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The Mass Amateurization of Adult Literacy Instruction: Exploring Crowdsourcing in Adult Basic Education

From the development and growth of the Internet to the ubiquity of mobile devices, digital tools and computer technology continue to shape the ways in which we work, learn, and communicate. The popularity of blogs, wikis, massively multiplayer online role-playing games (MMORPGs), social networking sites like Facebook and MySpace, and other web-based social communication tools have dramatically transformed how information is created and shared and how people and groups join together and interact.

These communication tools have begun to change how we understand and approach teaching and learning, giving us new opportunities to connect with, manipulate, and share learning content and providing a means for a more social learning experience. So, while these changes seem at first to be fundamentally technological, they are in fact mostly social in nature (Wesch, 2008).

In this paper I address the question *How might technological innovations change adult literacy education by the year 2020?* by suggesting that those of us engaged in adult literacy education need to harness the social revolution fomented by innovations in technology by using the principles of crowdsourcing to help support adult literacy instruction. Crowdsourcing is a form of mass amateurization. Mass amateurization happens when the products or services typically provided by a professional class are produced by amateurs instead, usually because a technological development lowers the barrier for the participation of the masses. For example, inexpensive and easy-to-use digital cameras allow almost anyone to take high quality digital pictures, and free blogging software allows

an army of bloggers to challenge the professional class of journalists. A mass of non-professionals can often do the same job more cheaply than a handful of elite professionals, and the Internet provides a means to easily distribute the products of these efforts. Crowdsourcing is a recent phenomenon that harnesses mass amateurization to outsource a job traditionally performed by a designated agent (usually an employee or expert) to an undefined, generally large group of people in the form of an open call (Howe, 2006).

The argument for using crowdsourcing to support adult literacy is based on four predictions about future technology innovations:

1. The digital divide will become less a problem of technological access than one of technological application.
2. Educational content will be widely available online and the creation and sharing of educational content will be easy to do using widely available, online tools. However, being able to consume this educational content will be less important than having the skills to locate, manipulate, share, and evaluate it.
3. Online communication will continue to increase in sophistication, making location-based educational services less essential for learners and virtual learning environments more prevalent and more accessible.
4. The evolving definition of literacy, combined with developments in assistive technologies, may reduce some of the barriers many low-literate people currently experience when engaging in learning activities both online and offline.

The narrowing of the digital access divide widens the digital application divide.

Mobile devices have the potential to dramatically narrow the digital access divide by providing users with an inexpensive and portable connection to the Internet. In the report *The Future of the Internet III*, a majority of the report's contributors expect "the mobile phone will be the primary connection tool for most people in the world by 2020." The report also predicts that the "bottom" three-quarters of the world's population will account for at least 50% of all people with Internet access—up from 30% in 2005 (Anderson & Rainie, 2008). The 2009 Horizon Report also suggests that mobile computing, already gaining significant market traction with the popularity and increasing functionality of mobile devices like the BlackBerry and iPhone, will likely dominate innovation efforts in the technology market over the next few years (Johnson, Levine, & Smith, 2009).

However, while increased ownership of mobile technology and access to the Internet is a significant development, especially for the low-literate and low-income people who make up the majority of ABE learners, the emerging threat of the digital divide in the United States is not that some people will have computers and some won't, but that some will have the knowledge and skills to access these tools and resources in order to persuade, argue, analyze, critique, and interpret, while others, lacking these skills, will be limited to pre-packaged choices (Warschauer, 1999).

Content vs. Connections

As more adult learners join the Internet in the future, they will find they have access to a growing collection of powerful learning content. This content will be both formal and informal in nature with some learning materials produced and sanctioned by institutions and organizations and others generated and shared on-the-fly by informal learning communities. Cheap hardware and free software will make generating lessons, educational games, and other educational materials easy to do, allowing learn-

ers themselves to create and share their own content.

There are already numerous examples of institutions of higher education offering online content to the general public, including MIT's OpenCourseWare, The University of the People, and a wealth of learning content freely available on iTunesU. In adult basic education, learners have access to such programs as KET's LiteracyLink online programs and the video-based ESOL series, English for All. In addition, there is a host of user-generated educational videos and other learning content scattered across the web.

In 2020, we can expect that online learning content will be even more plentiful and considerably more sophisticated. As is true today, however, making the most of this access requires that adult learners possess the skills and knowledge to successfully locate, filter, and critically evaluate this content as well as make connections to the groups and networks that exist around this content.

The Social Web

Until recently, online learning has been considered a less effective but necessary educational choice for learners who had no other options. However, it has developed into a learning option that is as, if not more, effective as face-to-face classes (U.S. Dept. of Ed., 2009).

One possible reason for this is the explosive growth of what is referred to as social media or social software into online learning. Clay Shirky (2002) uses the term social software to define all uses of software that support interacting groups even if the interaction is offline. Social software includes tools such as blogs, wikis, discussion boards, photo- and video-sharing sites, and chat rooms—tools that allow users to not only consume content but actively create, manipulate, and share it as well.

Interaction and communication are an essential ingredients for successful learning. Both social cognition theory and situated learning theory assert that culture and community are prime determinants of individual development. Vygotsky's social cognition theory proposes that social interaction and cultural contexts play a fundamental role in the development of the cognition of learners, and these principles are a key component of situated learning

theory, which proposes that all learning is a function of the activity, context, and culture in which it occurs (Lave & Wenger, 1991). This interaction of activity, context, and culture is known as “a community of practice” and is a critical component of learning, especially informal learning.

