
- Clearly communicate the open licensing requirements and agency resources (if any) to support technical assistance when announcing grants with open licensing requirements.
- Clearly communicate the purpose of the open licensing policy, in terms of the potential benefits of openly licensing grant deliverables to both staff and grantees. When staff understand the purpose, it is easier for them to explain and enforce the policy.
- Identify training that will support federal grants staff at each stage of the grant-making process, from pre-award to close-out, including models for effective monitoring, dissemination, and maintenance.
- Identify training that will support grantees at each stage of the grant process, from pre-award to close-out. An interagency brainstorm with federal grants staff identified the following areas for training to potentially build understanding:
 - Technical and legal considerations associated with copyright and open licensing.
 - Contractual and negotiating considerations for subcontracted work.
 - Communicating about the open licensing requirement in plain language to vendors or potential vendors.
 - Dissemination strategies and suggestions for online repositories or hosting websites (see Play 2).
 - Assistance making deliverables available in editable formats (see Play 3).
 - Understanding how to openly license a resource that incorporates third party content.

Key Questions

- ° What funding or vehicles for technical assistance exist within your agency to provide professional learning for federal grantmakers? How might these existing resources be leveraged to provide training on open licensing?
- ° What new resources might need to be dedicated to provide ongoing technical assistance to grantees?
- ° What existing technical assistance resources developed by other organizations or agencies can be adapted for your agency context?
- ° Why would your agency or program pursue an open licensing requirement? How will this requirement benefit staff, grantees, and the American public?
- ° What existing grant-making processes or training should be tweaked to incorporate technical assistance and guidance for federal grantmakers implementing the open licensing requirement? Where are the gaps that require the development of new guidance or training?

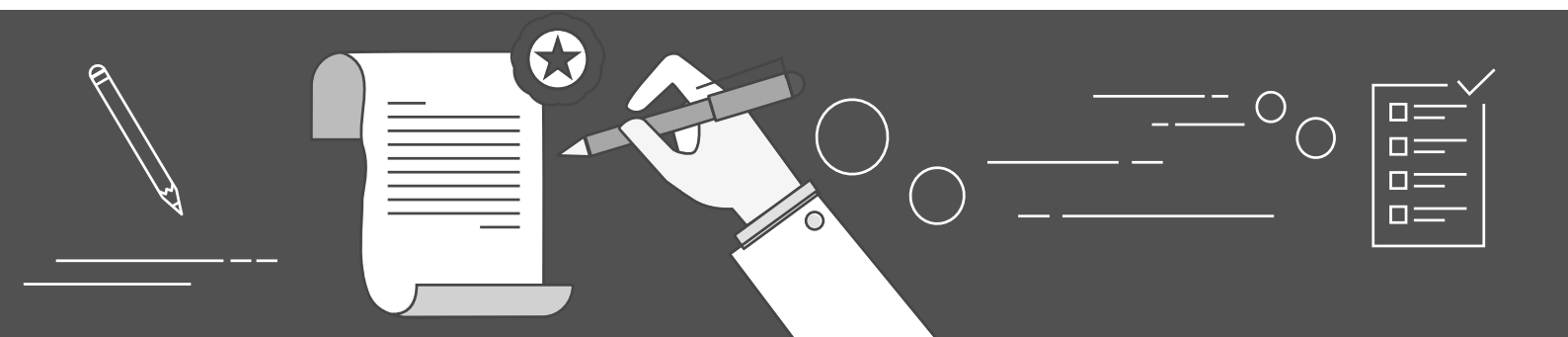
Example of Use

The **William and Flora Hewlett Foundation** developed a detailed implementation plan for its open licensing policy. The plan included launching the project with an all-staff meeting to explain the purpose of the policy and how its goals align with the Foundation's charitable mission, and to provide training on the legal and practical aspects of open licensing. To ensure their program staff receive appropriate support on an ongoing basis, the Foundation offers training to all new program staff and provides an [open licensing toolkit](#) with operational instructions for staff. Because the toolkit is openly licensed, it can be reused and remixed by other foundations and government entities. Grantees that need assistance or have questions about the open licensing policy are offered written materials, opportunities to discuss their questions with Foundation staff, and referrals to open licensing experts at organizations like Creative Commons.

