TAMING THE BEAST: PRINCIPLES TO EFFICIENTLY CURATE & CUSTOMIZE ONLINE LEARNING RESOURCES

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ABSTRACT

We are incredibly fortunate to live in a time of accessible information and rampant knowledge transfer. However, a double-edged sword exists with the extensive scope and breadth of content that is available and which requires keen skills to cull the valid from invalid. Consequently, it is our obligation and responsibility to hone and refine our skills as instructors, subject matter experts, and course developers in this arena. More specifically, we need to further develop our skills for utilizing technology to support effective and efficient strategies for learning resource management, creation and curating. This article addresses three primary strategies that leverage your learners, colleagues, networks, and tools to assist in this process and save significant time. In particular, the article explores strategies for empowering learners as co-creators of content, for utilizing networks to curate and customize existing resources, and explores tools to help consolidate and organize resources. This article offers practical application and specific tools to save time, customize your learning resources, and tame the beast of information overload.

In preparation for a new course development, a colleague and I were chatting about our feelings of being overwhelmed by all of the content choices that exist to support learning in our online courses. It was daunting and it seemed we were both plagued by the same issue that kept resurfacing – information overload! Resources are abundant and, as instructors and course developers, we have too many options to choose from that include publisher content, pre-existing content, open source content, readings, articles, websites, videos, virtual worlds, and much more. There is so much information, so little time, and so many ways to potentially organize it. Where do you begin, and how do you create and organize meaningful learning resources (and keep them updated)? Moreover, how can you use those resources efficiently and effectively to avoid the pitfall of drowning in a sea of information overload? How can you leverage resources to *save* time rather than *spend* it?

EFFICIENTLY CREATING LEARNING RESOURCES: WHY THE NEED EXISTS

The days of using a singular textbook to structure content and organize your courses are long gone. With human knowledge doubling every 13 months (Fuller & Kuromiya, 1981), it becomes daunting to keep pace – and considering that this statistic is from 36 years ago and prior to the internet boom, consider the overwhelming immediacy and accessibility of information today as well. Particularly as instructors, we are faced with not only keeping abreast of new information and technologies, but also on curating, selecting, and prioritizing those resources to provide the optimal framework for student learning. It continues to take more time, more effort, and more energy to cull through the mountains of information that exist and to select and narrow such resources – furthermore, doing so can be an inefficient use of your valuable and already limited time.

Research shows that faculty today are more

overloaded and overwhelmed than in the past due to their expanded areas of responsibility and the increasing demands on their time. In examining the changing nature of faculty work, Sanford & Kinch (2016) found that faculty are no longer responsible for the traditional triad of teaching, research and service, but are now expected to encompass nine competency domains needed to successfully work as faculty. These nine domains include: teaching; research; leadership; diversity, inclusion and multiculturalism; the ability to obtain external funding; work-life balance; internationalization; innovation; and the effective use of technology (Sanford & Kinch, 2016). In particular, research demonstrates a significant need for faculty to develop the effective use of technology (Dahlstrom, 2015). Fortunately, when applied effectively, such competency development can be used to save time for instructors, to create more efficient and effective courses, and to better manage content and learning resources.

In more recent years, we've seen a host of solutions emerge to help support instructors in managing the barrage of information and resources. For example, we have witnessed networks emerge to support learning communities for instructors (Trust, 2016), along with significant growth in the use and availability of open resources and open licensing (Littlejohn & Pegler, 2014). We have also witnessed an emergence of new industries designed to help manage digital assets and learning objects (Engeström, 2013; Engeström, 2005). Furthermore, today, there are possibilities for integrating publisher content, tapping into content repositories, and curating resources through social bookmarking tools (such as diigo or pinterest). Yet, we seem to know very little about how to organize, manage, and create learning resources in our online course in a way that promotes effective and efficient use of the resources - and in a way that can save us time.

To address these challenges, this article will share strategies, tips, and tools to assist instructors and course developers in selecting, curating, creating, and organizing such learning resources for effective and efficient use. Hence, it's important to become familiar with strategies that optimize time to promote the efficient use of resources in your online course. This article will examine three primary time saving strategies to consider and they include:

1. Empowering learners as co-creators of content
2. Connecting with networks to curate and customize existing resources
3. Utilizing tools to consolidate and organize resources

We will explore opportunities to save time through the use of content repositories, reusing learning objects, exploring open educational resources (OER) and publisher materials, creating sample work, setting up push notifications for resources to get delivered directly to you, and strategies for curating resources with less time and effort.

EMPOWERING LEARNERS AS CO-CREATORS OF CONTENT

In higher education, we often work with adult learners who bring a wealth of expertise, experience, and insight to our courses. Knowles (1980) distinguished *andragogy* as the "art and science of helping adult learn" (p.43) and developed principles of adult learning theory which distinguished adult learners as self-directed, goal-oriented, practical, and desiring to integrate life experience and knowledge. However, we often fail to capitalize or leverage such knowledge and skills in a meaningful way. This section is going to explore how to tap into our students' expertise, experience, and desire to be part of knowledge creating communities, as the key to help you create efficient strategies for learning resource development in your course.

While behaviorist, cognitivist, and constructivist learning perspectives have served as the three broad learning theories most often used to create learning environments, they were established during a time that was not impacted by technology as we are today (Siemens, 2014). Yet, the constructivist philosophy of education, in which learners construct knowledge for themselves (individually and socially to construct meaning), has continued to evolve (Wadsworth, 1996). Constructivism centers on the premise that the individual constructs meaning and knowledge based on their interactions with information and the world around them. As early as 1938, John Dewey recognized the value and need for learners to 'learn by doing' and established sound principles which encouraged experiential learning (Dewey, 1938). Kolb & Kolb (2012) went on to explore experiential

learning theory as a dynamic, holistic theory that defines learning as the major process of human adaptation primarily through action/reflection and experience/abstraction. An important element of both constructivist and experiential learning theories pertains to the self-regulated aspect of learning. More specifically, self-directed learning is defined as "the process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing learning strategies, and evaluating learning outcomes." (Knowles, 1980, p.7). This type of learning (adult, self-directed, experiential) is something that not only empowers and encourages competency-development in learners, but it also connects them to the content in more direct and engaged ways (Knowles, Holton, & Swanson, 2005; Knowles, 1984; Knowles, 1980; Knowles, 1977; Knowles,1975; Knowles, 1973).

