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OER: A Field Guide for Academic Librarians

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OER: A Field Guide for Academic Librarians

Description
We intend this book to act as a guide writ large for would-be champions of OER, that anyone—called to action by the example set by our chapter authors—might serve as guides themselves. The following chapters tap into the deep experience of practitioners who represent a meaningful cross section of higher education institutions in North America. It is our hope that the examples and discussions presented by our authors will facilitate connections among practitioners, foster the development of best practices for OER adoption and creation, and more importantly, lay a foundation for novel, educational excellence.

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Introduction

OER: A Mechanism for Educational Change

Jonathan Lashley, Andrew Wesolek, & Anne Langley

For many of us, the drive to effect positive change—however vague or idiosyncratic our sense of this might be—has guided our work in higher education. We champion the pursuit of a college degree because few endeavors can match it in terms of advancing a person's economic mobility (Chetty, Friedman, Saez, Turner, & Yagan, 2017). Despite recent debates about the value of a college degree (Pew Research Center, 2017), the opportunities and financial stability awarded to those with college degrees remain apparent when they are compared to peers who have only graduated high school (National Center for Education Statistics, 2017). And while more Americans have a college degree than ever before (Ryan & Bauman, 2016), access to a formal, post-secondary education continues to be elusive for some.

Indeed, over the last 10 years, analysts have projected that the cost of attending college would keep 2.4 million low-to-moderate income, college-qualified high school graduates from completing a college degree (Advisory Committee on Student Financial Assistance, 2006). During that same period, college students in the United States saw expenses related to tuition and fees increase by 63 percent, school housing costs (excluding board) increase by 51 percent, and textbook prices increase by 88 percent (Bureau of Labor, 2016). Because few students can afford a college education through salary alone, 44.2 million Americans have sought financial aid via student loans. As a result, total student loan debt is now topping $1.45 trillion in the United States (Board of Governors of the Federal Reserve System, 2017), and student loan delinquency rates are averaging 11.2 percent (Federal Reserve Bank of New York, 2017). The burden of a student's financial decisions extends beyond the mere

individual: society will inevitably carry the weight of this debt for years to come.

As a means of making college more affordable and promoting access to educational content, many of us look to open educational resources (OER) as a catalyst for positive, tangible change. Residing in the public domain or licensed in such a way that they are made free for use and repurposing by others (Hewlett Foundation, n.d.), these open teaching, learning, and research resources not only serve as alternatives to commercial educational products, they promote new relationships between academic communities and educational content. Take, for instance, the *Project Management for Instructional Designers (PM4ID)* (2016) project that David Wiley undertook with instructional design students at Brigham Young University. Though open project management textbooks existed, none addressed the work of instructional designers in particular. Rather than make do with a general textbook, the affordances of openly licensed content engendered Wiley's students to work as co-authors and -editors on the content of a new, specialized open textbook that is still widely distributed and updated regularly. Thanks to OER, students became consumers and producers of increasingly valuable content while Wiley's assignments and course materials became only more relevant to the context of his class.

The Basics of OER

Open textbooks like *PM4ID* may arguably be the best-known form of OER, but the potential implementation of OER extends well beyond the textbook format. Definitions of OER account for a plethora of education-related assets including "full courses, materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials, or techniques used to support access to knowledge" (Hewlett Foundation, n.d.). While any such content that exists in the public domain is free to (re)use and may play a valuable role in the development of OER, because copyright protection does or will not apply to such authored work (United States Copyright Office, n.d.), it is the affordances to retain, reuse, revise, remix, and redistribute (the 5 Rs) of open licensing that promote OER adoption as worthwhile. Coined by Wiley (Open Content, n.d.), the 5 Rs describe the ways in which openly licensed content may be transformed while still celebrating the work of the original author. Under open per-

missions, anyone might responsibly copy, keep, combine, edit, and share the original author's IP:

1. Retain: the right to make, own, and control copies of the content (e.g., download, duplicate, store, and manage)
2. **Reuse**: the right to use the content in a wide range of ways (e.g., in a class, in a study group, on a website, in a video)
3. **Revise**: the right to adapt, adjust, modify, or alter the content itself (e.g., translate the content into another language)
4. **Remix**: the right to combine the original or revised content with other material to create something new (e.g., incorporate the content into a mashup)
5. Redistribute: the right to share copies of the original content, your revisions, or your remixes with others (e.g., give a copy of the content to a friend) (Open Content, n.d.).

Thus, by way of the 5R permissions, users may transform openly licensed content under new, more fitting applications across myriad creative and educational contexts.

Organizations like Creative Commons (CC) exist to provide standardized, alternative means of licensing content so as to support original content creators and the 5R permissions alike. CC—a nonprofit organization that is the perhaps the most prominent platform for open licensing—maintains six licenses (BY, BY-ShareAlike, BY-NoDerivative, BY-NonCommercial, BY-NonCommercial-ShareAlike, BY-NonCommercial-NoDerivative). Through these licenses, authors may easily redefine the terms of copyright that are otherwise automatically applied to creative work, allowing materials to be shared broadly, reused flexibly, and modified legally (Creative Commons, n.d.). While any of the CC licenses may accompany OER, the least restrictive, CC-BY, is the one that we, the authors of this book, most heartily endorse (note that this book is licensed CC-BY). This particular license ensures that any resulting application of a work will provide attribution to its original authors without discouraging the transformative activities of others. A license that fully protects ownership and guides the open improvement of materials by all original and potential authors thus becomes a mechanism for great change in the development and distribution of resources to aid teaching, learning, and research.

This Book: A Guide

The production of new scholarly material is not without costs. While the end product may be free to read and free of most copyright restrictions, the production of OER requires substantial institutional investment—primarily in labor—for services such as peer review management, copy editing, typesetting, and the like. These up-front costs, combined with the lack of a clear revenue stream for OER, pose a challenge. Further complicating things, the possible implementations of OER may vary significantly as OER initiatives span departments, institutions, and systems. As is the case with other initiatives in higher education, research, assessment, and evaluation activities become necessary to support and sustain OER. Whether it is identifying milestones and stakeholders, surveying technical infrastructure and support, designing success criteria and evaluation, or shepherding training and curriculum changes, OER initiatives beg for collaboration among the various departments of our institutions. Some, including the editors of this book, look to academic librarians as uniquely qualified to lead such efforts (Bell & Salem, 2017). Simply, academic librarians are already well versed in managing content and working with others across disciplinary, professional, and geographic lines.

While faculty members and academic departments ultimately determine which educational materials are most appropriate for their courses, faculty, educators and academic leaders are not always aware of affordable or open alternatives to publisher content. Librarians, on the other hand, have a rich history of discovering educational materials broadly defined, ensuring access to such resources, and educating others about their use. This professional perspective encourages librarians to take a comprehensive view of educational resources. The greater the complexity of OER in form, the more we see a need for such wide gaze in coordinating the community-driven approaches modeled by cases covered in the following chapters. It takes a village to adopt, modify, create, and share content well.

Structure of this Book

We intend this book to act as a guide writ large for would-be champions of OER, that anyone—called to action by the example set by our chapter authors—might serve as guides themselves. The following chapters tap into the deep experience of practitioners who represent a meaningful

cross section of higher education institutions in North America. It is our hope that the examples and discussions presented by our authors will facilitate connections among practitioners, foster the development of best practices for OER adoption and creation, and more importantly, lay a foundation for novel, educational excellence.

