

Research into Action: Skills Assessment and Training to Support a Digital Equity Action Plan

Cindy Gibbon, Multnomah County Library, Portland, OR cindyg@multcolib.org
Jill Castek jcastek@email.arizona.edu & Gloria Jacobs, University of Arizona, Tucson, AZ

This work is funded in part by *Advancing Digital Equity in Public Libraries: Assessing Library Patrons' Problem Solving in Technology Rich Environments*, a National Leadership Grant NLG-06-14-0076



This work grew out of long-standing library priorities that are shared by researchers that address digital equity.

Digital Equity Action Plan in Portland, OR

48 community partners helped create an actionable, community-wide plan.

1. Ensure access to **affordable high-speed Internet** and devices.
2. Provide **training and support** to ensure that everyone has the skills to use digital technology.
3. **Empower community partners** to bridge the digital divide through funding, coordination, training and staff resources.
4. Create **opportunities for jobs** in the digital economy for underserved populations.
5. **Build a policy framework** that supports digital equity and meaningful Internet adoption.

Defining Digital Problem Solving

- Problem Solving in Technology Rich Environments (PSTRE) involves using digital technologies, communication tools, and networks to **acquire and evaluate information, communicate** with others and **perform practical tasks** in **Personal, Workplace, Civic** situations.
- Adults need digital problem solving skills necessary for **discerning accurate and reliable information, interacting with public services, communicating with friends, engaging in political activities, gaining employment, and participating in ongoing education.**

Digital problem solving & PIAAC

- The Organization for Economic Cooperation and Development (OECD) conducted an international survey with a nationally representative sample of adults ages 16 to 65 called **Program for the International Assessment of Adult Competencies (PIAAC)**.
- U.S. adults with a high school diploma or less scored lower than their international peers, as did unemployed U.S. adults. Whites performed higher than African American or Hispanic adults.
- These results underscore important equity issues and skill development needs facing adult subgroup populations, including immigrants, English learners, disconnected youth, adults with disabilities, socially isolated seniors, and dislocated workers.

We collected data to examine our patrons' digital problem solving skills

- See <https://dlaerhub.files.wordpress.com/2017/04/gesisconferencenewestfinal.pdf>
- See <https://dlaerhub.files.wordpress.com/2017/04/online-northwest.pdf>
- See <https://dlaerhub.wordpress.com/2017/05/09/understanding-our-patrons-needs-in-order-to-thrive-together-in-a-digital-environment/>

We observed and screen recorded our patrons as they engaged in digital problem solving

- We observed and screen recorded tasks to note problem solving strategies
 - Experience the PSTRE's digital tasks yourself (in multiple languages)
<http://www.oecd.org/skills/ESonline-assessment/takethetest/>
- The **PSTRE framework that underlies the tasks** was **developed by international experts**
<http://dx.doi.org/10.1787/220262483674>
- We developed our own tasks aligned with the **PSTRE framework's areas**
 - Goal setting and Progress Monitoring
 - Planning and Self-organizing
 - Acquiring and Evaluating Information
 - Pragmatic knowledge (added due to the need to capture more than cognitive skills)
- Inter-related aspects of problem solving we observed <http://tinyurl.com/lq9ancq>

Findings: Stances

- What stance an individual takes toward digital problem solving affects the process and skills used
 - **Exploratory**, examines available resources to see what they do before choosing a path
 - **Procedural**, proceeds step by step, bound by previous experiences
 - **Flexible**, can let go of a direction and go in another as new resources are discovered

Partnership, Collaboration and Sustainability

- **Coordinating services** is an important dimension of partnership that is vital to sustainability.
- Many digital inclusion **partnerships** focus primarily on workforce development and the **skills needed to pursue a better paying job**.
- Equally important is providing adults the opportunity to learn digital skills that **empower them to connect with information resources, complete life's tasks** across a range of technology-rich environments, **and participate in social networks**.

Links to More Information

- Digital Equity Action Plan - <https://www.portlandoregon.gov/revenue/article/573122>
- Adults, Computers, & Problem Solving: What's the problem?
<http://dx.doi.org/10.1787/9789264236844-en>
- PSTRE: A Conceptual Framework - <http://dx.doi.org/10.1787/220262483674>
- Education and Skills Online Assessment - <http://www.oecd.org/skills/ESonline-assessment/abouteducationskillsonline/>
- *Digital Literacy Acquisition* study research briefs and case studies at <http://tinyurl.com/mmzhrrq>

Our Blog & Library Website

- Digital Literacy Acquisition and Equity Research Hub <https://dlaerhub.wordpress.com>
- Multnomah County Library <https://multcolib.org/>
- **E-book Submission to PPDD: Developing Sustainable Partnerships to Advance Digital Equity**
<http://bit.ly/2rYVB2F>