

Trust in Materials: Library Workers' Adoption and Adaptation of Open Educational Resources

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ABSTRACT

This paper reports on an exploration of library workers' perceptions of open educational resources (OER) and the characteristics that support adoption. Library workers play important roles in connecting educators to relevant OER and in developing OER that are used in library instruction and library and information science (LIS) education. In this focus group study, we investigated the characteristics and qualities of OER that library workers identify as essential in supporting adoption, including trustworthiness of OER, examples and stories of use, adaptability of materials, modular organization, and clear metadata. This paper overviews these characteristics and offers recommendations for library workers and library and information science faculty who are developing OER.

ALISE RESEARCH TAXONOMY TOPICS

Information use; Pedagogy; Academic libraries; Curriculum; User interfaces.

AUTHOR KEYWORDS

trust; reuse; OER; instruction.

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DOI: <https://doi.org/10.21900/j.alise.2024.1652>

INTRODUCTION

Open educational resources (OER) are pedagogical materials that “reside in the public domain or are under copyright that have been released under an open license, that permit no-cost access, re-use, re-purpose, adoption and redistribution by others” ([UNESCO, “Open Educational Resources”](#)). There are several categories of OER that library workers utilize or connect others to daily, including openly licensed textbooks, digital lesson plans, and training materials. While there is a rich body of writing on the role of libraries in facilitating access to OER, there is an opportunity to better understand the conditions that support library workers’ own use of OER.

As the expanse of digital resources continues to grow and with generative AI’s potential to impact the production of OER (Bozkurt, 2023), understanding how to position OER to be reusable is all the more important. In this study, we posed the research question: what are the characteristics of OER that support adoption? To explore our question, we invited library workers to participate in focus groups on the characteristics that support the adoption of OER they used in their instructional roles in libraries. The focus group discussions coalesced around open instructional materials, such as lesson plans, curricular materials, and activities. We found that library workers were more willing to adopt and reuse materials where they could assess trustworthiness in OER, access examples and stories of use, adapt materials, and where the content was clearly organized and described. Drawing upon these findings, we propose a *Checklist for OER Design* that can guide the creation of OER instructional materials, including those created by library workers and library and information science (LIS) faculty.

BACKGROUND

Libraries play a critical role in the lifecycle of OER (Smith & Lee, 2017; Lashley et al, 2018). In academic settings, libraries often “provide campus leadership in OER initiatives” (Katz, 2020, p. 419). Library workers serve as creators or co-creators of OER, including of OER that center representation of marginalized voices and reflect DEI principles in their design (Seiferle-Valencia, 2020). Additionally, library workers raise awareness of the availability of OER, advocate for use, and support discovery and selection of OER for teaching and learning (e.g. Anderson & Leachman, 2019).

The promise of the OER movement relies on their adoption. There is previous scholarship to enumerate the conditions and qualities of OER that advance this vision. Characteristics that encourage adoption of OER include quality management measures, like peer review of OER and open commenting and ratings (Hylén, n.d., Otto, 2022). Additionally, studies suggest that clear licensing of materials, modularity, file formats that support editing, and metadata about the creator and intended audience facilitate uptake, customization, and reuse of OER (e.g. Sicilia & García, 2003; Beaven, 2018; Otto, 2022; Mery, Vieger, & Zeidman-Karpinski, 2022). Given that librarians often have instructional responsibilities and may, along with LIS faculty, create and use OER materials, our study contributes to existing literature by considering the OER characteristics that encourage library workers to adopt them for instructional purposes.

STUDY DESIGN

In this qualitative study, we invited library workers to participate in virtual focus groups. We recruited participants online via emails to our county library system, library-related listservs, and social media posts. We had 16 total participants, representing a range of public and academic

libraries. Participants held a variety of roles, from specifically scoped OER librarian roles to instructional librarians. Two focus groups - conducted via Zoom - were each facilitated by two authors.

We asked participants to share insights into OER they employ in their work using a Google Document (Figure 1) and used a semi-structured instrument to guide additional discussion. From existing literature, the project team identified characteristics that support adoption of OER, developing a draft *Checklist for OER Design* that captured these desirable characteristics. As a final activity in the focus groups, we asked for participants to reflect on the checklist based on their own practice (Figure 2). This spurred discussion and the identification of additional criteria that should be included in this checklist.

