Conquering the Computer: Digital Literacy Acquisition among Vulnerable Adult Learners

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through projects that focus on the acquisition of
  ▪ literacy
  ▪ digital literacy - the ability to use Information Communication Technologies (ICTs) to find, understand, evaluate, create and communicate digital information (both cognitive and technical)
  ▪ second languages among adults
  ▪ economically vulnerable and socially excluded populations
Study Background

- Digital literacy is important in applied linguistics because technology:
  - has a growing importance in how people access information and communicate with one another.

- ICTs play a central role in our modern age, permeating every aspect of our social and workplace lives.

- Being online connects us to educational opportunities, public services, healthcare, civic engagement, and entertainment.

- Ensuring that all citizens acquire digital literacy is a national priority.
Improving adult digital literacy is fundamental to society in that it confronts adults’ issues of exclusion and marginalization that accompany the increasing importance of digitally mediated activities in modern social life.
internet use remains strongly correlated with age, educational attainment, and household income (Pew and American Life project, 2013). Our project and our partners in it have been reaching out to those individuals who may not have seen the relevance in technology before (e.g., seniors, language learners, those who had previously been employed but now are job seekers) to support their digital inclusion. The support provided addresses several aspects of usability -- how to become fluent and facile with the technology to build skills in order achieve other life aims (educational, and personal goals). National broadband plan has same three reasons. Most recent piece in a trajectory of work. Some trigger has gotten them into a class.
Because vulnerable adults enter the learning environment with certain skills and dispositions toward using technology (having been unsuccessful in some cases) two important questions become...

Research Questions

• What were the challenges faced when new-to-computer-users acquire digital literacy skills?

• How were these challenges overcome?
Theoretical Frameworks

- Digital inclusion (Hargittai, 2002)

- Scaffolding to support learning, through a process of tutor facilitation (Vygotsky, 1978).
Explain what the learners were doing and what learner web is
Web based learning platform
  • Designed for adult learners
  • Supports goal-directed & learner-driven content
  • Self-paced
  • Links with other online and offline resources and systems
Learner Web Learning Plans

- Computer & Internet Skills
- Broadband Consumer Education
- Introduction to Career Paths
- Tutor Training Plans

0.1 Introduction to Learner Web
0.2 Introduction to the DTOP Learner Web Project
1.0 Orientation to Tutoring in the DTOP Learner Web Project
2.1 Why Tutoring is Meaningful to You
2.2 Principles of Adults as Learners
2.3 Essential Tutoring Strategies and Supports
2.4 Reviewing Student Learning Plans
Comprehensive Tutor Training Review
Six partner locations:

- Richmond Public Library (Richmond CA)
- Goodwill of Southeast Louisiana (New Orleans)
- Minnesota Literacy Council (4 cities in MN)
- Cayuga Community College (Literacy Zones and ABE programs across NY state)
- Literacy Coalition of Central Texas (3 counties in Austin TX area)
- South Texas College (2 counties in McAllen TX area)
Data Sources

• Semi-structure interviews with learners (30-60 minutes)

• Semi-structured interviews with experienced tutors (45-60 minutes)

• Case studies (two follow up interviews one month and three months out)

• System data captured interactions with the online materials and demographic information
We drew interview participants for this study from 3 of the 6 locations we did the broader study in.

- Richmond, CA (Adult Ed Center Run by the Public Library; Senior Center)
- New Orleans, LA (Corrections Center)
- Minneapolis/St. Paul, MN (Workforce Centers, one in an Urban area, one in a Rural area)
By carefully examining responses to interviews, Learners and tutors served as informants to let us know about their challenges and how to overcome them. Discuss with last grouping.