Research has shown that learners are more satisfied, achieve higher learning outcomes, improved exam scores, and are more engaged when they are directly involved in the learning process itself. For example, Ke & Xie (2009) found that learners were significantly more satisfied with the integrated course model, in which content was unstructured and adaptable; they also showed that learner control and the ability to reflect on information and effectively problem solve were successful for online learning performance. In more recent years, we've also seen learners who seek to be part of the process and who prefer to co-create, co-produce and co-brand content. Scardamelia & Bereiter (2006) refer to "knowledge creating cultures" and how learners today want (and expect) to be involved in knowledge creation and knowledge production process, particularly through the use of integrated technologies.

Empowering learners to be part of the content creation process also better prepares them for the workplace. Professionals today need to have a transferable skillset that allows them to work collaboratively to create and to recognize patterns in order to make meaning of complex ideas (Berman & Korsten, 2013). Today, organizations and learners want to see learning approaches that better mirror the collaborative work embraced by many organizations to better prepare learners for work in such environments (ACE, 2014; Brennan, Broek, Durazzi, Kamphuis, Ranga & Ryan, 2014; Edmondson, 2012; Thomas & Brown, 2011). Furthermore, employers think it would be helpful to create curriculum in which learners stay more current with technology and apply their knowledge in the workplace (Hart Research Associates, 2015).

Empowering learners to be part of the process of co-creating and curating content is one specific strategy that can greatly support the development

Table 1. Advantages to Student-Generated Content

Advantages for the Learners	Advantages for the Instructor
Develops learners' skills for finding resources in the content area Hones learners' ability to cull valid from invalid resources Promotes empowered, self-directed learning in the class Engages learners to feel personally invested in the course content Creates opportunities for collaborative knowledge sharing with peers and instructor	Keeps course content updated and saves time related to resource collection Allows instructors to focus on feedback and communication Promotes a learner-centric vs. teacher-centric environment Provides a more holistic view of the topic (rather than instructor-centric view) Exposes instructors to new resource outlets they may have never explored (via their students)

of your learning resources and also develop important skills and competencies within your students.

Student-Generated Content: Strategies for Empowering Learners

Learners today want to be part of the learning process, not a mere spectator to it, and consequently they are demanding more active roles in their learning. We see this with a shift in practice towards more active learning, service-learning, problem-based and project-based learning, and we see it particularly when students are empowered to help structure and co-construct content within their courses.

Moreover, student involvement holds the promise to save you significant time, to focus on more important aspects of the course. This does not mean that instructors should abandon course creation and resource development altogether – rather it means you should judicially select the *foundational elements* needed for students and then allow learners to co-construct the rest. Rather than spending countless hours, days, and weeks trying to locate and curate the best resources for your course, what might your class look like if you allowed and assigned students to assist with this task – to help design their own learning?

There are several advantages (to both you and your learners) that exist in doing so:

While there are countless ways you could engage learners in co-creating and curating resources in your course, below are a few options to consider which offer the most time-saving and efficient approaches.

Building a Content Repository

Given the dynamic nature of learning today, many courses have opted to establish a dynamic content repository that is continuously updated, rather than static content that can become outdated quickly. Instructors might find this option more appealing than having to update assignments and activities when new textbook editions are issued as well (i.e. having to update multiple areas of your course to reflect new page numbers or updated activities with new textbook editions can be extremely time consuming). Furthermore, building a content repository allows more flexibility to include a variety of perspectives and resources that are available in various formats. To help visualize what a content repository might look like, below is a screenshot. For example, here, the instructor created a content repository with three different section headings: 1) peer-reviewed journal articles; 2) texts; 3) video or multimedia resources. Students were not necessarily expected to read or review all of the resources, but rather to select those resources which were of most interest to them on the topic.

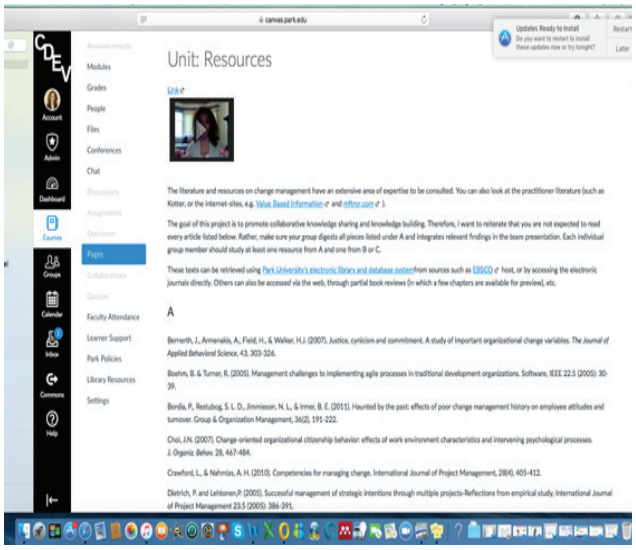

Figure 1.

Figure 2.

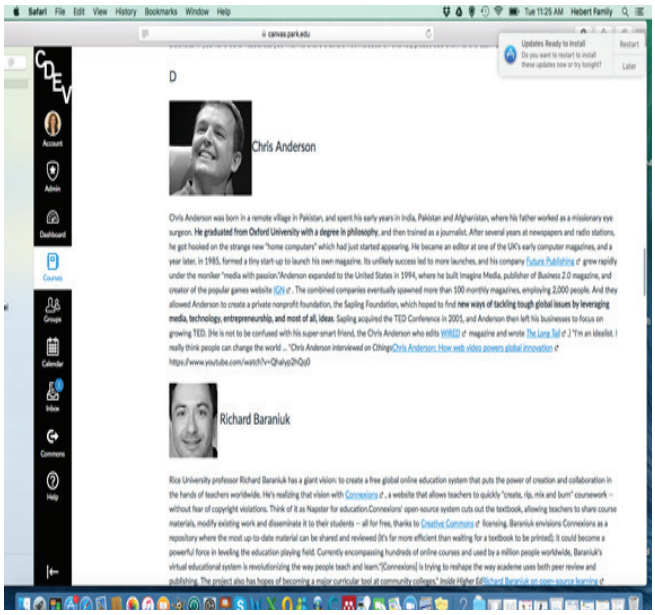

Figure 3.