Our data analysis involved iterative rounds of coding and thematic analyses of the focus group Google Documents and facilitator notes. We also analyzed the OER that participants shared through open coding as well as using our checklist. Through several rounds of coding and analyses of the focus groups and participant-provided OER, we found the following to be critical characteristics of OER for the purposes of adoption: trustworthiness and stories of use, modularity, adaptable design, and documentation and metadata. As a final step, we revised our *Checklist for OER Design*, generated from our literature review, to reflect the focus group themes (Figure 4).

Figure 1

Screenshot of Google Document reflecting OER description from participant

#5.Name of resource: #DLfTeach Toolkits: Lesson Plans for Digital Library Instruction
Link: <https://dlfTeach.pubpub.org/dlfTeach-toolkits>

What type(s) of instructional materials are included within the resource?	How have you engaged this resource?	Who are the intended learners?	What do you like about this resource?	What would you add or change to improve it?
Mostly lesson plans	I created and used one of the lesson plans and continued to adapt it for reuse. I also have been a reviewer for lessons in two editions.	Varies depending on the lesson, but undergraduates and up.	The range of topics and the detailed breakdown of the resources required. There is flexibility to adapt some of them to different subject areas.	Including slide decks would be helpful, or if there are other multimedia materials to be included. Some have these, some don't. PubPub formatting can be a little odd in terms of being able to follow and link things easily. Some aspects can go out of date quickly too.

Figure 2

Screenshot of focus group slide with draft checklist of OER characteristics to support adoption; We later revised the checklist to reflect the focus group findings (see figure 4)

Checklist for Adoption and Reuse:

- Open license
- Metadata that captures:
 - Creator information
 - Target learner group
 - Target learning context (primary school, higher education, asynchronous delivery, synchronous delivery)
- Flexibility
 - Format that allows for wording and stylistic changes (e.g. not a PDF format)
 - An “extensible” lesson plan that can be delivered using an alternate pedagogical format or with altered “steps”
 - Flexibility in modality
 - Flexibility in alternate tools that can be used for delivery
 - Modularity in slide decks that support customization
- “Quality assurance”
 - Case studies of adoption
 - Open peer review
 - Rating or commenting system
- OER targeting facilitators at different stages of expertise spectrum

FINDINGS

Using the OER examples that they brought to the focus group, participants introduced a number of themes that support OER adoption.

Trustworthiness

The perceived trustworthiness of OER was an important factor for participants when making decisions about adopting and reusing instructional materials. One contributing factor to trustworthiness was the knowledge of or relationships with the OER creators. The names of organizations they already knew, as well as the names of authors whose work they respected or whose materials they had used before were regarded as more trustworthy by virtue of prior reputation. This means that network connections, professional titles, and social ties all bring the potential for higher trust and therefore, higher confidence in OER content.

Participants explained how their trust in OER is legitimized if other colleagues or peers recommend or use the resources. When discussing factors that contribute to reuse, one participant stated the importance of, “knowing other people who are using it; who has used it, who recommends it. And seeing it in actual use.” Participants expressed value in both peer-to-peer recommendations and open peer review of OER.

Stories of use or case studies were identified as an important component of building trust in OER. Having case studies of individuals using the materials helps other users to understand how the resources can be leveraged for instruction and other applicable scenarios. For example, users valued learning whether a library adopted a resource for a particular type of workshop that may be offered in their own library. Stories of use support trust in the materials by acting as a form of vetting - it can be encouraging to know other people who are using it; who has used it in

the past, and who recommends it based on their use. Sharing stories of use with the OER also provides opportunities to build on the materials and continuously adapt them. This is a way to share expertise across institutions, place, and time.

