Open Educational Resources: New Technologies and New Ways of Learning

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Teachers and programs can enhance efforts to build digital resilience for adult learners by adding supported access to a range of different learning tools called Open Educational Resources. This paper presents strategies for locating and integrating OERs into adult ELL classrooms.

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The need to develop digital resilience

> At the heart of sustainable change is developing and helping people to build up an "inner resilience" that guards them from experiencing every change that comes their way as disruptive. Instead, this resilience ensures that they learn to cope with these changes more as part of their continuous "agile development and learning" (Cashman, 2009), recognizing patterns in one situation and making sense of them and applying them in another (Kop, Fournier & Mak, 2011, p. 76).

Increased expectations for technology use in daily life, postsecondary schooling, and work have privileged the use of learning technologies in Adult Basic Education (ABE) programs that serve adult English language learners (ELLs) in Minnesota and across the country. Many ABE programs have responded by offering digital literacy training and encouraging their learners to engage in online distance learning. These efforts are beneficial to learners; however, they may fall short of building the "inner resilience" described above (Kop, et al., 2011).

To best prepare ELLs for use of technology required for full participation in economic and civic life, teachers and programs can enhance their current efforts to build digital resilience by adding supported access to a range of different learning tools called Open Educational Resources. OERs are free online resources that support both digital literacy and academic skill attainment. When learners use multiple and varied OERs they see, first hand, the importance of using the Internet to find knowledge and information – a lesson many ABE learners need in order to access resources and overcome barriers inhibiting their success in school and work. Learning through use of multiple and varied online tools starts with developing digital literacy and leads to the "resilience" needed to become a lifelong learner and reach career and academic goals.

What is digital literacy?

Digital literacy is proficiency in the use of technology and applying it when communicating and accessing information. Eshet and Eshie-t-alkalal (2004) further describe it as the "technical, cognitive, and sociological skills in order to perform tasks and solve problems in digital environments" (p. 93). Eshet breaks skills down as follows:

- Photo-visual literacy, "the art of reading visual representations" (p. 94)
- Reproduction literacy, "the art of creative recycling of existing materials" (p. 97)
- Branching literacy, "use of hypermedia and non-linear thinking" (p. 98)
- Information literacy, "the art of skepticism" (p. 100)
- Socio-emotional literacy, collaborative learning and sharing in online venues (p. 101)

Highly educated learners use these skills on the Internet to gain access to knowledge and information. They develop technology skills by using technology to learn academic content or find information, which prepares them to adapt to future technological developments (Kop, et al., 2011). The "inner resilience" built is a strength required for the rapid pace of technological change present in today's school and work. The audience who can use technology in this way must continue to broaden if the benefit from such participation is to reach those who most need it. Hence, expanded use of OERs can help ELLs gain technology skills needed to address barriers that have prevented them from reaching academic and career goals in the past and position them to be able to make use of future technological developments.

An important first step in framing a contemporary use of technology in learning for ELL/ABE students came in 2010 when the Obama administration released a National Education Technology Plan, which calls on educators to embrace innovation and empower students to take control of their own learning. It demands leveraging technology to connect to resources beyond the classroom and to a wider set of "educators," including teachers, parents, experts, and mentors, embracing Open Educational Resources (OERs) as a valuable learning tools (*Transforming American education: Learning powered by technology*, 2010). This call has been the impetus for national policy in ABE. Supportive policies, access to OERs, and adequate professional development to show teachers how to effectively use them are necessary for creating learning that instills inner resilience for our ELLs. Each of these requirements will be discussed in this paper.

New policies to move forward

Federal education policy is clear in its support of the use of technology for adult ELLs. The Office of Continuing and Adult Education (OCTAE) now promotes application of the Common Core College and Career Readiness Standards (CCRC) in programming at ABE sites across the country (Pimentel, 2013). The CCRC standards embed technology into several anchor standards, for example:
- Anchor 5: Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations" (Pimentel, 2013, p. 32)
- Anchor 6: Using technology and the Internet to produce and publish writing and to interact and collaborate with others" (Pimentel, 2013, p. 28).