The openly licensed content of this book is organized into four sections: (1) an introduction to OER, (2) discussions of how OER transforms teaching and learning, (3) examples of how librarians advocate for OER across campus, and (4) models of library-supported adoption and creation of OER. We encourage readers who are new to OER to read through this volume linearly, beginning with the introductory material. Seasoned practitioners may wish to pick and choose among the case studies that most closely relate to the contexts of their particular institutions. The open education movement is made up of passionate professionals who are willing to share their experience with others (as evidenced by this open access collection of case studies). Readers will find brief biographies for all of our contributing authors, and we suggest that you reach out to those figures who seem most compelling or whose work most closely aligns with your own.

Section 1: The Case for OER

In Section 1, our authors describe the interdepartmental and transdisciplinary stakes, strategies, and opportunities that exist as the academic community endeavors to support OER in higher education.

Throughout "**Stakes and Stakeholders: Open Educational Resources—Framing the Issues**," Yano and Myers offer a broad survey of the ways in which OER is uniquely equipped to address the political, economic, and cultural conditions at play in modern education contexts. The authors further elaborate on how the escalating price tag for a college education relates to changes in the commercial publishing market, and identify the ways in which publishers' "digital direct" and "inclusive access" models are attempting to confound and cannibalize non-commercial technology like OER. As Yano and Myers explain, however, government entities, nonprofit organizations, and grassroots organizing have proven helpful in launching OER initiatives and keeping them open. Finally, this chapter puts forward a shared discourse for OER by highlighting the

terms, actions, and responsibilities that we might share when working with others.

Hilton, in "**What Does the Research Say About OER?**," reviews the empirical research proving the efficacy of OER as an intervention. He situates the rise of OER as a means of combating the otherwise unchecked rise in textbook prices that has negatively affected students, taxpayers, and institutions financially. Perhaps even more important than securing financial equity, however, are the ways in which OER facilitates effective teaching and learning. By tracing how studies about cost savings, student outcomes, OER use, and user perception have proliferated over the last decade, Hilton paints a lucid picture of the meaningful relationships that exists between student success and open access to educational materials.

Section 2: The Pedagogical Implications of OER

In Section 2, our authors dive deeper into how OER-based interventions transform educational experiences for students and instructors alike.

Drilling down into the specific opportunities that OER initiatives might provide for academic librarians, Amaral's chapter, "**From Textbook Affordability to Transformative Pedagogy: Growing an OER Community**," situates support of OER as inherently complementary to the mission, resources, and priorities found at many libraries. Celebrating the top-down leadership of the City University of New York (CUNY) subsidizing library leadership in promoting low- and no-cost course materials, Amaral accounts for the hurdles, milestones, and opportunities that have helped position CUNY OER initiatives as some of the most compelling, scalable, and library-centric in the nation. At Borough of Manhattan Community College (BMCC), Amaral's home institution, success with OER has come through a variety of approaches that are measurable for impact and, in turn, reveal a clear picture of positive outcomes around OER. As a result, the chapter highlights the ways in which an active and engaged culture may emerge from librarians setting clear goals and working with others in the greater pursuit of reclaiming knowledge as public good.

When it comes to supporting OER, Reed recognizes a need for increased collaboration between information literacy and scholarly com-

munication librarians. In her chapter, "**An Exploration of the Intersections of Information Literacy and Scholarly Communication**," Reed reflects on recommendations put forward by the Association of College & Research Libraries (ACRL) white paper for how these two areas of librarianship might intersect in significant ways. For librarians who are serving in one of these two contexts, or for non-librarian readers who seek to better connect with their library counterparts, this chapter underscores the importance of not neglecting one's own department when forming OER partnerships. Further, under the diversity of roles that occupy modern librarianship, Reed makes a case for why academic libraries are so perfectly positioned to initiate, innovate and support OER.

Reed and Turner, both of University of Texas at Arlington, in their chapter, "**Experiential Learning and Open Education: Partnering with Students to Evaluate OER Accessibility**," provide us with a description of their work with a student intern on evaluating OER for accessibility with disabled students. This chapter describes how they created a student internship program that designed guidelines, criteria, and standards for accessibility evaluation. The chapter includes the methods they used, the key resources they used to design their evaluation, and describes in detail how to evaluate OER for accessibility. They looked at content organization, how images are presented, tables, hyperlinks and multimedia, formulas, fonts, and color contrast. They also describe how the internship worked.

In her chapter, "**Course Material Decisions and Factors: Unpacking the Opaque Box**," Walz helps us consider the many factors that accompany course material selection and adoption. Though powerful forces like academic culture, tradition, and training might stymie the work of librarians, instructional designers, and others in cultivating a more purposeful relationship between instructors and the course materials they use, Walz observes an opportunity for open education advocates to break through these barriers and create more transparent, deliberate practices when evaluating and selecting required materials. Emphasizing how openness may inspire an ethic of understanding in those of us who work closely with faculty, this chapter offers insight as to how an individual librarian or other academic staff member might spark new and powerful

conversations about course content by establishing shared values through a culture of trust and understanding.

In the final chapter of this section, Jhangiani and Green propose unity between librarians and others under the imperative of openly sharing practices and resources to support pedagogical innovation. "**An Open Athenaeum: Creating an Institutional Home for Open Pedagogy**" promotes contemporary conversations about how OER empower pedagogy in transformative ways, and illuminates the ways in which academic librarians and library resources might support these innovations. Jhangiani and Green provide multiple, tangible examples of open pedagogical practice across several disciplines and offer suggestions for how pedagogy, not tools or texts, is at the heart of our efforts when we advocate for OER. For the authors of this chapter, there is no better locale in which to cultivate the pedagogical efforts of an individual than among the resources and staff of an academic library.

Section 3: OER Advocacy, Partnerships, Sustainability, and Student Engagement

Section 3 provides a series of case studies about the practical, collaborative, and renewable aspects of supporting OER. Many strategies thus emerge for engaging instructors/students, finding and evaluating existing OER, and partnering with other units to support adoption/modification/creation initiatives.

In "**Open Partnerships: Identifying and Recruiting Allies for Open Educational Resources Initiatives**," Cummings-Sauls, Ruen, Beaubien, and Smith extend conversations about OER-enabled partnerships by exhaustively describing the roles and responsibilities harbored by potential stakeholders in OER initiatives and highlighting the ways in which librarians might instigate partnerships between these groups. By clearly identifying the stakes of library, faculty, student, administrative, instructional design, information technology, and bookstore partnerships, the authors promote a sort of inventory for how and why we might meaningfully engage these local audiences in support of OER. Looking beyond our institutions to the broader external communities, legislation, and services related to OER, this chapter introduces the importance of considering how conversations might (and ultimately

should) scale to include metrics that are worth sharing outside of our respective institutions.

"**Getting to Know You: How We Turned Community Knowledge into Open Advocacy**," by Lillian Rigling and William Cross is about how North Carolina State University (NCSU) Libraries assessed their OER work and outreach strategies with students. NCSU implemented an Alt-Textbook program to fund the creation of free or low-cost learning materials in 2014. While the program had success in the specific areas where it was adopted, the library wanted to work through their students to support wider advocacy for the program. This chapter describes how they designed and conducted targeted outreach to students and how they assessed their outreach work.

DeeAnn Ivie and Carolyn Ellis's chapter, "**Advancing Access for First-Generation College Students: OER Advocacy at UT San Antonio**," describes in detail how they worked through campus partnerships and multiple student groups for OER advocacy with major campus stakeholders. This university with a large population of Hispanic first-generation students had strong economic drivers for OER, and the library took advantage of this unique population to lead the way. This chapter discusses integration with the registrar, the campus bookstore, and partnering with the Provost and the teaching and learning center; describes how they worked with the student government and various student organizations to not only market but assess progress; describes the metrics they used to measure the program's strengths and weaknesses; and finally talks about their future directions and how they will use strategic indicators to assess outcomes.

