Feature Article

Digital Literacy Instruction for eHealth and Beyond

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Abstract

The increasing importance of digital technologies can disenfranchise individuals who lack digital literacy skills. As clinics adopt online health portals, even health care services require digital skills. Patients are often expected to check test results and perform other health-related tasks online, but few clinics provide support for those who lack the digital skills needed to navigate a health portal. For that reason, the Literacy, Language, and Technology Research group completed a project to teach patients how to use a health portal. They designed instructional materials in an online learning platform called Learner Web. The flexible nature of the online materials accommodated the needs of patients with a wide variety of interests, learning styles, and technological abilities. Importantly, the principles used to design these instructional materials are not only relevant for health portal instruction, but also for the ESL classroom. Thus, this article describes several strategies that ESL instructors can use to teach English through an online platform.

Key Words: *digital, literacy, health, portal, English, learners*

Introduction

Digital devices such as mobile phones, tablets, and portable computers have become an essential part of our daily lives. We access news, read email, check Facebook, text our families, and even communicate with our health care providers digitally. Because these activities have become so commonplace, we may take for granted the underlying digital literacy skills that are necessary for navigating online and communicating digitally with others. However, a lack of experience with digital technologies can significantly limit job opportunities and lead to social exclusion (Bynner, Reder, Parsons, & Strawn, 2010). Therefore, digital literacy skills are crucial for ensuring that adults have access to equal opportunities. This is especially true for English Language Learners (ELLs), who often face additional barriers to achieving their goals. Accordingly, this article discusses instructional strategies for supporting digital literacy acquisition in the ESL classroom. Additionally, it describes how these strategies were implemented in the context of a local health clinic for digital health literacy instruction.

Digital Literacy Instruction for ELLs

English language learners (ELLs) are an important demographic to consider with regard to digital literacy instruction. Language and cultural differences can serve as obstacles to employment and services, and weaknesses in digital literacy can provide ELLs with yet another barrier. For that reason, technology instruction is particularly important for this demographic (Reder, Vanek, & Wrigley, 2012). Specifically, the use of online resources can enable ELLs to communicate with friends and family outside of the U.S. and can afford them access to online translating or language learning services. Additionally, with the recent push for individuals to communicate with their health providers through online health portals, digital literacy instruction can also help ELLs better manage their health. Because digital literacy skills can be so advantageous for ELLs, digital literacy instruction should be integrated into the ESL classroom at all levels. The concept of learning new language and digital literacy skills might seem overwhelming for learners. However, there are several instructional techniques that can smooth the integration of both skills in the classroom.

[B]eginning class from a screen that always looks the same allows students to slowly build their digital skills while studying English.

One key strategy for integrating digital literacy and ESL instruction is to design an online learning platform. Instructors can do this by building a simple website. The use of this website provides learners with a consistent platform with buttons in the places that they expect. Simply releasing ESL learners onto the Internet and expecting them to learn computer basics and improve their English can be overwhelming. However, beginning class from a screen that always looks the same allows students to slowly build their digital skills while studying English. Accordingly, Reder, Vanek, and Wrigley (2012) affirm that it is beneficial for learners to "first develop digital literacy skills through direct instruction and practice and then apply them in functional contexts" (p. 56). This allows them to immediately "apply emerging new skills" (p. 56). Thus, learners are able to practice foundational computer skills such as the use of the mouse and keyboard within a familiar website. Later, when students have mastered those basic skills, they will be able to branch out to other topics such as navigating online, composing email, or using Skype.

Teaching English through a digital platform is beneficial not only because it introduces students to computer use, but also because it is advantageous for structuring English instruction itself, especially for multi-level classes. First, English instruction in an online format allows students to work at their own paces. Students can work independently at the speed that is most appropriate for their particular needs. An online platform can also make lessons more engaging and appropriate for students with a variety of learning styles. Instructors can incorporate videos, images, and sound clips into their lessons for learners with preferences for

visual or audio learning materials. Voice-over audio recordings are especially useful for students with low-literacy skills. Finally, learners can explore different resources on their own, allowing them to make choices in their learning and pursue the material that most interests them. This can increase learner engagement with the material and thus facilitate learning (Reder, Vanek, & Wrigley, 2012). Furthermore, Reder, Vanek, and Wrigley (2012) uphold, "Research suggests that all learners benefit from learner-driven input and learner-centered activities" (p. 49). Thus, online platforms are especially beneficial for ESL students, as they allow learners to constantly have input in their learning. Overall, using a website as a platform for English instruction can be extremely helpful in the ESL classroom. The flexible nature of online learning materials is particularly useful for adult learners with unique needs, interests, and goals.

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Digital Literacy and Health Care

The Literacy, Language, and Technology Research (LLTR) group at Portland State University utilized the strategies described above to teach digital literacy in a health context. Although the project did not test the digital instruction techniques in an ESL setting, it provided an important demonstration of how an online platform can be used to cater material to learners with a variety of needs. For the project, LLTR created online instructional materials intended to serve as an on-ramp to health portal use.

The integration of online health portals into the health field is an increasingly relevant topic. Health portals offer access to secure electronic records containing patient health information. They also allow patients to message their providers, check test results, refill medications, and use an online medical dictionary. Although health portals give patients increased access to their health information, they are challenging to use, especially for people with limited digital literacy skills (Lyles & Sarkar, 2015). Moreover, as health care systems are just beginning to integrate the portals into clinics, most clinics have not implemented adequate support to help patients sign up and use the portals (Sarkar, Karter, Liu, Adler, Nguyen, López, & Schillinger, 2010). This challenge becomes even further complicated when it comes to patients with limited English proficiency. Limited content is available in Spanish and other languages, thus requiring these individuals to switch between available first language content and English. However, using an online health portal can be especially important for this population.