Other instructors may prefer to structure their content repository in a more visually accessible way. For example, below shows a course where the content repository was organized based on weekly topics.

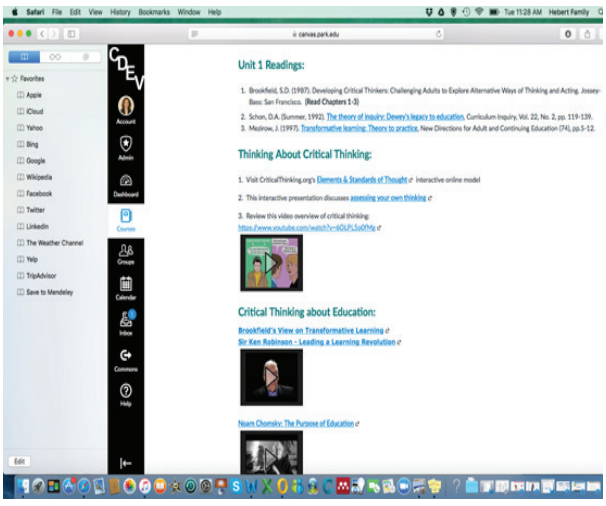

Figure 4.

A content repository can be used to host a plethora of resources and should be considered a "work in progress", were students are able to update the repository during each course offering. This type of work can save the instructor significant time and engage learners in meaningful aspects of the course. And the 'content repository' can take the form of many collaborative venues. It could be housed as a dynamic content item, a discussion area, a blog, or even hosted externally through diigo, mendelay, or other collaborative knowledge sharing tools (which will be discussed later in this article). Let's explore a few variations of how students can contribute to creating a content repository through collaborative means.

Building a Resource Blog

For many, the option of using students to create a content repository might be a bit overwhelming or they may find a more informal structure to share content in the course more appealing. Therefore, a great option is to allow your learners to construct and maintain a "Resource Blog" within your course. Instructors have empowered learners to create and share content in course blogs to find improved student enjoyment, development of computer skills and content knowledge, and increased awareness in worldview and global issues (Schuenemann & Wagner, 2014). Learners could be assigned a specific week, topic, or aspect of the blog to maintain and learners could be involved in how to organize the blog contributions. For example, in one of my fully online graduate courses with 16 students, two students contribute content each week – alternating until all students have contributed during the 8-week session. During their assigned (or student selected) week's content contribution, they are required to share two peer-reviewed articles from the current year, one resource from popular press, one related current event and one video-based resource. Their peers comment on and discuss the resources and the blog is archived for future classes to review and build upon. This is a simple, easy way to build in new and relevant resources in your course. Below is one example of a student-generated "resource blog":

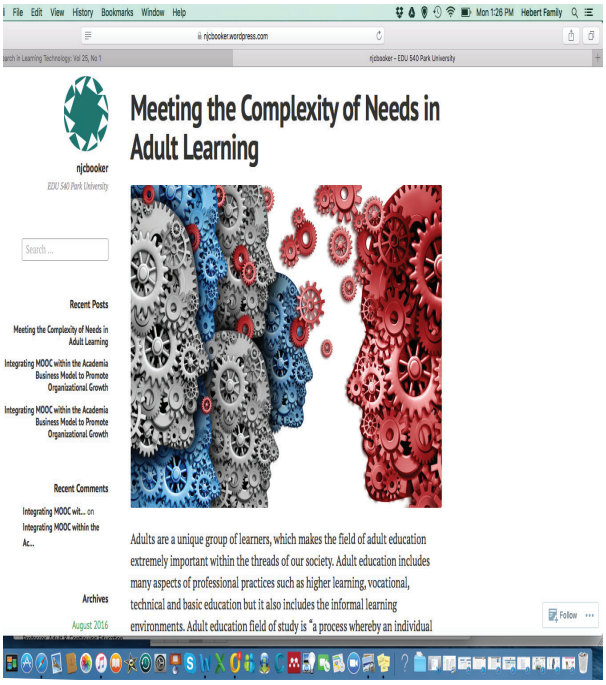

Figure 5.

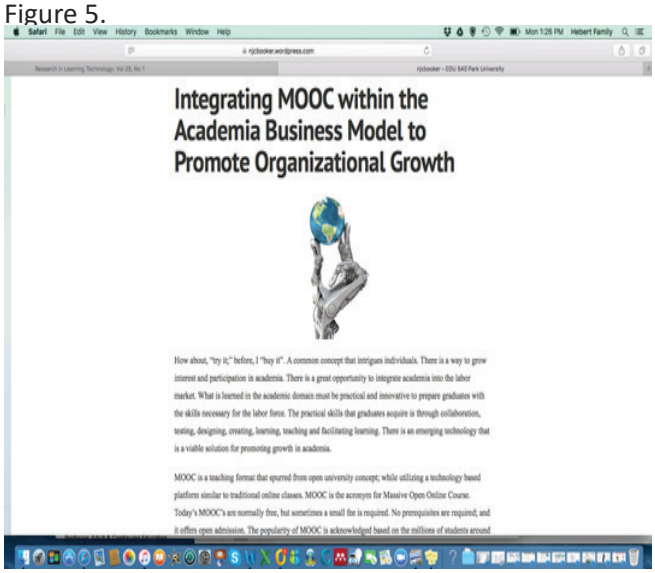

Figure 6.

Others may prefer to create a course blog in which students are all required to post a resource contribution weekly and then rate the most valuable resources. The highest rated resource might allow the contributor to receive bonus points, for example, and encourage the critical evaluation of truly meaningful resources with their peers. Others might prefer to allow students to self-select into multiple teams to share resources on a specific topic within the blog. There are countless ways to potentially structure the use of a blog within your course, and the possibilities are only limited by your imagination. It is important, however, to think about the intentionality of design. Be sure to think about the types of resources you would like shared in your course and how they will need to be considered, structured, organized, and shared to ensure your learners will be steered appropriately. Imagine the quality, variety, and number of resources that could be created or shared within your course – without any additional work on your part – all curated by your learners!