Be sure to mention Dedoose and ability to collaborative coding. Facilitates qualitative coding and mixed methods through descriptors
Create & Refine Coding Scheme
- Read transcripts
- Shared insights
- Developed initial code scheme
- Applied to selected sample

Code Transcripts
- Four researchers read & coded transcripts independently
- Codes refined

Compare & Discuss Codes
- Inter-rater reliability established

Analyze & Identify Themes
- Analytics applied
- Focus on codes with high co-occurrence
- Patterns identified
- Themes emerged
Fly in the graphics. Remove the bullet points. Move code transcripts graphic to first box. Add transcript screen shot to the code transcripts graphic. Make images larger and more readable.
Findings Research Question 1

- What were the challenges faced when new-to-computer-users acquire digital literacy skills?
This list is not comprehensive but instead summarized SOME of the challenges and barriers learners reported they had before and during their time learning digital literacy.

This is a map of the structure – parallels the second part of the findings

Circles will be flying in.
Concepts with the User Interface – most prevalent theme and what people were most challenged by

the computer literacies involved in learning **how the computer and internet interfaces are designed**, what terms and **symbols mean**, and how to **use features** to achieve goals.

Paraphrase quotes and use to talk about the themes. Just read or focus on the bolded parts of the excerpt. Don’t have to tell about both quotes.
Make the quote bigger

Define task fluency and connect to what learners thought of as memory.

When learners communicated challenges they thought about learning process as what they remembered, but our analysis revealed that they were in an early part of learning process where they lacked automaticity and fluency. It appears it may have more to do with practice and experience. **They thought it was their deficit where it was really their lack of experience.**

Learning through participation and engagement – connects to Vygotskian theoretical framework

As they were learning the component parts they were hyperfocused on component parts because all so new, and they thought they had to memorize each step, but learned instead that it was learning through participation and engagement that helped them gain greater fluency.
Findings: Challenges

Structural Barriers

- Time and access available to learn

“I want to continue that, because, of where we are, you know we [incarcerated individuals] don’t have access to the computer every day, so I was limited as to the amount of stuff that we can learn, you know as far as hands on with it.”

Important to point out that this quote comes from the corrections setting.
We touched on challenges identified, but most important is how those challenges were overcome. So here we’re focusing on how the learners and tutors saw these as being overcome.
3 categories of codes emerged. Focus on these three. Gives the audience an anchor – an overview slide.

Self-developed support structures – includes guidance from friends, family, and others. Includes ideas for and use of cognitive supports such as online help menus, books, and glossary of terms, and trial and error problem solving.

- Affect: Making personal connections and having patience
- Flexibility: Labs and tutor hours according to the needs of the learners
- Language Match: Tutors available to support learners in L1 as needed
Perseverance – includes self-motivation, recognition of the need for repetition and willingness to practice, and the development of confidence in using computers and the Internet.

Perseverance leads to the development of task fluency.
Encapsulate each one: left quote about differentiation, right quote is about the learning process is about allowing the learner to make mistakes.

Judicious support: Conscious decision making during tutoring regarding when and how to intervene in student learning process. Includes providing **individualized support**, reinforcing learning and repeating concepts as needed, being **transparent** during teachable moments, keeping learners engaged and involved in the process, and providing **structure** as needed.

This connects to Vygotsky and the idea of scaffolding and working in the zpd
First quote is from corrections

Second quote is from a learner about how the tutors observe and step in when needed (how lab set up supports judicious support)

Lab Organization: Labs organized to enable student-to-student interaction as well as judicious support from tutors
Discussion: Interaction Effect

Fly in labels
Implications

- For Individuals
- For Programs
- For Vulnerable Adult Learners
Implications: Individual Learners

- Gaining basic digital skills provided an initial structure
- Invited to imagine a world of new possibilities that ICTs make available
- Sustained practice with relevant, real-world content will help learners take steps toward full digital inclusion
Implications: Programs

- Tutor facilitation (also offered in languages other than English)
- Organization of the lab
- Affective factors
- Time for learners and for programs to develop
Implications: Vulnerable Populations

- Access
  - To computers, to supportive tutors

- Open-access labs are an invitation into digital world; function as on ramp to digital participation
  - Promote job skills
  - Combat social isolation
  - Build self-efficacy and confidence
Thank you!

Questions?

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