With the ease with which Internet-connected learners can form online communities, share information, and communicate, learning no longer has to be situated in schools or classes to provide a social context for learning. Learners can participate in rich learning environments online. These experiences can now be just as enriching as those in a classroom. This social revolution, fomented because of the ease with which these tools allow for the forming of groups, allows us to rethink both education and the teacher-student relationship in an almost limitless variety of ways (Wesch, 2009).

New Literacies

Print-based literacy is still an essential skill for an adult's success in life, but it is no longer the only form of literacy that adults need. The ubiquity of the web, with its rich multimedia content, challenges users to navigate hyperlinks, watch video, click on hot spots, listen to audio, and interact with literacy content in very dynamic ways. There is little agreement about how to precisely define what these new literacy requirements are, how they affect learners, and how they are best taught. And complicating matters is the fact that traditional literacy proficiency is an important component of fluency with technology (Strawn, 2008).

These literacies are influenced by networked technologies such as blogs, wikis, massively multiplayer online games, social networking technologies, and video and music dissemination technologies such as YouTube. While these technologies shape user practices, they are also shaped and altered by users, creating an unstable, iterative process, so that

“literacy is no longer a static construct from the standpoint of its defining technology for the past 500 years; it has now come to mean a rapid and continuous process of change in the ways in

which we read, write, view, listen, compose, and communicate information.

“Thus, it may be that literacy acquisition is defined not by acquiring the ability to take advantage of the literacy potential inherent in any single, static, technology of literacy, such as traditional print technology, but rather by a larger mindset and the ability to continuously adapt to the new literacies required by the new technologies that rapidly and continuously spread on the Internet.” (Coiro, 2009)

While technology may be making literacy more complex and situated, it also has the potential to alleviate literacy barriers for lower literate adults through developments in assistive technologies. Tools such as screen readers, text readers, and PDAs already help lower literacy adults to function more fully in life despite their deficiencies in print literacy. In the future, technology innovations will continue to lower these barriers through the development of RFID-enabled smart objects, mobile devices with video displays that “translate the world,” and other innovations that support those in need of literacy support.

Implications for Adult Basic Education

By one estimate, over 88 million adults have at least one major educational barrier—no high school diploma, no college degree, or ESL language needs—and federal adult education, training, and English language programs reach only about 3 million adults annually (NCAL, 2008). That leaves a large number of adults who could benefit from some form of educational support.

Successfully serving even a fraction of this unserved population would be a significant achievement. The funded programs, community-based organizations, and nonprofits that make up the field of adult basic education do not currently have the funding or the infrastructure to adequately deal with the number of adults requiring literacy, language, or GED® services. Ideally, federal, state, and local agencies would not only institute radical reforms in public education but also provide a massive and sustained infusion of funding for adult and continuing education to

address this issue. However, business leaders and communities should not wait for this to happen. Instead, those invested in adult literacy must seek other innovative solutions.

If it is true that, in the future, innovations in technology will allow a significant number of the adult literacy population to access the Internet; that these adults will find a wealth of rich, engaging, and free content when they log on; that they will be able to join or form online communities around their shared interests and in support of their goals; and that their literacy development will both influence and be influenced by their online interactions and use of technology tools; then what are some innovative uses of technology that those of us interested in improving adult literacy should explore?

Crowdsourcing

In order to reach the large number of adults in need of literacy support, current literacy services will need to be dramatically increased. One method for accomplishing this is to promote mass amateurization in adult literacy using the principles of crowdsourcing.

There are numerous examples of successful crowdsourcing in business and research, such as an online company that sells T-shirts designed for free by users and the Netflix Prize, an open call backed by a one million dollar prize that solicits the creation of an improved movie recommendation system for Netflix users. The question is: how can these same techniques be used to create user-generated adult education services?

Crowdsourcing can be used to both generate online literacy content targeted at adults at different levels and abilities as well as to create communities that can support widespread online literacy instruction.

Crowdsourcing Online Literacy Content

- Similar to Netflix's call to develop a better movie recommendation system, adult literacy professionals could call for the production of innovative and high quality online literacy instruction to people or groups interested in assisting those in need of literacy instruction.

- Crowdsourcing enables notable experts, such as award-winning teachers, celebrities, or scientists, to contribute materials or participate in online instruction.
- These materials could be rated using online reputation systems and user feedback directing learners to the most popular and effective material.

Crowdsourcing Situated Literacy Instruction

- In addition to the development of literacy content, literacy instruction can also be crowdsourced to both formal and informal online learning communities. These communities can form around a geographical location, a shared interest, or both.
- Adult education professionals can develop online literacy kits that assist these communities with integrating effective literacy instruction into their community activities and exchange.
- Many adult learners may be more engaged in participating in informal online communities of interest (i.e., gardening, stamp collecting) and would prefer receiving instruction built into these activities.

To support these endeavors, adult basic education professionals will need to focus on helping adults to learn the skills they will need to successfully access online community activities. Providing technology literacy is essential, as is developing strategies to support learners' participation in crowdsourced activities. As mentioned above, adult basic education professionals should also guide members of any online communities that support adult learners to integrate effective literacy instruction into their group interactions.

Conclusion

Formal adult education services do not go far enough in meeting the needs of a large number of adults who require literacy services. Outsourcing some of this effort to an "undefined, generally large group of people" connected by the Internet and an interest in serving

adult learners may be one novel approach in addressing the significant literacy needs of adults in our country.

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