Building a Collaborative Resource List

While content repositories and resource blogs offer features that allow students to curate resources for you, instructors could also utilize external tools to create a resource list that supports collective and collaborative knowledge sharing. There are many tools that can be integrated directly into most LMS platforms or which can be created independent of the course. Students and instructors can collaborate together in a group to add, tag, annotate and share resources through social bookmarking or through creating a comprehensive course list of resources. For example, in my fully online graduate course, we use a resource-sharing tool that allows us to create a group for our course and allows each student to upload research articles on particular topics. During their review of literature, they add any and all research that might be relevant and it allows me (as the instructor) to see their contributions and to learn from new and updated content that can be shared in the course.

Guiding Principles to Consider

Regardless of whether you have students create a content repository, resource blog, or externally hosted resource list, a few guiding principles tend to help with efficiency and effectiveness.

Principle 1: Maintain one centralized repository for the entire course
Principle 2: Ensure students have the ability to add/build in the repository
Principle 3: Safeguard against accidental deletion of content
Principle 4: Set specific guidelines and expectations for contributions

Principle 1: Maintain one centralized repository for the entire course

While most courses are divided by weekly topics, units, or assignments, it is best to use one centralized content repository for the entire course (rather than creating separate content repositories in each week or within different units). Such decentralization can create unnecessary confusion for learners (and instructor) and can lead to miscommunication. Hosting one centralized content repository helps ground the content provided in one consistent area for the learners and allows them a reliable location to revisit for new information or if they wish to add content. This also saves time from having to update a course in multiple places with new content, allowing you and your learner to make only one update to one centralized area.

Principle 2: Ensure students have the ability to add to the designated content area

We realize that instructors may be working in a variety of LMS platforms, which offer different tools, features, and functionalities. We also realize that each college or university will have different requirements of their instructors and there may be differences in your ability to add or build content within online courses. For example, at my institution, only course developers can add content and instructors cannot change or remove it. Other universities may have all course content open for instructors to edit, but perhaps without any access for students. Therefore, it is essential to consider any limitations that may exist – both within your institution and within your LMS – to ensure that students have the ability to add content to a content repository. For example, if you know that content is locked in your LMS and unable to be edited by you or your learners, consider using a course blog to house your content repository. Or perhaps you can work with an instructional designer at your institution to determine the best place to house the content repository that can allow for building content during the live course.

Principle 3: Safeguard against accidental deletion of content

As with any collaborative effort or shared workspace, there is always the possibility that someone could accidentally delete the work of another. Therefore, it is essential to safeguard against such oversights to protect your students' work and the content being shared. A few ways to safeguard include requiring students to keep an individual record or log of the resources they share – therefore, if content gets accidentally gets deleted it can be easily added again. It would also be wise to have a brief primer on how to use the content repository/blog/list to avoid any incidental deletions and to ensure all learners feel comfortable and knowledgeable adding content. Lastly, if your LMS features and functionality allow you to add (but not delete) content in their settings, then it would be beneficial to utilize such a feature.

Principle 4: Set specific guidelines and expectations for contributions

The content contributions that students will add to the course should be clearly outlined with specific guidelines and expectations. In my courses, such student contributions are graded items with rubrics that set up the necessary elements (i.e. credible and reliable sources used and properly cited, informs and strongly relates to course topic, provides new insights or perspectives on the topic, etc.). You may have a specific timeframe in which you want content added – it might be weekly, or perhaps just once during the course, or perhaps you will want them to rate or evaluate other's resources shared. All of these areas need to be considered and explicitly communicated to students to ensure a successful contribution to the content of the course.

As these guiding principles are intended to assist you with the practical implementation of empowering your students as co-creators of content, other opportunities exist for learners to contribute to assessment within the course as well.

Building Assessments & Content with Your Learners

Student generated content continues to take many forms at many institutions. Some higher education institutions are even using student-generated content as the part of their marketing efforts to share students' authentic voices and experiences as a tool to recruit others (Quinn, 2013). Yet, related to saving you time and creating more effective and efficient online courses, student-generated content can be used not only in content curating but also in the creation of course assessments. Hardy, Bates, Casey, Galloway, Galloway, Kay & McQueen (2014) found that

students who created assessments in the form of multiple choice questions also contributed to improved performance on their final examinations and support for student learning, independent of the course or instructor.

Students can work independently or in teams to create assessments, quizzes, or mastery assignments that can assist in learning key concepts of the course. Using learners as co-creators of assessments in your course will not only save time and effort, but also engage learners to consider the content from a more unique perspective. If you would prefer to be the sole creator of assessments in your course, there are other alternatives that exist as well. Some have used student-generated podcasts to share content and authentic voices to gain a broader perspective and view on a particular topic (Snowball & McKenna, 2016), while others have used student-generated mobile movie production as course content and international student mobile media co-production teams supported by the development of an international community of practice (Cochrane, Antonczak, & Wagner, 2013). Again, the possibilities are endless and the key to saving you time through efficient and effective resource creation is to identify the elements that need continuous updating in your course, and which you would feel comfortable empowering learners to create or curate.

CONNECTING WITH NETWORKS TO CURATE & CUSTOMIZE EXISTING RESOURCES

While empowering learners to assist with content creation is an effective and efficient strategy, we will also explore strategies to connect with other experts and colleagues in your profession as an option to create learning resources. When examining teacher participation and professional development in online networks and communities, Trust (2016) found teacher learning to be an iterative process that was socially constructed and situated in the context of their work. As such, it is important to understand the generalized and education-specific networks which exist to support instructors, faculty, and online course developers in the creation and curating of content for learning. In this section we will review a few specific ways to tap into such networks and they include: 1) Open educational resources (OER); 2) Publisher-created content repositories; and 3) professional learning networks.