The **U.S. Department of Education** encouraged grantees to apply open licenses to materials developed under "Race to the Top" and "Race to the Top Assessment" grants. To support this effort, the Department issued guidance for grantee consideration on the [intellectual property](#) of materials developed during the grant. Resulting resources include the popular [EngageNY](#) website, at which millions of educators worldwide have viewed tools over 100 million times. Similarly, the [Smarter Balanced Assessment consortium](#) provided the code for a test delivery platform that interested parties could use with any assessment.

Existing training resources

- [SkillsCommons Support Center](#).
- [Open Professionals Education Network \(OPEN\)](#) - Technical assistance materials created for Department of Labor TAACCCT grantees.
- [Open Washington: Open Educational Resources Network](#).



Provide sufficient funding (Play 7)

When materials are openly licensed, funding plans should include potential new costs to provide wide public access to those materials. You should consider how costs will shift when you promote the development and use of openly licensed resources. These may include costs of web hosting, new content development, adaptation of existing grantee-owned content, and grantee training. Clarity from the outset about roles and reasonable cost estimates are critical to success for grantees and agencies alike.

Checklist

- Assess project costs related to technology (e.g., web hosting, training, and development).
- Provide relevant information on potential projected costs in notices inviting applications and in grant agreements.
- Develop criteria and a process for internally considering whether a grant should be subject to an open licensing requirement prior to running a competition.
- Determine the pathways available for grantees to make the case for justifiable exemptions.
- Determine the level of flexibility federal grantmakers will need in order to implement the open licensing policy and provide robust technical assistance to ensure staff confidently implement the open licensing policy.

Key Questions

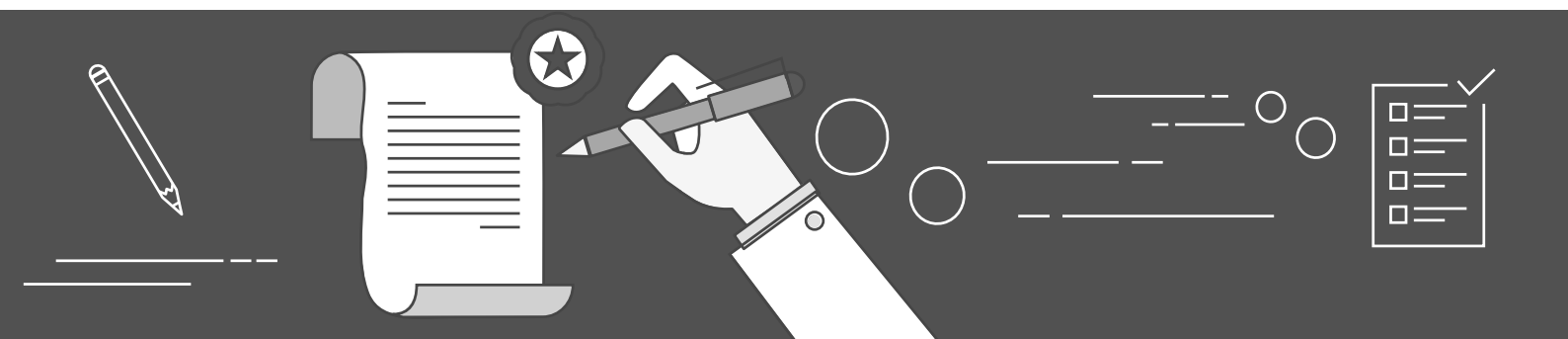
- Will federal grantmakers and grantees need training specifically related to open licensing? How will the agency and/or the grantees incorporate any costs directly related to open licensing into their budgets?
- Who will host the resources: the grantee, the agency, or another entity? How does hosting and material maintenance factor into the budget and budget review?
- How will resources be maintained beyond the grant period? Is this the responsibility of the agency or the grantee?
- Is the grantee likely to subcontract work that involves developing copyrightable resources? How must the grantee present the open licensing requirement in grant solicitations?
- Are prospective contractors likely to provide different cost estimates for work solely because it will be openly licensed? If so, how does this impact the number and type of grants that the federal agency can award? How does it impact the extent of work that the agency can expect?
- How much flexibility do federal grantmakers have to implement the open licensing policy?
- Will federal grantmakers or grantees be able to seek an exception to the open licensing requirement for certain grant resources? If so, under what circumstances?
- What is the process for determining exceptions, and who makes the final decision about whether an exception is granted?