Similarly, the new Workforce Innovation and Opportunities Act (WIOA) articulates a requirement for technology to be used in both the classroom and distance learning (HR 803, Workforce Innovation and Opportunities Act, 2014). Expanded use of learning technology is

mentioned in several places in the new law, including Section 223 (2)(B), which lists the following under permissible agency activities:

> "the development and implementation of technology applications, translation technology, or distance education, including professional development to support the use of instructional technology" (p. 523-524).

Further, Section 231 (e)(7) lists the following provision for selecting eligible ABE service providers:

> "whether the eligible provider's activities effectively use technology, services, and delivery systems, including distance education in a manner sufficient to increase the amount and quality of learning and how such technology, services, and systems lead to improved performance" (p. 533).

Such language requires programs to include opportunities for learners to both improve their digital literacy skills and apply them to their academic learning, setting the stage for use of multiple learning technologies like OERs.

What are OERs?

> "Open Educational Resources (OER) are teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits sharing, accessing, repurposing -- including for commercial purposes -- and collaborating with others" (*Transforming American education: Learning powered by technology*, 2010, p. 56).

An OER could be any discrete learning resource found online: an image, eBook, podcast, video, or interactive activity. It could also be a complete lesson plan or fully developed course. All OERs are licensed in a way that allows teachers to use them as is, or sometimes, make adaptations to customize for their learners. This is usually done through a Creative Commons license. Because they are free, adaptable, and plentiful, OERs are ideal supplemental resources for both classroom and online distance learning instruction.

Teachers can access OERs in many ways. A Google search can be done using the advanced option with usage rights set to show items that can be freely used or shared, as illustrated in Figure 1 below.
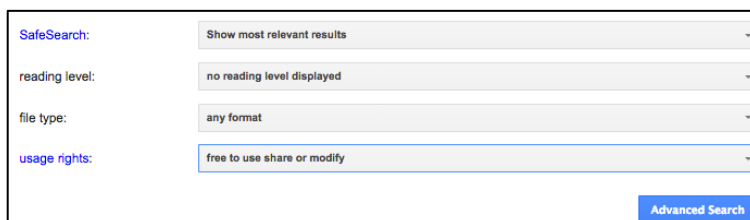

Figure 1. Advanced Google search example

Step by step instructions for doing such a search and for locating OERs in multiple online databases can be found at http://open4us.org/find-oer/, a website developed through US Department of Labor funding to support access to OERs for learners in Community and Technical College transitions programs. One of the useful databases listed on this site is the OER Commons, which includes links to fully developed lessons plans and discrete learning resources and activities, including a few already popular in ABE programs, such as:

- TV411 - dedicated to help adults with basic reading, writing, math, and science skills using engaging video and interactive activities.

- Khan Academy - hosting video-based instruction across a broad range of subject areas.

Entries in the database often include instructions for tailoring use of the materials to specific audiences. For example, there are instructions for use of Khan Academy with ELLs, complete with instructions for use of captions and adjusting video playback speed.

Another useful resource for teachers is California's Outreach and Technical Assistance Network for Adult Educators (OTAN), which has published several fully developed courses, licensed under Creative Commons, and filled with links to other OERs. These courses are built into a learning management system called Moodle (see Figure 2 below), which is also used in many K12 districts across Minnesota. Here is a sampling of the courses available.

Advanced ESL course - For adult ELLs as a stand-alone course or for supplementary learning activities. It covers listening, reading, writing, vocabulary development, and grammar.

College Transition and Career Development course – Designed to help all ABE learners, including advanced ELLs, transition to college or prepare for work. It focuses on writing and provides opportunities for learning about job search.

USA Learns 'Wrap Around' course - Intended for learners who are also enrolled in the distance-learning curriculum called USA Learns. It provides links to complementary OERs selected to augment the USA Learns for ELLs who need additional instruction and practice.

These and other courses developed across the U.S. and shared with OTAN can be found at http://adultedcourses.org/. The courses are available for any teacher to view and use as a resource for finding OERs to support their instruction. Alternatively, OTAN will share entire courses to teachers who have access to their own Moodle sites.

Figure 2. Example of a Moodle site shared by OTAN.