Open Educational Resources & Networks

Given the growth of user-generated content on the internet, the nonprofit Creative Commons emerged to offer free copyright licenses that allow you to specify and determine which rights you would like to reserve or waive within your work. Likewise, it allows you to freely use the works of others who have designed Creative Commons on their work. This is both as a result of and in response to the growth of open educational resources (OER) as well. The goal of the creative commons is to build a more equitable, accessible, and innovative world (Creative Commons, n.d). Retrieved directly from their website,

> *The Creative Commons Global Affiliate Network includes over 500 researchers, activists, legal, education and policy advocates and volunteers who serve as Creative Commons representatives in over 85 countries. Working alongside non-governmental institutions, universities and public agencies, CC affiliates employ region-specific approaches to copyright and intellectual property that help solve local and global challenges (https://creativecommons.org/about/).*

Some of the creative commons platforms include: flickr, bandcamp, Wikipedia, youtube, vimeo, boundless, skills commons, MIT open courseware, jamendo, tribe of noise, Wikimedia commons, PLOS, and europeana.

There is a growing use of open educational resources (OER), largely supported by open licenses and, consequently, we see a more fluid exchange of creating and sharing online resources as a result (Littlejohn & Pegler, 2014). Therefore, rather than 'reinventing the wheel', it can save you significant time and effort to consider the open educational resources that already exist and that can be freely utilized to support learning in your online course. According to the OER Commons, open educational resources are defined as

> *"teaching and learning materials that are freely available online for everyone to use, whether you are an instructor, student, or self-learner. Examples of OER include: full courses, course modules, syllabi,*

Table 2. Open Educational Resource Hubs

MIT OpenCourseWare (OCW) https://ocw.mit.edu/index.htm	OCW is open and available to the world and is a permanent MIT activity that provides access to full courses designed and taught by MIT professors. Educators and students can access the entire course library and course packets that include video interviews with professors, syllabus, outlines, readings, assignments, projects and related resources.
OER Commons https://www.oercommons.org	OER Commons is a network for teaching and learning materials, with a vast database of teacher-created curriculum that has been vetted for credibility and includes citations. Educators can connect and share globally with other educators, and work with the curriculum shared by other educators. Users can tag, rate, share, access and curate their own content.
The World Digital Library (WDL) https://www.wdl.org/en/	The World Digital Library, with the support of the United Nations Educational, Scientific, and Cultural Organization, makes available on free content in multilingual format, significant primary materials from countries and cultures around the world.
MERLOT https://www.merlot.org/merlot/index.htm	MERLOT (Multimedia Educational Resource for Learning and Online Teaching) is a curated collection of free, open online teaching, learning, and faculty development services contributed and used by an international education community.
OpenStax http://cnx.org	OpenStax is a dynamic non-profit digital ecosystem serving millions of users per month in the delivery of free educational content to improve learning outcomes. Authors can create, share and adapt resources available. There are tens of thousands of learning objects, called pages, that are organized into thousands of textbook-style books in a host of disciplines, all easily accessible online and downloadable to almost any device, anywhere, anytime.
The Community College Consortium for Open Educational Resources http://www.oerconsortium.org	The primary goal of the Community College Consortium for Open Educational Resources (CCCOER) is to create awareness of OER and help colleges to identify, create and/or repurpose existing OER to improve teaching and learning and make education more accessible for all learners. They seek the support of faculty to identify, review, evaluate, and make available high quality, accessible and culturally open educational resources.
The Open Course Library http://opencourselibrary.org	The Open Course Library is a collection of expertly developed, shareable course materials including syllabi, course activities, readings, and assessments designed by a team of college faculty, instructional designers, librarians and other experts. Unless noted, all materials are shared under the Creative Commons license and have undergone testing for accessibility and Quality Matters rubric.
The Open Education Resource (OER) Foundation https://oeru.org	The OER foundation is a non-profit organization that provides networking, leadership, and support for educational institutions and educators who want to utilize or integrate open educational resources. It also offers OERu that offers free online courses for students worldwide to provide affordable ways for learners to gain academic credit towards qualifications from recognized institutions.

(Marcinek, 2013; Educause, n.d.)

lectures, homework assignments, quizzes, lab and classroom activities, pedagogical materials, games, simulations and many more resources contained in digital media collections from around the world." (para. 1, McGill, 2013).

In an effort to better understand the various kinds of open educational resources available to you, it's important to specify the five different types of learning resources and they include:

1. *Digital assets* – typically a single file (i.e. an image, video, audio clip)
2. *Information objects* – a structured aggregation of digital assets designed solely to present information
3. *Learning objects* – an aggregation of one or more digital assets which represents an educationally meaningful stand-alone unit
4. *Learning activities* – tasks involving interactions with information to attain a specific learning outcome
5. *Learning design* – structured sequences of information and activities to promote learning (McGill, 2013; Littlejohn, Falconer, & McGill, 2008)

Depending on your need, you can select a single resource or can integrate an entire pre-existing lesson into your course. Open educational resources can be used to save you time and create a more effective search for online learning resources. To aid with the integration of potential OER resources, we thought it might be helpful to provide a brief overview of a few key websites that provide a broad range of topics and disciplinary open resources.

As educators, we are responsible for not only delivering content but also for providing various lenses for analyzing and processing it. Utilizing open educational resources requires less time and research and can provide a much more effective and efficient strategy for resource development – especially when done in collaboration with others rather than in isolation. Using the networks and resources above can effectively support OER integration and allow you to connect with educators and dynamic content, ensuring greater possibility for enhancing your learners experience and saving you time.

Publisher-Created Content

Given this rise in open educational resources, the publishing industry has experienced a significant decline in textbook sales, and they have begun to adapt to better meet the needs of learners and instructors. In fact, major publishers report that the sale of digital course materials has now surpassed sales of print textbooks for the first time (Straumsheim, 2016). Many of these companies have expanded their offerings beyond traditional textbooks to include educational testing (Pearson), digital educational platforms (McGraw Hill), homeschool materials (Houghton Mifflin Harcourt), and digital works and training (Cengage), and they have a plethora of traditional and electronic resources on a variety of topics (Dubay, 2016). Therefore, part of the publishing industry's adaption has involved the creation of digital resources that can save time and aid the instructor/learners.

Digital Supplements. Many publishers now offer supplementary materials to accompany textbooks or they offer material as stand alone resources (which include elearning modules, companion powerpoint presentations, videos, case studies, and more). These robust resources can be linked to and accessed by learners or embedded as resources within your online courses with textbook adoption.