Modularity

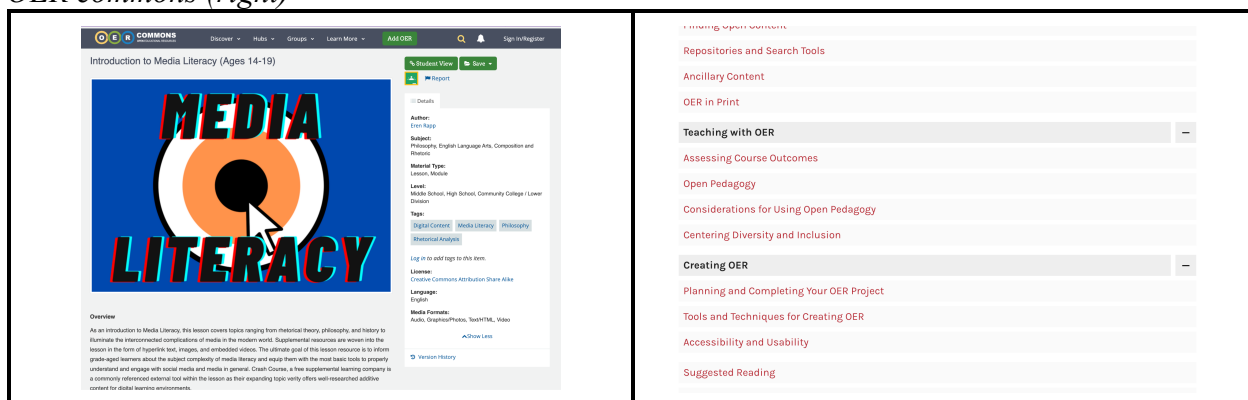
Participants emphasized the value of modular materials. Modularity within this paper refers to the extent to which content within an OER is self-contained so that it can be adopted and customized for reuse. Our analyses revealed that time-labeled instructional segments and content modularity were two characteristics that made instructional OER useful and more compelling for the purposes of reuse particularly within educational contexts broadly conceived.

OER are more adoptable and reusable when learning materials state specific time frames needed for delivery and allow for some adjustment based on a facilitator's available time. For example, one focus group participant observed that indicating how much time is needed to use the segment in a lesson is valuable (e.g. "if you have 10 minutes in a lesson, use this activity"). An activity that is modular in terms of time allows OER users to more easily adapt content for the time that they have available in their instruction. Modularity by time can also aid users who might not necessarily be well-versed in a specific topic or are inexperienced facilitators, because they can figure out how to adapt materials to deliver coherent experiences.

Another facet of modularity was in how OER are framed in relation to subject matter. One academic librarian shared how modularity was important for faculty uptake in classrooms: "[faculty] seem to start out by thinking 'Oh, there's not a textbook that exactly matches my course' and stop there. But there are almost always sections, chapters, components, etc. that they can bring in." In other words, when librarians can access instructional content organized around a concept, practice, or big idea, they are more likely to be able to reuse OER. Modularity within content speaks to the structure of how OER are designed. If OER designers leverage clear and plain language and group activities logically, ideas, or resources together using keywords, users are more likely to find connections between their instructional needs and the OER (Figure 3).

Figure 3

Examples of participant OER that include keywords or content categories: media literacy (left), OER commons (right)



Adaptable design

Participants discussed the importance of design decisions that support adaptation, or local change, to OER. There are three themes of adaptable design that emerged in the focus groups: thoughtful format selection, interchangeable examples, and clear licensing information.

The file formats that OER creators used was one design feature cited by focus group participants as important for their ability to adapt. One participant who had created OER said that they reflected on the file formats that library workers and educators are likely to use in their everyday work practices and which formats people will be able to access without a specific software program. This participant described making OER available through Google Slides and PowerPoint to support wide use. As a counter example, one participant cited challenges in editing OER made available as Microsoft Publisher (.pub) file because of lack of access to the software program.

Participants discussed the importance of designing OER that can easily be updated with more current illustrations or more local illustrations of concepts. One participant pointed to an OER toolkit of lesson plans that they draw upon in their work, but observed that the examples “quickly become out of date.” This participant also described how the US-based authorship is reflected in materials and discussed how unraveling the lessons to supplant a US-based example with a Canadian example (the country where the participant is based), is time consuming. Such flexibility, one user suggested, can also support the ability to “adapt ...to different subject areas.” Designing materials to allow for the insertion of local examples was an aspect of adaptability that some participants cited as important.

Finally, clear licensing information was highlighted as an adaptable design decision. Creative Commons licensing, for example, signals to users that an OER can be adapted.

Documentation and metadata

Participants emphasized the value of accessible documentation, including metadata that communicates the “aboutness” of the resource and supports discoverability, and information about the creation and use of OER. Documentation is tied to each of the areas discussed above, but was highlighted as a valued feature unto itself throughout both focus groups. Metadata and documentation provide insight into potential uses of OER and contribute to a sense of trust.