Example of Use

Institute of Museum and Library Services: All grant programs.

Any grant application to support a project that will develop digital content must describe how it will provide public access to digital products. This information is considered during the peer review process. The [Digital Stewardship form](#) note:

Describe your plan for preserving and maintaining digital assets during and after the grant period (e.g., storage systems, shared repositories, technical documentation, migration planning, commitment of organizational funding for these purposes). Please note: Storage and publication after the end of the grant period may be an allowable cost.



Think Long-term: Making resources sustainable (Play 8)

It is important for educational resources to be current and relevant, yet this may be challenging to sustain, as grantmaking focuses on completing individual projects within a set period of time. Therefore it is important to consider how agencies, grantees, and the public can work together to ensure resources remain publicly accessible, usable, and relevant into the future.

Checklist

- Identify the best way give the public access to the grant-funded openly licensed resources.
- Review how your agency currently handles deliverables developed by grantees and how existing procedures for deliverables might be adapted for an open licensing requirement.
- Evaluate whether your agency's existing infrastructure and resources will allow you to develop or maintain an agency repository.
- Establish a step-by-step workflow for grantees that details the process by which content should be openly licensed and made available to the public.
- Determine options for engaging grantees to ensure ongoing maintenance, curation, and access of openly licensed materials beyond a grant period.
- Ask prospective grantees to provide a plan for how they will manage openly licensed resources, and give preference to proposals that demonstrate capacity and intent for ongoing maintenance. It is common for agencies to require that grantees submit plans for sustainability, dissemination, and partnerships that extend beyond the grant period, so consider how open licensing fits in with planning.
- Encourage collaboration among grantees. Consider how grant-funded projects relate to each other, and whether there may be opportunities for collaboration among grantees, or how new grantees may be able to build upon or repurpose previously funded openly licensed resources.
- Prioritize high-impact resources. Consider focusing on programs or specific projects where sustainability of resources is most important. These may be resources that are likely to be highly valuable for the public, or resources that may become out of date quickly and require maintenance.
- Think long-term. Consider keeping a separate archive or backup of the openly licensed deliverables to ensure their long-term preservation.

Key Questions

- ° How does your agency currently handle deliverables developed by grantees? Do you require grantees to submit copies of resources at the end of the grant? Do you require grantees to specify a dissemination plan with their grant proposal? Do you provide information to the public about the outputs of grants?
- ° How can existing processes for grant deliverables be adapted for the open licensing requirement?

continue >

Key Questions (Continued)

- ° What repositories already exist within your agency, and could they be expanded to house these openly licensed resources? Are there repositories maintained by other agencies or partners that would serve the purpose? Could funding for storage and dissemination of openly licensed resources be built into program budgets, as it is in service of the program's goals (see Play 2)?
- ° Will grantees be required to deliver a digital archive of deliverables to the agency or a designated partner, or can they simply post the materials online where the agency or partner could collect them?
- ° Should grantees share resources as soon as they are created, or all at once at the end of the grant period?
- ° How might grantees be encouraged build on or repurpose previously funded openly licensed resources?

Example of Use

Institute of Museum and Library Services: All grant programs.

Any grant application to support a project that will develop digital content must describe how it will provide public access to digital products. This information is taken into consideration during the peer review process. Grants state:

IMLS is committed to expanding public access to IMLS-funded assets, including research data and other digital products: the assets you create with IMLS funding require careful stewardship to protect and enhance their value. They should be freely and readily available for use and re-use by libraries, archives, museums and the public. Applying these principles to the development of digital products is not straightforward; because technology is dynamic and because we do not want to inhibit innovation, the IMLS does not want to prescribe set standards and best practices that would certainly become quickly outdated. Instead, IMLS defines the digital assets your projects should achieve in a series of questions; your answers are used by IMLS staff and by expert peer reviewers to evaluate your application; and they will play a critical role in determining whether your grant will be funded. Together, your answers will comprise the basis for a work plan for your project, as they will address all the major components of the development process. See the Digital Stewardship Supplementary Information Form for more information.