Digital Textbooks. Another opportunity to utilize publisher content is in the form of digital textbooks. Many students may prefer to access their materials digitally and publishers now offer digital textbooks that can allow learners to highlight and annotate directly in the file, while providing the opportunity to view the textbook on mobile devices, laptops or desktop computers.

Test Banks & Assessments. Finally, a very popular use of publisher content that can be a significant time-saver for instructors and course developers includes the use of publisher test banks. Many publishers have created robust test banks to accompany their textbooks and reading materials. The use of such test banks can save significant time and effort, and will strongly align with the content required for the course. Such test banks can be used as knowledge checks, mastery assignments, quizzes, tests or even final exams.

If you are interested in pursuing more

information about publisher content some of the largest educational publishers include: Cengage Learning, Houghton Mifflin Harcourt, McGraw-Hill Education, Pearson, and Wiley. Table 3 is information for accessing their websites to search their services, content, and resources available to help you create an effective and efficient online course.

Table 3. Publisher Websites

Cengage Learning	http://www.cengage.com
Houghton Mifflin Harcourt	https://www.hmhco.com
McGraw-Hill Education	http://www.mheducation.com/highered/home-guest.html
Pearson	http://www.pearsoned.com
Wiley	http://www.wiley.com

While the use of publisher content could save you significant time, and nicely align content, readings, activities, and learning resources, it is important to consider accessibility issues prior to adoption. There are several important questions you need to consider prior to pursuing this path. The primary concern to consider before using publisher content pertains to accessibility. Federal law requires that all instructional materials must be accessible to all learners for any higher education institutions that receive federal funding. However, publishers are not subject to the same requirements and thus you should consider posing the following questions for accessibility prior to publisher content integration:

- Are audio recordings transcribed?
- Do videos include captioning?
- How accessible are ebooks?
- Can materials be accessed on an ipad or mobile device?
- Are any software downloads required?
- How are materials accessed? Does it require an access code?

(Adapted from Portland Community College, 2017)

Knowing the importance of ADA compliance, the American Disabilities Act and Section 504 of the Rehabilitation Act of 1973, state that education programs must be accessible to individuals with disabilities, and that communication with individuals with disabilities must be as effective as communication with others. Therefore, a few tools to ensure ADA compliance that provide transcription of audio/video recordings include: Quick Time, Real Player, iTunes, and YouTube. Video files should be embedded or displayed using players (such as Quick Time, Real Player, iTunes, or YouTube) which allow the user the ability to access to screen reader using keyboard commands (Valencia, 2014). Additional considerations and direct resource links are offered in Table 4.

Table 4. Direct Resource Links

YouTube Offers automatic captioning – see link for helpful tips to integrate captioning	https://support.google.com/youtube/topic/3014331?hl=en&ref_topic=3014745
Camtastia Offers text-to-speech as an option but more difficult to integrate – see link for help guide	http://www.techsmith.com/tutorial-camtasia-captions-prior.html
AMARA Promotes the use of subtitles with user created content or downloaded files from YouTube	http://www.amara.org/en/

(Adapted from Valencia, 2014)

Publisher content continues to grow in use and popularity and can be integrated to support the development of your online learning resources in the form of existing content, learning activities, digital textbooks, and/or assessments and test banks. Regardless of which elements you may choose to integrate, consider accessibility of your learners and the content available.

Professional Learning Networks

An excellent source of pre-existing content and learning resources for course integration exist on a variety of topics within professional learning networks. A professional learning network (PLN) is *a vibrant, ever-changing group of connections to which educators go to both share and learn - these groups reflect our values, passions, and areas of expertise (*Crowley, 2014). In many instances, you are able to subscribe to newsletters, join groups, and setup push notifications that can email you content pertaining to your direct specifications.

For example, I can join groups on LinkedIn related to specific topics of interest to me and join their news feed. I can also subscribe to specific channels or topics within twitter, youtube, tedtalks, or other organizations such as IMB, Deloitte, or Educause to receive the most recent reports pertaining to a particular topic of interest. These types of push notifications send all new content directly to my email without having to search or waste valuable time mining content – rather a customized list of content from various sources gets sent directly to me - it's a beautiful thing and a huge time saver! To setup your own professional learning network there are a few simple tips and suggestions we recommend:

1. Identify Professional Organizations & Associations

First, identify which professional organizations within your specialty already exist. For example, I belong to three different professional associations and regularly attend 2-3 conferences (consistently) each year. This would be a good place for you to start as well – which organizations or associations are you already a member? Which disciplinary or professional conferences do you attend each year? Such conferences, organizations, or associations may already have a virtual presence through a community blog, website, twitter feed, Linked in group, or newsletter to which you could subscribe. Regardless, you want to begin by identifying organizations and associations that focus on your professional field and specific topic or discipline. Also, remember to be somewhat selective. If you sign up for 10 different newsletters each week you might get overwhelmed by the content you receive and negate the value and efficiency of using PLN to help you save time. Consider which resources can provide you the most helpful, specific, and meaningful learning objects for your courses.

2. Explore Opportunities for Mentorship

It is the hope that any professional network you join will include highly respected individuals with expertise in your field, so consider reaching out to them. These individuals could be invited as guest panelists or expert discussants in your online class, or they might be willing to record a short presentation that could be shared with your learners. Also, consider the possibility that you might have the expertise to mentor another professional as well and exchange information together more directly. Professional Learning Networks are a great source for not only the exchange of content and learning resources, but also for the development of relationships and human capacity building. It's best to include a mixture of rookies, peers, and experts within your PLN to gain the broader perspective and exposure to vast learning resources.