Alesha Baker and Cinthya Ippoliti, in their case study, "**Student-Driven OER: Championing the Student Voice in Campus-Wide Efforts**," focus on the adoption of OER through working closely with students in multiple ways. These authors describe how they engaged students at Oklahoma State University to become advocates for OER adoption, how they worked closely with student groups, student government, and through the creation of a committee that included students. They talk about how they obtained a development grant to get the work started, and how they provided supporting grants to faculty to design resources; and finally, they describe how students designed OER.

Dean's chapter, "**From Conversation to Cultural Change: Strategies for Connecting with Students and Faculty to Promote OER Adoption**," describes how Clemson University supported OER adoption through a multi-pronged effort. Because they wanted to change their culture, they used a variety of outreach and advocacy efforts. The library led the process through in-depth analysis of the environment, and extensive assessment of the existing culture in order to implement a variety of communication strategies. The process is described in detail, as well as the relationship building that is needed for successful implementation. Dean addresses the sustainability of the program and talks about future planning.

In the case study "**Making the Connections: The Role of Professional Development in Advocating for Open Educational Resources**," Michael LaMagna describes and presents a novel approach that uses training in professional development as a pathway to supporting future OER design and implementation. At Delaware County Community College, faculty librarians led the way serving as advocates and trainers to offer faculty in-service presentations about various aspects of OER. LaMagna describes the various sessions: OER writ large, an open discussion about campus adoption of OER, how to build alternative course content, and copyright and OER. Particulars about how they created the program, the funding sources, and the design of the curriculum are included in the case study.

"**Advocacy in OER: A Statewide Strategy for Building a Sustainable Library Effort**," by Emily Frank and Teri Gallaway, outlines how Lousiana's state library consortium, LOUIS, advanced OER initiatives across an entire state. Frank and Gallaway include discussion about OER for cost savings at the state level, how they used grants to subsidize library faculty work, and how state legislation supported their work to reach statewide adoption. In particular, they describe their train-the-trainer approach, how they used training efforts to increase outreach, and how the libraries served as leaders throughout the process. They talk about how their advocacy changed the culture in the state.

Five authors, Sarah Hare, Andrea Wright, Christy Allen, Geneen E. Clinkscales, and Julie Reed, in the chapter, "**Interinstitutional Collaborations to Forge Intracampus Connections: A Case Study From the**

Duke Endowment Libraries," provide a study on how different institutions can work together to implement open education programs in a variety of different settings and campus cultures. This chapter talks about endowment support, assessment and analysis of their work together, advocacy, implementation and training, program customization, and using a train-the-trainer approach, and discusses how they engaged faculty. The institutions involved include: Duke University, Davidson College, Furman University, and Johnson C. Smith University.

Section 4: Library-Supported Adoption and Creation Programs

The final section of this book offers case studies in which library staff and operations successfully lead the development, sharing, and adoption of OER at a variety of institutions.

In "**Seeking Alternatives to High-Cost Textbooks**," Smith outlines the growth OER initiatives at the University of Massachusetts, Amherst. With a focus on improvisation, developing partnerships and transitioning from textbook affordability to true open education, Smith details grant funding opportunities offered through U. Mass. Amherst while wrestling with the questions of what exactly libraries support when they support "open education" and how can that support be provided sustainably.

Waller, Taylor, and Zemke, writing about the University of Oklahoma, present a chapter all about the multiple aspects of implementing their open education program. "**From Start-Up to Adolescence: University of Oklahoma's OER Efforts**," maps out their route to deep OER implementation. This chapter describes a top-down approach that included faculty support grants, creation of an OER Librarian position, the program design, how they put together an OER planning committee, an assessment of OER technologies, and OER course assessment design. They include a thorough description of their outreach strategies, and an assessment of those strategies.

Ross and Francis describe a unique bottom-up approach to adopting OER in "**A Grassroots Approach to OER Adoption: The University of Saskatchewan Experience**." They talk about how outreach builds

awareness, and describe their multiple projects and partnerships across the university. Ross and Francis describe how individual champions can be terrific instruments for change, and how even a single faculty adoption can start changing campus opinions. They tell how they used their institutional repository to support their adoption efforts and describe the library as the leader for OER.

In "**Bringing OER to the Liberal Arts: An Innovative Grant Program**," Miller discusses at length the work at Rollins College, a small liberal arts college in Florida, to use faculty grants to inspire and initiate the creation of OER. Their program focused on full-time, tenure-track faculty, and designed an iterative grant process with clearly defined criteria that mapped to their program goals. Miller describes their experience with an art and art history professor, a political science professor, and a physics professor. The unique challenges each professor faced are discussed, as well as some of the lessons they learned throughout the process.

Finally, In "**Transforming Publishing with a Little Help From our Friends,**" Batchelor offers a case study in OER textbook publishing through the University of Washington and the Rebus Foundation. Specifically, she offers an example of what the Reebus Foundation could look like in the future, while calling on librarians to serve as catalysts and connectors in a broader faculty-driven OER publishing community.

A Call to Action

Though this book cannot fully account for all of the considerations that are necessary for supporting the OER movement, we have volunteered a common understanding for you to consult and reuse regarding the stakes, stakeholders, strategies, and opportunities worth anticipating in your work. Whether institutional or individual in scope, participation in the OER movement sponsors meaningful change for education. Those of us who work as academic librarians, however, are fortunate to harbor many of the relevant resources and skill sets that have proven invaluable to shaping the open education movement for broadest, most sustainable impact. Librarians have a long and rich history of connecting researchers with relevant information, preserving material, and facilitating access to that material. There are themes that run through many of the case studies, including the library and librarians as both catalysts and community lead-

ers in awareness building, adoption oversight, and implementation project management. In short, we are certain you will be able to find potential solutions and a new network of colleagues to help you address the role of OER at your institution.

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Course Material Decisions and Factors: Unpacking the Opaque Box

Anita Walz

Introduction

Course material adoption within higher education is a complex, pedagogically driven, but relatively opaque process. To students, librarians, and those not teaching semester-length courses or involved in curriculum design, course material evaluation and selection in higher education can feel like a black box: opaque, proprietary, and mysterious, minimally transparent with only a few clues available through institutional policy requirements or instructor disclosures. Few instructors seem to openly discuss course materials among themselves or others. For open education advocates this opacity poses a problem. How can one provide relevant, customized information regarding open options when scant information is available regarding instructor motivations, criteria, processes, and ultimately curriculum or pedagogy decisions?

Several reasons exist for this opacity: a lack of training during instructors' college and graduate programs, and cultural factors which perpetuate limited discussion of course material selection processes. Authors in both K–12 and higher education indicated that there are few training opportunities (Stein, Steuen, Carnine, & Long, 2001, p. 8; Allen & Seaman, 2014, p. 5) or that they have "little formal knowledge" (Smith & DeRidder, 1997, p. 367) of criteria used to evaluate textbooks or of protocols used by other institutions for textbook selection. A humanities faculty member reflects the limited, but changing culture of sharing within higher education:

> There is a strangely idiosyncratic culture around course resources that is perhaps the consequence of academic freedom traditions in the US. There is little centralized sharing of best

> practices [regarding learning resource evaluation], although social media has changed this somewhat—I have witnessed substantial Facebook threads on textbook selection and approaches to teaching specific topics. Resource awareness and selection should be part of teacher training, which graduate students at Research I institutions do not receive. (Full-time humanities faculty in Allen & Seaman, 2014, p. 5)

There are likely other reasons including limited time, few perceived rewards for sharing, political factors, or a perception that course material selection falls outside of one's area of research and expertise.