The [Digital Stewardship form](#) notes:

Describe your plan for preserving and maintaining digital assets during and after the grant period (e.g., storage systems, shared repositories, technical documentation, migration planning, commitment of organizational funding for these purposes). Please note: Storage and publication after the end of the grant period may be an allowable cost.

Measure and monitor success (Play 9)

Monitoring helps ensure that grant requirements are met and that projects have the intended impact. Materials should be included in the project's selected repository once they have met the grant or project expectations. Each grantee or contractor should identify who will be responsible for compliance with the requirements. Additionally, someone in the agency should be identified to monitor compliance by reviewing the materials uploaded into the identified repository.

Checklist

- Create clear guidelines, expectations, and targets for when, how, and what grantees should openly license.
- Identify who will review materials for an open license (e.g., the project manager, contractor, or program officer).
- Determine requirements for how openly licensed materials will be disseminated.
- Communicate with grantees how they will be supported with tools and resources and how grant deliverables will be shared with the public.
- Develop a process for ensuring grantee compliance with the open licensing policy. For example, federal grantmakers could check to make sure all grant-funded resources are properly marked with the open license before closing the grant.
- Determine what steps will be taken if the open license requirement is not met.

Key Questions

- ° What materials are grantees required to openly license? (e.g. training modules)
- ° What are grantees not required to openly license? (e.g. project emails)
- ° What is staff capacity to monitor? Can monitoring for compliance with open licensing be built into the current monitoring process and workflow? Are additional resources needed?

Example of Use

Most programs will produce openly licensed resources as a secondary program goal or as a means to achieve a larger objective. Open licensing requirements should be assessed in that context, rather than as a stand-alone objective. Each program will be different. For more information on effective program evaluation, you can consult the Office of Management and Budget's [resources on Evidence and Evaluation](#).

National Institutes of Health: Open Educational Resources for Skills Development in Biomedical Big Data Science

The National Institutes of Health grant states:

All open educational resources, including course components, tests, and e-publications developed under this [Funding Opportunity Announcement] should be produced to maximize interoperability, exchange, and reuse.

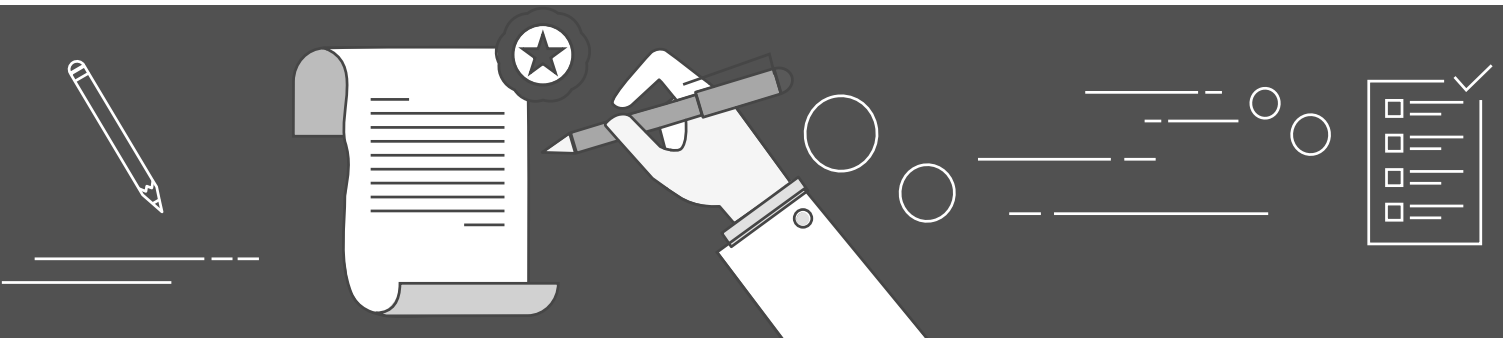
Attribution and License: Although proper attribution through citation is expected as a community norm, licensing for use is also important. Prior to release, all OER must be licensed for free, attributed public use and distribution. In general, such licenses should comply with the Open Knowledge Definition of an open license. Examples of open licenses are listed below:

° *Creative Commons Zero Public Domain Dedication (CC0), e.g.*

<https://creativecommons.org/publicdomain/zero/1.0>

° *Creative Commons Attribution (CC BY), e.g.*

<https://creativecommons.org/licenses/by/4.0>



Appendix

Open [copyright](#) licenses are defined as [licenses](#) in which the copyright holder(s) grant(s) a license to the public allowing the work to be freely used, copied, adapted, and shared.