3. Designate Your Networks

Since the goal of this article and text is to help you approach your course effectively and efficiently, it is critical to be more effective with your time. Therefore, consider designating your network according to its purpose. For example, I only use Facebook for social and personal networking, but I utilize LinkedIn, Mendeley, GooglePlus and youtube professionally. Likewise, my learning networks (such as TedTalks, Learning Frontiers, Edutopia, etc.) are the ones that I subscribe to in order to receive push notifications on interesting videos, research, and reports. You will need to think about how you wish to setup your networks and how you plan to utilize them. Table 5 demonstrates a few questions to help you organize your networks:

Table 5. Networks

Social Networks	Professional Networks	Learning Networks
What am I comfortable sharing of my personal life and who do I want to have access to that information?	What organizations or associations exist in my field and what do they offer that could benefit my work?	Which experts do I want to learn from and to which networks do they belong? What do I want to learn this year and which networks can help me build this knowledge?
EXAMPLES: Facebook Flikr uStream InstaGram Musically	EXAMPLES: LinkedIn Branchout My Sci Net The Guardian Skillshare	EXAMPLES: Mendeley Research Gate Ted Talks Khan Academy EdX/Udacity/ Coursera

The beauty of establishing your own professional learning network is that you can customize any combination of learning communities, how you

wish to receive information, how you plan to organize push notifications according to your desire (weekly, daily, etc.), and can customize the information that gets delivered to you (i.e. I only sign up to receive information on my innovation and change management, or on the history of the civil war, etc.). Furthermore, you can utilize these communities for reciprocal interaction and two-way communication as well, to gain feedback on a project, to collaborate on creating an assignment, to invite expert contributors, and much more.

Lastly, for those who don't have the time to curate your own resources or manage networks, you can utilize tools that offer customized recommendations based on your topics of interest. Such tools might include Reddit (https://www.reddit.com) or StumbleUpon (www.stumbleupon.com). Most have strong networks with daily resource updates that can be pushed directly to you. The key is to make the most of the networks that exist, the resources they share, and the exchanges that can inform your practice.

UTILIZING TOOLS TO CONSOLIDATE & ORGANIZE RESOURCES

Now that you have learned about countless ways to locate learning resources for your online course, what should you do with them? The following section will explore specific tools and efficient strategies to help you organize your learning resources to save time and effort.

Resource Management

Once you find great resources it can sometimes be difficult to keep track of them all. Therefore, organizing, storing, and curating such resources become equally important to save you time and operate efficiently. Fortunately, some excellent tools exist to help. While there are literally thousands of tools and software you can select to meet your needs, you should consider using at a minimum: 1) a social bookmarking tool; 2) a tool to collect and sort research. Personally, I use diigo as a social bookmarking tool that allows me to sort, code, tag, and highlight any website, document, or hyperlink I come across. I can organize my links according to my classes, according to topics, according to modality, or a variety of other methods. This allows me to easily save websites that I plan to revisit or use in my courses. Likewise, I have found Mendeley to be a great tool that helps me and my students organize research. We can collaboratively create groups, share resources, locate new articles easily, annotate and save directly from websites, among many other features. You will be able to identify the platforms, functions and features that are most important to you in a resource management tool.

Bookmarking & Annotating Tools

During the process of browsing online it can be easy to find websites, videos, and articles we'd like to share or use in our courses – yet finding those resources again can become problematic. It can be a challenge to keep all of our links organized and easily accessible. Therefore, social bookmarking tools can make the process of organizing, curating and sharing online resources much easier!

Social Bookmarking is primarily used to add, annotate, and share bookmarks of websites and webdocuments. Social bookmarking does not save the resources themselves, but rather provides the bookmarks that reference the resources. This is particularly beneficial when a user wants to locate a particular resource from different computers, between home or office locations, or on multiple devices – as the bookmarks are not computer specific and can be accessed anywhere.

Some bookmarking sites, such as Pinterest, allow users to pin ideas from the web and follow others. Other bookmarking sites provide robust options that allow you to annotate, file, organize customized folders or dashboards, and more, such as Diigo. Another way to save time is not only by saving and bookmarking your resources, but also by highlighting and note-taking directly in such resources *as you review them*. Below is a brief list of a few general bookmarking tools, education-specific bookmarking tools, and also tools that can be used to directly highlight, annotate, and make notes in your resources - all that can support you in becoming more effective and efficient in resource management. A few key tools to aid in this process are included in Table 6.

Table 6. Bookmarking Tools

Bookmarking Tools	
Diigo https://www.diigo.com	Diigo is one of the more robust tools that allows users to collect, save and tag online resources for easy access, to annotate pdfs and webpages directly as you browse online, to organize and share your research with others, and create your own structure within the system.
Delicious https://del.icio.us/	Delicious is a free, social bookmarking web service that creates a classification system for users to tag each of their bookmarks with freely chosen indexing terms.
Bag the Web http://www.bagtheweb.com	Bag the Web allows users to create focused bags containing their best links on their favorite topics. A bag is a hybrid media container that allows you to organize your favorite links into a cohesive unit.
We Heart It http://weheartit.com	We Heart It is an image-based social network for inspiring images and allows you to organize and share favorites images into collectibles.
Education-Specific Bookmarking Tools	
Edshelf https://edshelf.com	Edshelf is a socially curated discovery engine of websites, mobile apps, desktop programs and electronic products for teaching and learning
Educlipper https://educlipper.net/about	EduClipper was born out of the need for teachers and students to have a better platform to explore, share, and contribute resources. It is designed by an educator to help teacher and students save time, build learning networks, and share student work
Evernote https://evernote.com	Evernote can be used to create a project to do list, jot down a reminder, snap a picture of sketch, record audio, etc. A note can be anything you want it to be and once made, it's accessible where you go and can be used collaboratively with others.
Highlighting & Annotating Tools	
Diigo & Evernote	Reviewed earlier as a social bookmarking tools, these also allows you to highlight, annotate and make notes within your resources.
Simplenote https://simplenote.com	Simplenote allows users to easily jot down thoughts and organize them by tag, search note contents, tags and revision history for your notes, share them with others, and access them on any web-enabled device.
Middlespot https://middlespot.com	Middlespot allows users to build a virtual desktop or dashboard of websites, documents, photos, plugins, social feeds, bookmarks, assets and more organized the way you want.
Scoop.it http://www.scoop.it	Scoop.it is a content curation service that allow users to create and grow their online prescence in minutes by publishing and customizing curated content. Users can discover content, curate, add their perspective and publish to their own topic page.