New technologies + more information = New ways to teach and learn

It's clear that OERs are widely available; however, the availability of content alone will not ensure their use in ABE/ELL programs. Current use of technology for many ELLs has not realized its potential because of the way it has been integrated - crammed into the current models of teaching and learning. Christensen, Horn, and Johnson (2011) argued that simply adding a new technology into an existing infrastructure does not yield success because there is little incentive for organizations to alter the way they work to accommodate that new technology. For learning technologies like OERs to best benefit learners, programs must change the way they view technology in learning.

> "New structures and processes must be developed to accommodate the new reality: Individuals should be able to access knowledge, skills, and information not only by using multiple media at any time or place, but in different formats, structures, and quantities, and for different personally determined purposes" (McCain, 2009).

What might effective use of OERs in instruction look like? Any use of technology for ELLs needs to meet the low-print literacy and digital literacy usability threshold defined by Silver-Pacquilla and Reder (2008) as flexible and different for every learner depending on an "interaction among learner's skills, the [online] environments they encounter, and the support available" (p. 1). In short, the integration of OERs into instruction likely needs to be differentiated to meet a learner's specific needs and be supportive, providing sufficient face-to-face scaffolding to make the experience useful for the learner (Reder, Vanek, & Wrigley, 2012).

The Minnesota Department of Education ABE offers self-paced training to help teachers understand how to adopt effective technology integration strategies. Called the Digital Literacy Integration in the ABE Classroom, the training recommends the following strategies:

1. Determine the digital literacy skill gaps of the teacher and the learner using the [Northstar Digital Literacy Assessment](). The assessment defines basic skills needed to perform tasks on computers and online. The ability of adults to perform these tasks is assessed through online, self-guided modules (Vanek, 2013).
2. Provide ample opportunities for learners to use digital literacy skills, with teacher support, in their academic learning. Decisions about use of learning technologies (both those that support direct digital literacy skill gain and academic learning) should follow the SAFE (Seamless, Appropriate, Facilitated, Empowering) model as a lens for developing technology integrated lessons, which contextualize technology learning within ABE content areas and encourage learners to use technology as a tool to accomplish real life tasks.

I would add a point that lies in between the two articulated strategies above. Teachers can begin to build the technical skills required for accessing information and communicating through online tools with some *limited* direct instruction of digital literacy skills, always working toward complete integration as described in point two above. The [Saint Paul Public Library]() has put together a short list of resources that may be useful in helping learners develop the skills tested.

New roles and training for teachers

To help ELLs build the inner resilience described previously, teachers need to be willing to learn new skills and act as facilitators, supporting both digital literacy skill development and the application of those skills in academic learning. Teachers may need to adjust the way they view their role and the tools they use to teach. Instead of identifying themselves as the sole expert, teachers become a facilitator of learning, often learning along with their learners. They work by aggregating, curating, amplifying, modeling, coaching, or mentoring (Kop et al., 2011, p. 89). Using the tools described above to find a range of OERs useful for learners is a great place to begin; a spirit of risk-taking and willingness to experiment makes use of the OERs a possibility. Then, reflection about learner needs and the instructional benefit of the materials or activities can help a teacher integrate them effectively into his or her instruction.

Conclusion

The range of learning opportunities afforded by OERs is a good fit in resource-constrained ABE programs and for teachers who do not have the time or expertise to develop their own online tools. Supported and learner-centered use of OERs with ELLs, over time, can positively support persistence and engagement because the learner can eventually be the driving force behind his or her own learning. Such opportunities to master technology and the Internet can prepare learners for situations where they can only use technology to access resources and solve problems in the future.

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Websites referenced and linked in the article:

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- Digital Literacy Integration in the ABE Classroom http://mnabe-distancelearning.org/professional-development
- Khan Academy https://www.khanacademy.org/
- Khan Academy with ELLs https://www.khanacademy.org/coach-res/reference-for-coaches/how-to/a/tools-for-ell-esl-students
- Northstar Digital Literacy Assessment www.digitalliteracyassessment.org
- OER Commons https://www.oercommons.org/
- Saint Paul Public Library http://guides.sppl.org/northstar/Home
- TV411 http://www.tv411.org/
- USA Learns www.usalearns.org

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