Metadata provides valuable context for potential users of existing OER. Specifically, metadata that communicated information about OER creators, target learner groups, and target learner contexts were referenced as significant factors that might encourage (or, in its absence, discourage) reuse. Creator information metadata, including the names of individual authors, contributors, editors, and/or institutions responsible for the creation of the resource arose in focus group discussions.

Contextual information, particularly information about the development of OER, was a feature that participants linked to the concept of trust. Documentation that explicitly guided the user in adapting OER to suit their needs and local contexts encouraged adoption. One participant praised an OER for not only the “range of topics” it covered, but the “detailed breakdown of resources required” to use it in practice. Another participant observed that a valued resources’ “dashboards and reports are well documented,” increased ease of use.

SYNTHESIS

Following our analysis, we returned to our functional *Checklist for OER Design* and reflected on the insights of focus group participants. Figure 4 offers the checklist as a synthesis of the literature and focus group study and as a tool that can be used to guide for OER creators and users.

Figure 4

Revised Checklist for OER Design

Characteristics	Design Elements
Trustworthiness	<ul style="list-style-type: none"><input type="checkbox"/> OER resources allows for recording stories of use<input type="checkbox"/> Open peer review<input type="checkbox"/> Rating or commenting system
Modularity	<ul style="list-style-type: none"><input type="checkbox"/> An “extensible” lesson plan that can be delivered using an alternate pedagogical format or with altered “steps”<input type="checkbox"/> Range of materials that are able to be implemented in different time increments<input type="checkbox"/> Content organized by theme, subject area, or key metadata<input type="checkbox"/> Segmented organization of instructional materials<input type="checkbox"/> Materials can be easily segmented for delivery in different increments of time
Adaptability	<ul style="list-style-type: none"><input type="checkbox"/> Format that allows for wording and stylistic changes<input type="checkbox"/> Interchangeable examples<input type="checkbox"/> Openly licensed or public domain<input type="checkbox"/> Flexibility in delivery modality (online or in-person; asynchronous or synchronous)<input type="checkbox"/> Technology agnostic or flexible (e.g. facilitator can use a delivery tool available to them)
Documentation and Metadata	<ul style="list-style-type: none"><input type="checkbox"/> Descriptive metadata that supports discoverability and understandability<ul style="list-style-type: none"><input type="checkbox"/> Subject areas, themes, and keywords<input type="checkbox"/> Creator metadata<input type="checkbox"/> Target learner group<input type="checkbox"/> Target learning context

DISCUSSION AND CONCLUSION

The theme of this year’s conference, *The Ethics and Evolution of Truth and Information*, aptly highlights the ongoing tensions in navigating endless amounts of information. Thus,

developing and maintaining trust of users so they can repurpose OER for teaching and facilitation, research, and other pedagogical or professional purposes requires critical attention to the design of OER. The library workers in our focus groups affirmed the importance that trustworthiness plays in the adoption and reuse of OER: trust in the authors or creators or institutions that house OER, and trust in people who refer library workers to content. In our checklist, we shifted from the literature's framing of this concept as 'quality assurance' to 'trustworthiness,' reflecting the discussions with participants.

Our focus groups demonstrated that thoughtful design decisions can encourage the adoption of OER and our *Checklist for OER Design* is a useful heuristic to ensure an OER is designed for reuse and adaptation. We view the checklist as relevant to a variety of groups, including library workers and other stakeholders like LIS faculty and funders. Both library workers and LIS faculty are contributing to the creation of OER on information, data, media literacies and more. They can implement the checklist to design with intention and with the ultimate goal of supporting adoption by others. Funders who are supporting OER creation can advocate for reuse by encouraging funded OER to incorporate design elements that encourage adoption. Funders and grantees can use the checklist to evaluate OER, supporting use of existing materials instead of funding or creating redundant materials.

Our conversations with focus group participants served as a reminder that librarians have an important role to play in navigating the contemporary information landscape, as they possess and can share with others the ability to critically read and examine information resources. In being thoughtful about the design and structure of content, OERs can continue to aid not just library workers but others who are engaged in designing a range of learning experiences.

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