To education advocates, this lack of transparency may be viewed a missed learning opportunity for instructors and graduate students bound for teaching, as well as students themselves who might miss out on the benefits of their instructors' knowledge and skill. For open education advocates, especially those based within libraries, the lack of transparency also poses some practical problems. The least of these problems is the barrier to joining and contributing to existing conversations and processes. At worst, lack of transparency regarding course material selection negatively affects the abilities of open advocates and librarians to carefully design appropriate, insightful, scalable, and effective programs and services for a range of open education applications. Open education advocates and librarians have a great deal to gain in better understanding course material evaluation processes and selection decisions. Better understanding these processes means a greater ability to join existing conversations, better understanding of the particulars of how their specific institution works, opportunities to expand one's area of expertise, and the opportunity to add value regardless of the processes found.

Why it Matters

In 2007, the Advisory Committee on Student Financial Assistance issued a report stating "faculty have been faulted for largely ignoring price, routinely assigning textbooks only partially relevant to the course, switching from textbook to textbook on a whim, selecting lower-priced alternatives very rarely and failing to use all the material in the bundles students are required to buy" (p. 1). Students groan under the cost of course materials, many choosing to download illegal in-copyright copies, share, borrow,

or go without. Students may express frustration when very little of the course material they purchased is actually used, or when they are required to spend extra money to rent homework software in order to submit homework (Walz, 2015). Students are increasingly deciding to not to acquire access to required textbooks, believing that lecture material is a substitute for textbooks. Many feel overwhelmed by the expanding amount and variety of resources (Berry, Cook, Hill, & Stevens, 2011).

Applying the dialectic concept of "open" as sharing, give-and-take, contributing, and giving credit, open practices are quite possibly the antithesis of the current idiosyncratic culture around course resources. However, as applied to many other aspects of higher education, the ethic or concept of "openness" is highly valued and directly relevant to the purpose and practices valued in higher education teaching and learning, research, and service activities, not to mention professional ethics and responsible use of resources. A lack of transparency and exchange of learning and expertise regarding course material selection appears to be a missed opportunity that affects instructors as well as students.

Conceptions of open education vary. Open education does not just include OER (open educational resources) or just open pedagogy or open source infrastructure. Open practices described in *Librarians as Open Education Advocates* describe a foundation which I believe has potential applications for teaching, research and scholarship, publishing, system design, outreach, service, and nearly any other function championed in higher education (McKernan, Skirko, & West, 2015). The authors describe these open practices as: sharing, giving (and receiving) [constructive] feedback, sharing and integrating new ideas about teaching and learning, understanding and using open licenses whenever possible, giving credit to others for their work, and "considering students and their needs as central to the activity of teaching and learning" (McKernan, Skirko, & West, 2015).

As practitioner-scholars, many academic librarians and instructional designers are already involved in open educational practices and engaged in modeling, championing, critiquing, improving, inventing, and/or supporting various open educational practices. Many instructors also within higher education adhere to and implement these values by sharing, valuing student learning, and providing service to their community, institution, and disciplinary associations. Sharing potentially messy processes

regarding teaching and learning is perhaps not easy. My intent is to identify what we *can* know about this seemingly hidden process.

This chapter is intended to provide an introduction to the myriad ways that course materials are or could be evaluated, selected, and incorporated into curricular design with an emphasis on the contributions that could be made regarding course material selection by open education librarians. It reviews the literature in which instructors in higher education describe their learning material selection processes, the very few large studies covering course material selection evaluations in multiple disciplines, and the prescriptive literature describing how course material can—or should—be selected. This chapter touches on traditional course materials and those that have emerged as educational theory, technology, and instructor readiness have changed over time, making this one snapshot in a quickly changing environment.[1] And it asks the question: Where can an open education advocate, or simply someone that cares about teaching and learning, start to make a contribution if they are not the course material decision-maker?

My hope in writing this chapter is that librarians and others involved in the open education movement who are also interested in applying open principles as a way to add value to teaching and learning processes will benefit from additional information regarding course material production, evaluation, and selection practices. I also hope that readers will be motivated to become increasingly savvy and valuable consultants and experts regarding course material selection in general and openly licensed course material use, production, or publishing, in particular, and that they will leverage open practices to solve problems in higher education.

What is in that Box? Course Material Evaluation and Selection

Several groups of literature predominate this area of study: Descriptive articles document rigorous processes of course material selection for particu-

[1] While written for the US higher education sphere, some characteristics will be applicable to countries beyond the United States and/or to the K–12 environment, though both these groups differ enough in regulatory context, procedures (especially regarding state or local control or alignment to standards), and pedagogical practices that the reader will need to carefully consider their particular context.

lar college-level disciplines (accounting, foreign language, psychology, and history). Prescriptive documents, such as the dated but otherwise excellent *Handbook for Evaluating and Selecting Curriculum Materials* (Gall, 1981), and various shorter guides and rubrics provide recommended approaches. Thoughtful analyses of how course materials, philosophies of education, pedagogical approaches, and differing levels of teaching expertise interact with one another are relevant in this area. Last are the very few recent large quantitative studies, which explore instructors' values in course materials and activities undertaken by instructors in selecting materials for courses.

Aspects of Course Materials Instructors Value Most

Recent large-scale studies on this topic in the U.S. or Canada reported that teachers in higher education most highly value comprehensiveness, effectiveness, cost, and writing quality in their evaluation of textbooks or course materials. A number of large-scale studies identify the top reported values. Individual articles supplement these with additional values not listed in the large-scale studies. And finally, the rubric used in the Open Textbook Library adds several.

Table 1. Top values of faculty in course content selection (multi-site research and individual reflections)

Scope of study	**Top values reported**	**Source**
Large-scale study	Efficacy, proven quality, cover a wide range of subjects	"Babson report" Allen and Seaman, 2014, pp. 8, 34
Large-scale study	Cost to the student, comprehensive content and activities, easy to find	"Babson report" Allen and Seaman, 2016, p. 7
Large-scale study	How well they address course objectives, accuracy, currency, consistency	Florida Virtual Campus, 2012, p. 5

Scope of study	Top values reported	Source
Large-scale study	Clear and accessible writing, comprehensive coverage, ease of fit	Jhangiani, 2017
Individual (regarding digital course materials)	"My own assessment of [digital course materials]," cost to my students, and colleague comments	Green, 2016
Economics	Faculty time saving	McMahan, 2013, p. 45
Hospitality-tourism	Currency, subject-specific examples; interesting writing style	Hsu and Lin, 1999, p. 25
Accounting	"Relevance of the text material and its exposition quality, and compatibility between the text material and homework problems"	Smith and DeRidder, 1997
Psychology	Accuracy, readability/writing quality, and examples	Landrum and Hormel, 2002
Any	Comprehensiveness, content accuracy, relevant longevity [currency], and clarity of text	Open Textbook Library, n.d.