ELLs' Access to Health Care

It is challenging, if not impossible, for adults with limited English proficiency to receive the same quality of health care as English-speaking patients (Davidson, 2000; Davidson,

2001; Martinez, 2008). This is primarily due to the fact that health information is filtered through an interpreter. Although one might expect that interpreters can directly translate comments between patient and provider, this is not true. Interpreting inevitably alters patient and provider contributions (Davidson, 2002). Additionally, appointments with interpreters last approximately the same amount of time as those without interpreters (Davidson, 2001). As a result, patient contributions frequently fail to get conveyed to the provider, and patients often leave appointments with many unaddressed concerns (Davidson, 2000; Martinez, 2008). Furthermore, written health materials are often not translated into languages other than English (Martinez, 2008). Therefore, patients with limited English proficiency face many barriers to obtaining and receiving the health information they need.

This is where online health portals and digital literacy skills can help. When ELLs have the adequate digital skills to use a health portal, they can review their health information outside of appointments. Thus, if they do not obtain all of the health information needed during a consultation, they can access their after-visit summaries or medical records online and have time to learn more information about their conditions. Patients can also look up terms they might not have understood in the portal's medical dictionary. Perhaps most importantly, the online health portal provides patients access to their providers outside of appointments. If patients leave appointments with any unanswered questions or remaining concerns, they can securely message their providers online.

"On-ramps to eHealth Portals"

Although the benefits of online health portals are numerous, the issue of supporting patients with low digital literacy persists. In order to address the barrier that patients face towards using an online health portal, the Literacy, Language, and Technology Research (LLTR) group completed a one-year research project. The project team created online instructional materials intended to teach patients the skills needed to use an online health portal (more information at https://www.pdx.edu/linguistics/ehealth). This project was executed in partnership with the Wallace Medical Concern (WMC) in Gresham, Oregon. The WMC is defined as a safety net clinic, as it serves a primarily low-income demographic that includes both insured and uninsured patients. Additionally, 30% of the clinic's patients are Spanish speakers. The goal of the project was to design materials that would teach adults with a variety of technological abilities the skills needed to use an online health portal.

The first step was completing a needs assessment. For this stage of the project, LLTR project members sat with WMC patients one-on-one and observed them as they attempted to sign up for the online health portal and use its different functions. When patients struggled, LLTR provided support and noted any challenging aspects of the portal interface or the sign-up process. Several barriers to health portal use were identified. The primary barriers included low digital literacy skills, a lack of access to technology, and the need to understand the relevance of using an online portal.

Patients possessed a wide variety of digital literacy skills. Some had never used a computer before, while others excelled at using multiple devices. Thus, it was apparent that a customized approach was needed to teach patients the specific digital skills necessary for portal use. Accordingly, LLTR created a suite of online learning materials in a platform called Learner Web. Learner Web is an online learning support system created by LLTR (more information at learnerweb.org). It was created based on the findings from the Longitudinal Study of Adult Learning, which suggested that adult learners benefit from supervised self-study in computer labs (Reder, 2012). The study advocated for flexible online learning support systems that could accommodate the unique needs and busy schedules of adult learners. Learner Web was created to fill this need.

The Learner Web platform served as the ideal system for providing digital literacy training to patients at the WMC. First, it allowed the learners to access the material most suited to their particular needs. It included three units: 1) computer basics, 2) using a health portal, and 3) using the health portal app. Thus, patients who lacked basic computer skills such as using a mouse or keyboard began with the first unit, and those who had more advanced digital skills skipped to the lessons on the health portal. The flexible nature of the online learning platform also allowed the learners to make choices about which content they wanted to learn. The content was made available in English as well as Spanish to afford learners more choices in regards to which materials best met their needs. Second, Learner Web utilized a consistent, predictable structure that allowed patients to learn new content while practicing their computer skills. Third, the online learning system was designed to be multimodal. The lessons were written in basic English, and included a voice-over recording of the text for those with limited literacy or English proficiency. Additionally, a significant quantity of images and videos accommodated learners with preferences for visual learning materials. Specifically, the videos included screencasts that demonstrated how to utilize different functions of the portal in a step-by-step manner. Finally, the Learner Web system allowed learners to work at their own pace, with the support of an in-person tutor. To watch a video about the Learner Web health portal instructional materials, visit https://drive.google.com/file/d/0B7b6zRgA9p0seExDem1NWVB1ZkU/view?usp=sharing

Digital Literacy Instruction Beyond Health

The "On-ramps to eHealth Portals Project" sought to address the needs of patients who were expected to use an online health portal but did not possess the necessary digital literacy skills. LLTR's involvement at the WMC revealed that patients possessed a wide range of abilities with technology. Thus, the use of a flexible online learning platform was necessary to provide them with lessons that were customized to their particular needs. Likewise, the use of an online platform can be similarly beneficial in the ESL classroom. It allows learners to study English at their own pace, with the aid of multimodal learning materials, and with the ability to explore resources that best match their

personal interests. Finally, using an online platform also allows students to practice digital skills. According to (Reder, Vanek, & Wrigley (2012), "being able to access information over the Internet, providing information on-line, selecting websites that address one's needs and interests are now part of the basic skills that every citizen, native speaker or English language learner, needs" (p. 58). Thus, digital literacy instruction should not be overlooked for ELLs, but instead should be integrated into the English classroom. Teaching English through an online platform can be a successful means of supporting ELLs as they acquire the skills they need for opportunities beyond the classroom.

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