Standard open copyright licenses can be used with agency grants to promote the sharing and reuse of grantee produced resources. Agencies must ensure that their use does not undermine rights under existing law or international obligations of the United States. Titles 17 and 35 of the [United States Code](#) provide relevant guidance on copyright and patent law. Open licensing policies require grantees to openly license content and software created with grant funds.

Below are questions to consider when evaluating open licensing standards for grants.

What's the difference between public domain and an open license, and why should we care?

Content federal workers produce as part of their job is considered part of the public domain by default. Works in the public domain are not copyrighted and may be used freely. Content produced by federal grant recipients does not default to the public domain. Adopting an open licensing policy can give the public the right to use and benefit from content produced by federal grant recipients. There are many different types of open licenses that specify different levels of rights. Open license grants give permission to the public to freely use, reuse, adapt, and share the work with no or limited restrictions. More restrictive open licenses put more conditions on how the public can use works (for example, by limiting use to noncommercial purposes). More permissive licenses have fewer restrictions (for example, by conditioning use only on attribution). Additionally, there are different licenses for different types of works, such as licenses intended specifically for content, software, or data.

If possible, you should name the specific open copyright license to be used within the open licensing policy. In cases where you cannot name a specific license, it is important to be as specific as possible about the required license terms. For example, a policy could either specify a Creative Commons Attribution License or use the following language describing equivalent license terms:

"All materials shall be licensed under an existing, standardized, worldwide, royalty-free, non-exclusive, irrevocable public copyright license that allows others to access, copy, distribute, transmit and adapt the copyrighted work, even for commercial purposes, as long as the work is attributed in the manner required by the license."

What training or support do federal grantmakers need to fully implement open licensing requirements?

During the development of an open licensing requirement, federal grantmakers need to carefully consider several interconnected issues related to open licensing. As described in the overview, colleagues will need sufficient background information to understand the primary benefits of open licensing and cases in which exceptions to using open licensing are warranted. During program development, grants colleagues will also need to estimate the up-front costs of training staff and prospective grantees about the open license policy, and should include such consideration in the estimated size of awards and number of anticipated awards. Grants colleagues without expertise in the training and implementation costs of requiring open licensing will need training and resources that provide accurate cost estimates. They also need to determine the nature and extent to which the agency expects to participate in maintaining and disseminating openly licensed materials once created. When announcing grants with open licensing requirements, agencies will need to clearly and effectively communicate the requirements and agency resources available (if any), and offer grantees relevant technical and financial information as they craft proposals.

Federal grantmakers will also need support in implementing open licensing requirements once grant awards are made. They will need models for effective monitoring and resources to offer grantees as they execute contracts and build openly licensed products. Grantmakers also need to be prepared to manage the dissemination and long-term maintenance of the resources. This may include additional staffing or training for grantmakers, technical training for grantees, contracting for support or content hosting, or other services.

What additional support do grantees need?

Grantees may need assistance with understanding everything from general copyright and open licensing principles to technical considerations and legal issues. If grantees are subcontracting for work that must be openly licensed, they may need support in anticipating needed contractual and negotiating considerations. Other grantees who have similar contracts can serve as excellent resources.

Ultimately, a major goal of an open licensing policy is for the openly licensed deliverables to be easily accessible and usable by others. Grantees may have questions about how to determine an appropriate online location and the means to make deliverables available to the public. Your agency may be asked to provide support, including suggestions for existing online repositories/hosting websites, or technical assistance to make content available in editable formats.

Grantees may need support explaining the importance and application of open licensing to staff within their organization. Agencies should develop plain-language written materials to share with grantees.

What additional support do grantees need?

Grantees may ask how an open license will apply to the specific grant deliverable and how they should mark openly licensed content. They may wonder how to deal with third party content that is included in the grant's deliverable and what level of policy enforcement the federal agency will undertake. They may also want to know how best to communicate the open license requirement to vendors or potential vendors.

FEDERAL OPEN LICENSING PLAYBOOK