Given the ongoing public dialog regarding the cost of course materials (*Are College Textbooks Priced Fairly?*, 2004; U.S. Government Accountability Office, 2005; Popken, 2015) and the orientation of many institutions and some open education advocates toward cost, readers may have a particular interest in how instructors value cost. While cost appeared periodically in the top three most important factors, suggesting that cost is a factor, it was rarely reported as the most important factor. Hsu and Lin (1999) affirmed cost "as a relatively important conversation in textbook adoption … but [not] important enough to dictate the textbook selection decision" (p. 25). In reviewing Allen and Seaman's 2014 survey,[2] cost ranked as the lowest factor of all of the factors listed, but jumped to the top of the list in 2016 (Allen & Seaman, 2014, 2016). The 2016 report clarified

this: it appears that faculty consider cost *ceteris paribus*: all other things being equal. "Faculty reinforce the idea that cost to the student is important, but only after content, relevance, quality, and presentation have been considered. Cost alone is not sufficient to drive the resource selection" (Allen & Seaman, 2016, p. 10). Factors which could be described as reflecting accuracy, effectiveness, and appropriateness of "fit" to subject and the given context seem to summarize the values well.

Course Material Selection Activities

We turn now to the literature on course material selection activities. The research literature on systematic course material selection processes abounds in K–12 literature. The literature, however within higher education is limited in quantity and tends to be highly discipline-specific. Further, higher education literature on systematic course material evaluation and selection leans toward novel high-effort approaches rather than repeatable, manageable, sustainable, and likely less flashy practices.

A few examples of these novel and wide-ranging approaches however may be helpful: One article examined five leading American Government texts, comparing their structure, guiding perspectives, in-text and electronic features for students and faculty, and notable strengths and weaknesses "with the goal of identifying appealing textbooks for instructors who value different approaches" (Knutson, 2017, p. 536). In the field of foreign languages, a study summarized an admittedly "time consuming" two-year collaborative textbook selection process for Spanish language instruction, which included the development of a 19-item evaluation rubric suitable for application to foreign language texts, collaborative and reflective review of results, and satisfaction rankings one year later (Czerwionka & Gorokhovsky, 2015, p. 4). A student, medical resident, and faculty textbook review process for pharmacy students aims to understand a learner-centric approach to textbook evaluation and selection, and to describe differences in textbook selection preferences between students and faculty (Peeters, Churchwell, Maura, Cappelletty, & Stone, 2010, p. 31). To complete an apparent gap in the literature, a dissertation by Tate

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[2] Reports from this series are informally referenced as "the Babson report."

reported on the determinants for selecting a successful principles of economics textbook based on an analysis of six adoptive criteria: textbook-integrated learning aids, organization format or layout, content, readability and rigor, and ancillaries for students and ancillaries for instructors (Tate, 1991, p. 66).

These are likely some of the exemplars illustrating new and novel practices. But how do all of the other time-strapped instructors in higher education select course materials? What are their roles? And what do they actually do?

The policies, strategies, and cultures of an institution and department determine how decisions regarding how to teach and what course materials to use are resolved. In general, and consistent with academic freedom in universities, decisions are made by an individual instructor or staff member, by teams of instructors, or by departmental curriculum committees. While often championed as an individual right, a department may choose not to extend the freedom to select course materials to individuals, seating this authority in committees. Given the importance of academic freedom in higher education, course material decisions are rarely made at the administrative level, but it does happen (Jhangiani, 2017).

Every educational institution is different from the next. At the large Research 1 Polytechnic University where I am employed, I have not found a consistent pattern of course material decision processes based on discipline type or level of course. For example: learning materials for some introductory courses in the sciences are decided by a committee which identifies core knowledge and skills students must master as a foundation for more advanced courses. Other large introductory courses on the more analytic side of social sciences are taught in sections by three or four different instructors, each using different textbooks and/or homework software, presumably equally able to prepare students to build on the subject material, but taking a different approach. Some departments choose a common text for fall and spring semesters but allow for experiments and other types of course material during summer or online sessions. Other departments in which large introductory courses are team-taught appoint a course coordinator who either builds consensus or decides about course materials. These committees and individuals may have formal or informal processes for course material selection.

Two patterns that seem to be prevalent pertain to textbook authors and tenure-track faculty. These observations vary widely from one institution or institutional type to the next, where different structures, traditions, and culture prevail. This implies value in knowing one's own institution and interpretation of academic freedom. For textbook authors, the decision at my institution is simple: current policy allows authors to require the book they authored in their course.[3] For tenure-track faculty teaching upper division and graduate levels, decisions about course design, teaching methods, and course content are solely their prerogative. This practice opens the door to a growing number of faculty that increasingly teach from their notes and/or select course readings from a variety of sources, an approach suggested by several authors (Novotny, 2011; Landrum, 2012) and anecdotally more common. When a tenure-track instructor suddenly inherits a course and the instructor's predecessor is accessible, the inheriting instructor is likely to seriously consider the previous instructor's recommendation regarding course material and teaching methods. In contrast, and common to most institutions grappling with an increase in temporary, adjunct, graduate teaching assistant, or non-tenure line instructors, is the assignment of course materials by someone other than the course instructor. External choice often leaves few happy with the selection of text or the proscribed role of the text in the course. The divide between teaching-focused and tenure faculty continues and is an important characteristic to know about.

Prescriptive Perspectives and Processes for Review of Course Materials

Process matters and many scholars have opinions and suggestions regarding how learning materials *should be* selected. Again, this literature is weighted toward analysis of traditional print textbooks, though some concepts may be transferable to interactive electronic resources. By far, the most insightful one-volume handbook I located is Meredith Gall's 1981 *Handbook for Evaluating and Selecting Curriculum Materials*. While out of

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[3] See *Virginia Tech Faculty Handbook*, Section 9.4: Textbooks and other Instructional Materials http://provost.vt.edu/faculty_affairs/faculty_handbook/chapter09/chapter09.html

print and far out of date for electronic, internet-hosted, or interactive content, the handbook, I believe, accurately and succinctly describes issues related to any era of course material selection. Especially helpful for those wanting an introduction to curriculum studies, Gall mentions the timeless issues of: curriculum quality and commercialization, roles for various actors in higher education, the wide range of types of curriculum objects, the propensity of instructors to limit their searches to what's easily available, the lack of instructor time and expertise in selecting course materials, relationships between instruction and course materials, and differences in learning resources even when options appear to be equivalent. Several helpful tools are included in the book, including an inventory and description of dimensions for analyzing curriculum materials (Chapters 4–6), a high-level course material process relevant for any topic and level of education, even higher education, and an appendix of featured curriculum materials that may facilitate learning. While updates would be needed, this source is very helpful and takes seriously the importance of selection of instructional materials in light of the fact that students spend far more time using instructional material than anyone else (Gall, 1981). (See the note below for guidance on accessing this out-of-print resource.)[4]

Several other authors report on prescriptive course materials selection processes or report on processes they have created or use. Prosser offers a summary of text readability analysis processes, prominent in the literature in the 1970s and 80s, namely using SMOG (Simple Measure of Gobbledygook) readability and the cloze test (Prosser, 1978). Heye offers a tool and process for evaluation of textbooks for nursing that enabled her school to include input from faculty members not initially involved in course material selection. Implementation of this process eliminated the need for supplementation of a main outdated text, reduced costs to students, and resulted in the use of materials that included updated health care developments (Heye, Jordan, Taylor Harden, & Edwards, 1987). Novotny provided a checklist for selection

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[4] The *Handbook for Evaluating and Selecting Curriculum Materials* book is out of print. A digitized version is available electronically with permission of the copyright holder at: https://vtechworks.lib.vt.edu/handle/10919/79783

of nursing textbooks and provided guidance in assigning textbooks and journal reading assignments (Novotny, 2011).