(eBiz, 2017; EdTech, 2017)

One of the important things to acknowledge is that these lists and tables are intended to be a mere 'jumping off point'. These resources are meant to help get you started in utilizing social bookmarking tools – however users must select those that work best for them and must also search out new tools that emerge in the years to come (as they will build on the success of these and create even more tools and functionality in the future). Social bookmarking sites are designed to help us efficiently find and use our favorites websites and great resources we discover. Rather than making notes on post-its or trying to record a web address, we can have organized, searchable, annotated files/folders/dashboards full of resources to revisit during our lesson planning and course maintenance. Furthermore, we can aid our students in developing this technological skillset as well by creating their own resource lists and learning objects.

Reusing Learning Objects

One of the most significant time saving strategies to implore when creating your online course is through the recycling and reusing of learning objects. For example, I created a brief video and self-paced module that explains expectations for professional writing in my online graduate course. It reviews APA guidelines, professional writing standards, and my expectations of graduate level writing. This is a learning object that I use in every course I teach and it creates consistent expectations for my students. Think about learning objects in your courses that might be applicable and useful in a variety of domains or across several courses. It also goes without saying that content which is relevant and current should be reused between each course offering as well. A few areas to consider reusing learning objects across courses might include (but are not limited to):

- Instructor welcome message (video or text)
- Activity or assignment guidelines
- Standard discussion rubrics
- Activity rubrics (i.e. peer review, research paper, etc.)
- Standard feedback messages (i.e. cite using APA)
- Departmental or programmatic philosophies for learning
- Images, photos, or visual aids

While you can likely think of a few learning objects within your course right now that might be reusable, continue to find ways to cross pollinate your resources and learning objects across your courses/sections. It will save you time and allow you to compile a more robust and consistent presence for your learners.

Creating Sample Work

Often times, students request to see examples of student work for particular assignments (research paper, projects, etc.) and integrating such items directly into your course can save you and your learners time and can more clearly set expectations for your assignments. You can organize the exemplary learning objects any way you wish, but you will want to ensure that you save these learning objects immediately and integrate them into your course once you receive approval from the student. When you have a student that truly submits an exemplary piece of work, ask their permission (with their acceptance documented via email) to display their work in future sections of the course. Most students are honored by the invitation and are more than willing to allow their work to be share as an exemplary model for other students. Doing so also allows you to create a gallery of exemplary work in your course over the years. I personally like to maintain a "showcase gallery" in my online courses where students can visit former students work and learn from it. The students seem to appreciate the opportunity to review former student work and it gives them a better sense of the activity or assignment. And as an added bonus, there are many students who will work exceptionally hard on their assignment in the hopes of having their work added to the "showcase gallery". This is one simple, easy, effective and efficient way to provide assignment clarity with little additional work or time.

CONCLUSION

We are incredibly fortunate to live in a time of accessible information and knowledge transfer. However, it is our obligation and responsibility to hone and refine our skills as instructors, subject matter experts, and course developers. More specifically, we need to further develop our skills for utilizing technology to support effective and efficient strategies for learning resource management, creation and curating. This article has discussed three primary strategies that leverage your learners, colleagues, networks, and

tools to assist in this process and save significant time. We encourage you to customize these recommendations and strategies based upon your needs and the following questions posed will help you do so.

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Appendix A. Bringing It Together
Dos and Don'ts for Effective Strategies to Create Learning Resources

	Don't	Do
Learners as Co-Creators	Think of learners as passive receptacles of information.	Engage learners in the process itself by assigning opportunities to contribute course content.
	Keep the course locked to ensure that no changes can be made by anyone other than you.	Provide learners the space to curate and share content with one another through a content repository, resource blog, or resource list.
	Assume that learners do not want to be part of the process of creating content or assessments.	Consider learners as co-creators of content and assessments within your course.
Utilizing Networks	Rely solely on your individual experience and expertise to create your course.	Identify organizations, associations, experts, and industries to establish your professional learning network.
	Avoid publisher content because of accessibility issues.	Consider reviewing publisher content that is available for textbooks you already use in your course.
	Create your course in isolation based on your sole expertise and experience.	Identify professional organizations, associations, experts and resources to develop your professional learning network (PLN)
Tools to Organize Resources	Continue to cut and paste your favorite websites and resources into a document.	Identify bookmarking tools and research tools to aid in your resources organization, storage and curating.
	Customize all aspects of every course without any overlap of learning objects.	Reuse learning objects across courses to save time and create consistency.
	Leave students to interpret your directions and expectations for assignments.	Use student work to generate exemplary samples and galleries of assignments and activities.

Appendix B. Critical Reflection Questions

General:

- What is your greatest barrier to creating learning resources?
- What takes the most significant amount of time and effort in creating learning resources for your course?
- How can you manage your time to foster the creation/curating of learning resources?
- What strategies do you currently use that allow you to provide high quality, efficient resources?

Institutional Context:

- What are the expectations at your institution and ability to edit content within your courses?
- What are the institutional policies pertaining to open educational resource use and integration?
- Why type of access exists for student editors of content?
- How is your use of learning resources evaluated? What dimensions of learning resources are central to the evaluation of your teaching?
- What do students expect in terms of the quantity, quality and relevance of learning resources in their courses and their involvement in the process?

Instructor Style:

- When do you typically create, maintain or update your learning resources? How does your personal schedule impact your ability to effectively select, curate, or update learning resources?
- In what formats are you most comfortable sharing learning resources (written, video, audio, other)?
- What technologies that can increase the efficiency of sharing learning resources with your students and which are you most comfortable using?
- What supplemental technologies are available through your institution?
- Do you have a current strategy or system for creating learning resources? How might you enhance your current approach(es) to be more efficient?

Course:

- Do you typically teach the same online courses from semester to semester? How can you schedule the courses you teach to increase your ability to provide high quality learning resources in an efficient manner?
- How many assignments in your course require customized learning resources? How can you distribute assignments throughout the course to integrate learners as co-creators of course content?
- Do you use the same assignments from one semester to the next? How can you integrate learning resources to reduce the need for time-consuming updates to content?
- What opportunities exist in your courses to integrate and empower learners?
- Is your course accelerated or on a traditional semester schedule? How does the timing of your course interact with your ability to effectively and efficiently provide or update learning resources?

Learning Management System:

- What opportunities exist in your learning management system to support student-created or student-curated content?
- What Web 2.0 technologies can be used within your learning management system to increase the efficiency of providing learning resources?
- What types of permissions are needed to support learner-generated, open source, or publisher content in your course?