Several scholars suggest value in having different levels of review. Lawrence summarized suggestions that the best of textbook evaluation schemes adopt a "leveled" approach: an initial overview of the strengths and weaknesses of the book with regard to design and structure, sequence, visual attractiveness, and availability of ancillary materials, and a further evaluation which is more detailed and determines whether text, skills and activities meet syllabus and learner needs (Lawrence, 2011). Kato affirms multipart approaches, indicating that textbook evaluation conversations should consist of pre-use evaluation, in-use evaluation, and post-use evaluation (Kato, 2014). Arnold's research adds the insight that faculty valued being part of (textbook) pre-publication review (Arnold, 1989). Multiple authors cited a need for more instructor training and knowledge regarding course material selection (Gall, 1981; Stein, Steuen, Carnine & Long, 2001).

Course Materials, Pedagogy, and Levels of Instructor Expertise

Open education advocates and librarians can benefit from understanding the intended role or purpose of a text within a course. Texts may be adopted as a course reference, because textbook adoption is expected even though the textbook is not well integrated into the course, to aid students in building a resource collection, for ease in scaffolding the course or countering an instructor's self-perceived deficiencies (Lawrence, 2011, p. 7, Confrey & Stohl, 2004, p. 43-46), or a combination of these reasons. In theory, course material selection should support course objectives, instructor pedagogies, and efficacious student learning habits. New instructors or instructors with new courses are more likely to adopt "book in a box" course materials but as they become comfortable with the course or less risk averse to changing the course away from parts that are not working, they may become more open to alternate pedagogies and curricular materials. It is into this dynamic environment that the open education advocate steps. The open education advocate or librarian may encounter a wide range of instructor comfort or discomfort with teaching and learning processes. Some instructors may be experimenting with incremental or major course design changes. Others may be content with limited in-

vestment in teaching or feel obligated to focus most of their energies on research endeavors. The librarian may also observe the impact of the institution or department's politics and practices, governance and budgeting constraints, relative importance of career advancement via tenure and promotion, and individual instructors' tolerance of risk, comfort, and perceived available support; each of these factors can and do influence student learning outcomes, selection of pedagogical processes, course materials, an instructor's decision to go without traditional or emerging course materials, or an instructor's openness to experiment with open pedagogical approaches. Beyond pressures related to an instructor's career advancement, the relationship between instructor risk tolerance, comfort, and support, pedagogical understanding and openness to pedagogical and assessment methods, and beliefs regarding the purpose of course materials should not be understated.

Usage and types of course materials have changed over time due to educational philosophies, legal environments, cultural expectations, availability of trained educators, and commercial and technological changes. The earliest and most traditional course materials were printed textbooks and readers for children, designed to lead to literacy using catechism (question and answer) as their instructional mode. In the late 19th century, changing educational philosophies, the increased availability of trained teachers, and orientation toward deductive approaches and generalized morals in response to high immigration resulted in changes in curriculum resources (Wakefield, 1998).[5] One hundred years later, and in the scope of higher education we see continued evolution of educational philosophies, development of cultures of tenure-track and adjunct faculty, an increased proportion of the population expected to engage in higher education, and impacts of technological change on course materials and instructional practices. Print resources are supplemented or replaced by digital course materials and systems. Not dismissing persistent digital divide issues, course materials and learning processes are now embedded in closed learning manage-

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[5] A helpful summary of the history of curriculum can be found in McCulloch, G. (2016). History of the Curriculum. In Wyse, D., Hayward, L., and Pandya, J. (Eds.), *The Sage Handbook of Curriculum, Pedagogy and Assessment* (vol. 1, pp. 47–62). Thousand Oaks: Sage Publications, 2016.

ment systems, blogs and wikis, ebooks, online discussion boards, online homework systems, adaptive learning and intelligent tutors, student-driven platforms for authoring, game-based learning, and all manner of tools, clickers, and software systems. All bring pedagogical assumptions, some evidence-based. Regardless, many are adopted for classroom use.

Technology-enhanced learning resources represent some of the most creative, interesting, useful, and potentially responsive but constantly changing options within learning spaces. Many provide student metrics, allowing instructors a view of student time on task, theoretical opportunities for early interventions, and a research platform in which to start to learn what works and what does not work. Some offer freemium services, with more advanced premium services available at a fee. Open source projects are also present in the mix, some with an open business model (where content costs nothing) and in which services are rented on a subscription basis. The options are constantly changing. Current and new instructors with limited prior exposure to digital instructional methods or constantly changing digital learning environments are likely to be overwhelmed and feel disrupted when changes are foisted on them—such as the change of an enterprise-wide learning management system or techno-pedagogical changes such as flipping a classroom or converting a course to a blended or online format, which are willingly undertaken to improve a course which is otherwise not working, or for department, institutional, or financial reasons. Instructors at research institutions may lack adequate incentives—or support—to envision or achieve these types of changes in their classrooms (Gregory & Lodge, 2015). While there are many reasons to experiment with emerging technologies, some choose not to but regularly update their course notes and are perhaps less engaged by new technologies. For those who embrace new technologies, there are several potential downsides: needing time to teach a new tool, neglect of student privacy,[6] and setting students up to game a system rather than engage in deep learning and authentic reflection.

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[6] See also: Meineke, B. (2018, March 27) Signing Students Up for Surveillance: Textbook publisher terms of use for data [blog post]. Retrieved from https://medium.com/@billymeinke/signing-students-up-for-surveillance-textbook-publisher-terms-of-use-for-data-24514fb7dbe4

While this chapter does not cover in depth selection methods for educational technologies including software programs, audience response clickers, homework software access codes, or other electronic ancillary tools, sometimes thought of as instructor conveniences and sometimes thought of as student aids,[7] I do want to note that implementation of educational technology tools seems to be growing. I have observed two main responses: instructors who select materials based on research evidence are often slow to adopt such tools when their effectiveness is insufficiently documented, and instructors attempting to manage very large courses tend to adopt them quickly out of convenience if not survival; sometimes they are abandoned just as quickly.

Incentives Influencing Design and Selection of Course Materials

To the innocent bystander, the presumed aim of course materials in mediated instruction within higher education is student learning. As discussed above, this goal can be muddled by various incentives. Several influential factors still remain:

- Perceived quality (sometimes signaled by a trusted brand name)
- Author authority/accuracy and currency of content
- Reliable scope, sequence, or structure for instructors and students to follow
- Perceived fit for the student's level of expertise
- Perceived fit with instructor's methods of teaching
- Use of emerging technology (this factor can encourage or discourage, depending on instructor comfort)
- Time savings for faculty (including pre-made lecture slides and assessments)
- The selector's valuation of meaningful promised student analytics[8]

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[7] For a more detailed treatment of homework software access codes, see Seneck, E., Donoghue, R., O'Connor Grant, K., Steen, K. (2016). *Access denied: The new face of the textbook monopoly.* Washington, D.C.: Student Public Interest Research Groups. Retrieved from: http://www.studentpirgs.org/reports/sp/access-denied

[8] Learning resources that collect usage metrics or interaction data also

- Authoritative resource for student reference now and in the future (Arnold, 1989)
- Departmental/institutional expectations or requirements regarding always assigning a text even if the text is not heavily used

For novice instructors, part-time adjuncts without preparation time, graduate teaching assistants, and faculty teaching a course for the first time, course resources fit best as a support structure for the instructor. Experienced instructors and those with a more comfortable grasp of teaching the content area are likely to not need to rely as heavily on course resources, may be more likely to teach with learning resources they developed themselves, might not require student acquisition of learning resources, but may still assign course materials for student benefit, because students expect it, or because assigning a text is just what you do.[9] Sometimes, an instructor's long-time habits dictate assigning a required textbook as a "resource" even when it will not be used very much in the course.

Of course, disciplinary differences in pedagogy and student needs come into play. Course materials in different disciplines may have quite different functions. For example: student learning activities in literature, foreign language, and biology differ quite a bit and affect the types of course materials selected. Students studying literature may focus primarily on reading and writing activities; students in foreign language experience a much greater emphasis on listening, speaking, and, at the lower levels, grammar and basic sentence construction. Students studying biology are involved in learning the scientific method, maintaining a lab notebook, experiments, and hands-on activities in a laboratory.

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have a new type of audience: statisticians, researchers, administrators, and sometimes commercial actors who analyze data to better gauge student engagement (often without institutional permission) and to understand how systems are or aren't being used. Vendors of this sort often aim to sell this data back to institutions if ownership and access to this data by the individuals or institution was not contractually negotiated.

[9] Due to course changes and faculty not always complying with requirements to submit information about course material adoptions, it is difficult to quantify what percentage of faculty assign don't assign course materials which students must acquire themselves.

Since purposeful learning materials were developed, they have helped instructors solve complex teaching problems (Wakefield, 1998). A generous example is the instructor who selects course materials that fit the course learning outcomes and offer students helpful problem sets, real-life applications, case studies, or other examples that help students transfer knowledge to other domains. A more cynical example is the likely overworked or unsupported instructor, perhaps with too many students, who assigns course materials primarily for the instructor's own benefit. Course materials, especially commercial ones "have been written, edited and marketed as teaching and learning aids" (Wakefield, 1998, p. 23) and are often interpreted by instructors as such. Required homework software access codes and classroom response tools or clickers primarily for instructor time savings in grading or as an expensive experiment in innovative teaching are a prime example. In my experience, I've seen these decisions justified by having to teach a very heavy course load, large classes, or the promise that the tools will make students who don't complete their reading assignments engage with the materials. These tools unfortunately pass on the burdens of an instructor struggling with getting students to engage in course material and/or trying to manage interaction and assessment of a very large class directly to students, often in the form of multiple required learning resources such as clickers, quizzing or classroom interaction tools, print or electronic texts, and/or homework software access codes.

This conflict between instructor and student needs is not condemnation of instructors who make these decisions, but a reflection a common problem cited in economics and political science literature, called a principal–agent problem. A principal–agent problem features a decision-maker (the agent), in this case the instructor, who to varying degrees reflects (or doesn't reflect) the values and interests of the person or people she represents (the principal), in this case the students. When the agent or instructor is motivated to act in his or her own interest to the detriment of the interests of the principal or students, economists identify "moral hazard" as an outcome (Eisenhardt, 1989). One may argue that the instructor is indeed in a difficult situation, often teaching as a non–tenure-track professor, without leverage, and in a somewhat impossible situation where implementing all sorts of tools is the only solution. Whether intended

or not by the department which created such large courses or by the instructor, moral hazard, or "harm," is likely to occur when an agent puts their own needs above those of their principal—or when instructors assign course materials too expensive for students to access. Students may be harmed by losing the freedom to take a class or a major because it is too expensive, by taking on additional debt, additional work hours, or at minimum by additional financial stress. Further, students may lose consistent and reliable access by sharing course materials, or by participating in peer-to-peer copyright infringement in the forms of digitizing, sharing, and/or downloading illegal copies of learning materials. Again, this is not a condemnation that instructors or departments in these types of situations are malicious actors, but an observation that care needs to be taken to proactively identify and remediate situations in which incentives encourage an agent to act in a way that may be harmful to the principal.

Introducing a Paradigm Shift

What can an open education advocate do? For starters, engaging faculty in conversation regarding their particular contexts, what they like or do not like about their course materials. What kind of content do they wish existed? What kind of content (including questions and other artifacts for assessment) could they or students create? What freedoms do they have to pilot or repeatedly create small quantities of content or assessments over long periods of time? What do they wish was happening in their class that isn't? These can be tender topics, so trust and diplomacy is called for. Six open educational practices or values may scaffold instructors in their early and late attempts in openness: sharing, early drafting, supportive feedback, studying licenses, giving credit, and putting students at the center (West, 2017). Understanding open practices and values as a paradigm shift, and introducing, discussing the relative merits, supporting, and implementing each of these values can provide a clear focus for one's activities and assist in navigating where to spend scarce time and resources.

Ideally, instructors will develop courses around course learning outcomes, mapping content, activities, and assessments to course learning outcomes. Instructors exhibiting this type of teaching tend to have a sufficient if not high level of mastery over their subject and a high level of comfort with regard to teaching. A deep interest in one's discipline and

care for one's students, relevant and reflective professional development opportunities, practicing teaching improvements, and valuing instructional practices are paths to developing efficacious instruction. Instruction which increasingly prioritizes these types of practices strikes a different balance between instructor expertise, teaching methods, and critical selection and use of course materials.

Learning and working to understand the realities of one's campus or campuses, campus cultures, policies, practices, values, pressures, motivators and incentives are the probably the hardest part of this work and take the most time, but are well worth the investment. Understanding course material evaluation and selection process will likely require a brief review of institutional policy regarding textbook or learning resource selection. Conversations with each of the departments on your campuses can be helpful. A call to each departmental administrative assistant or advisor with the following questions is a good place to start:

- Do the majority of your instructors assign required books?
- Are course materials selected by committee or individual instructors?
- Who are the point people regarding committee-selected course materials?
- What is the course material adoption schedule look like in your department?
- How does reporting of textbook adoptions (to the bookstore or other) work?
- I'm interested in learning more about how course materials are selected. Who else do you suggest I contact?

The registrar of your institution will be able to direct you to someone who can explain how your institution handles approvals for new or updated courses and whether there are requirements to list learning resources used in the course.

Liaison librarians may be aware of department-wide curriculum initiatives and needs. If your campus has a Center for Excellence in Teaching and Learning or instructional design support embedded in another unit, you may also be able to glean useful information about course design/redesign assistance and helpful insight regarding learning resource selection processes and motivations.

Your bookstore, if cooperative, may also be a useful source of information regarding textbook and other learning resource adoptions. Some helpful ideas for building a relationship with your bookstore can be found in Bell's 2018 article.

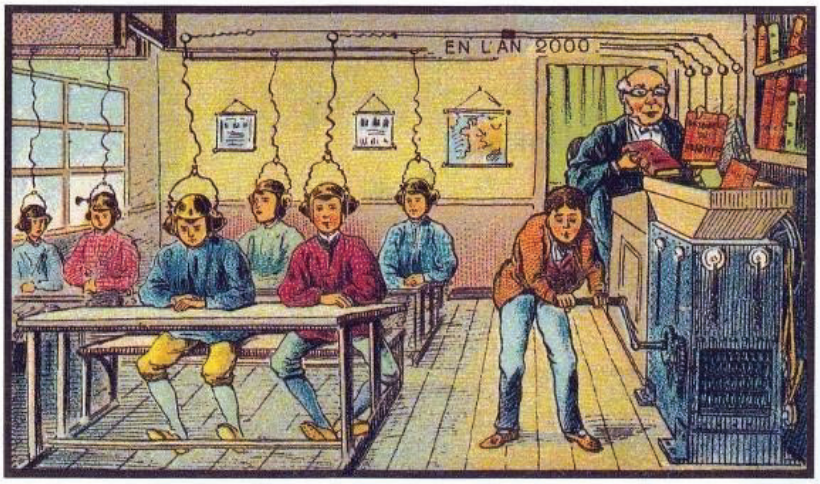
As you gather information and build trust, think about what open resources and open practices might contribute to resolving stated problems in current departmental resource selection processes. Some academic librarians have gone as far as to contribute to and coordinate year-long textbook evaluation processes for selected high-enrollment courses within willing campus departments. For those instructors overwhelmed with large-scale changes toward open educational resources, piloting an open resource as an alternative text is an option, as are incremental changes to incorporate open pedagogical practices which replace one reading or assignment over a period of time. The *Open Pedagogy Notebook* is one place to look for or share examples of open pedagogical practices (DeRosa & Jhangiani, 2018). The text *A Guide to Making Open Textbooks with Students* (Mays, 2017) may also be a helpful resource.

Novel and Purpose-made Course Materials

Course materials include any discrete media, format, or system deployed in support of the learning process. Cost and copyright concerns notwithstanding, course materials can now be almost anything. Some materials and processes used in courses today were not designed to be used in courses: news and academic journal articles, movie clips, equipment designed for industry, household items, 3D printers, beach balls, Twitter, Wikipedia authoring, and so on. These items and processes are used outside of classrooms and have made their way into courses. This is a refreshing trend, as the application of these materials on teaching and learning may enrich students' lives and help them to see the world around them as having potential for learning and exploration.

Purpose-built course materials are different than materials not specifically designed for learning. Textbooks, educational videos, workbooks, digital flashcards, lab environments, problem sets, online modules, interactive quizzes, clickers, educational apps, learning management systems, and various assessment and engagement tools are created specifically for learning and are most often purpose-built for educational contexts. They

are intended to be consumed or acted upon by students in specific ways with specific outcomes in mind. Purpose-built learning resources always have embedded assumptions about what constitutes learning, how people learn, what learning is for, and how the system supports or facilitates that learning. Because educational technology is built by a wide variety of people, some systems may reflect sophisticated and well-conceived pedagogical philosophies; others might not. Rather than engaging with learning as a process, some may envision students primarily as containers for content provided by instructors as seen in this public domain illustration.



[Public Domain] France in the 21st Century

Interactive systems designed by those with expertise in various pedagogical philosophies may rely heavily on pedagogical philosophies of behaviorism, constructivism, cognitivism, and any number of other pedagogical approaches.[10] Learning resources and approaches are not pedagogically neutral.

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[10] For an excellent introduction to instructional design and principles therein, see Chapter 1: Introduction to Instructional Design by Gagne, R., Wager, W., Golas, K., and Keller, J. (2005). *Principles of Instructional Design*, 5th edition. Belmont, CA : Cengage.

Even as learning resources have changed with the times, they continue to be marketed as "teaching and learning aids" to solve problems (Wakefield, 1998). For the most part in the United States, development of course materials and educational technologies is a for-profit endeavor. This raises some ethical issues. For-profit ed tech companies serve two or more masters: student learning, generating a profit for shareholders, developing their research base, capturing market share and so on. Competition between these factors may challenge the most ethically minded ed tech company to deviate from valuing student learning above other factors. It is certainly possible to imagine the existence of a company that sells learning resources of value without being overly swayed by a profit motive. However, this is very difficult to do without powerful and built-in accountability structures. Like any business, commercial publishers are responsible to their shareholders for financial gains, so the conflict between product quality for ultimate end users (e.g., instructors and students) vs. shareholders is often difficult to navigate. (Potential authors courted by publishers also face these conflicts in deciding whether or not to sign a publication agreement. They are encouraged by potential royalties and legitimately enjoy attention, respect, and relationships with publishers. They often transfer copyrights to the degree possible, limiting access to their work, and give up control to write the book they want to write.)

Commercial approaches also have an impact on the development of learning resources. Publishing industry veteran Beverlee Jobrack's book about the K–12 textbook industry describes how commercial incentives shape the K–12 textbook publication process. Jobrack explores how market research, competitor analysis, and focus groups lead to the development of educational materials rather than educational research, rigorous study, and effectiveness of past use of course materials. Publishers rarely fund studies to understand the development of a subject and how it has been taught in the past, strengths and weaknesses of previously used materials, nor the educational research literature. In focus group sessions "publishers confirm that teachers rarely care about program effectiveness when weighted against a perceived useful design … and when curriculum specialists are in the room, they nearly always prefer research-based materials, but realize that it would be an upward battle for their teachers to accept them" (Jobrack, 2012, p. 62). As a result, textbook develop-

ment focuses mainly on features that are appealing rather than effective. While disheartening, Jobrack's observation that the development process for commercial textbooks focuses on aspects that appeal rather than being chosen for their effectiveness is an observation for open education advocates and instructors who develop or adapt open educational resources. At the end of the day, if effectiveness is more important than appeal, openly licensed resources focused on effectiveness should be different in important ways than those developed with appeal in mind.

Some faculty feel compelled out of habit to require a textbook even if it is not used very much in the course. Other faculty explore pedagogies as far away as possible from passive, consumable resources, some using Wikipedia assignments or creating a textbook as part of their course (DeRosa & Robinson, 2017). Others are implementing practices to encourage student agency, such as giving students flex or pink time (Baird, Kniola, Lewis & Fowler, 2015). Increasingly, instructors are seeing student engagement with the course and course content as the key to improve learning (Hunt et al., 2016)

A Way Forward?

Let's return to the question posed early in this chapter: Where can an open education advocate, or simply someone that cares about teaching and learning, start to make a contribution if they are not the course material decision-maker? For open education advocates, the keys to addressing the course material adoption issues on campus rest in working to understand the distinct realities of campus and departmental contexts and cultures, gathering information, building trust among instructors, decision-makers, and others working to address course material and teaching-related issues on campus, introducing a new paradigm of values and open educational practices (West, 2017).

Academic librarians and instructional designers already do many things to model, champion, critique, invent, improve upon, and/or support open educational practices. These may include but are not limited to: open access authoring and publication, creating and building sustainable, Creative Commons-licensed editable curriculum materials, modeling pedagogies and web development strategies dependent upon openly licensed content and open source software, contributing to open source infrastruc-

ture, developing open and sustainable models of operation through collaborative networks, and implementing student-centric pedagogies which grant increased student agency or emphasize creation of artifacts which have value beyond the classroom.

Others contribute to and aid faculty, staff and students to interact with authored content in ethical and sustainable ways by creating, remixing, and sharing research outputs with open licenses. OER are just one of many possible ways to implement the ethic or concept of openness. Librarians may be engaged or desiring to be engaged in course material or learning resource initiatives at their academic institution, including organizing evaluation or selection of openly licensed or other course materials and course material formats.

Building new expertise helpful to processes where there is no or minimal expertise may have even more potential. A few examples from this brief overview of course material production and selection where open advocates could add value include: provide more support for faculty training in course material evaluation and selection, curate tools and methods for all effort levels of course material review, and when developing openly licensed course materials, focus on effectiveness more than appeal.

And finally, build trust. Everything runs on trust and, in an ideal world, accurate information, sharing, and trustworthy processes and systems. Course material selection decisions are based on trust in people, information, and/or processes. Accurate information, reliable services that provide needed information, support, logistics or somehow add value, and a willingness to listen, learn, and respond with integrity should greatly add to creating a way forward that keeps learners at the center, values transparency, requests and accepts constructive feedback, gives credit, and promotes sharing.

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