Digital Equity Through Literacy

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Senior Fellow
ALA Center for the Future of Libraries
Ken Bigger, brief bio

• Ph.D., Religious Ethics and Democratic Theory
• Career in fundraising and nonprofit management
• Former Exec. Dir. of Chicago Literacy Alliance
  • 100+ member organizations
  • Improve literacy by driving collaboration and increasing the impact of literacy organizations
Literacy (broadly*)

Facility with a vocabulary, knowledge base, and/or a particular means of communication that mediates human life in community and affords access to the shared tools of culture.

• Reading and writing are inventions/“technologies”
• Used for less than 3% of human time on the planet

* For illustrative purposes only, not ALA definition
Addressing Access and Achievement

• We need to address both:
  • Material inequality and barriers to access
  • Biased measurement and narrow definitions of literacy
    • Literacy empowers inclusion, and can be a tool of exclusion
  • Opportunity gap drives the achievement gap, not the reverse
  • The “goalposts” have moved on level of literacy needed for full participation
Moving “goalposts”

“Today’s white-collar worker spends more time reading than eating, drinking, grooming, traveling, socializing or on general entertainment and sport—that is, five to eight hours of each working day. (Only sleep appears to claim as much time). The computer and Internet? Both are reading revolutions.”

Steven Roger Fischer, A History of Reading
Mapping Access—”Traditional” and Digital

• Socioeconomic factors of access that correlate with effects on literacy rates (achievement)

• Influence of place
  • How does geographic location matter in a digital age?
Literacy Access by Community
Click a Community area below to see more details

Community Area

Population
2,717,788

Literal Access Level

Community Access Score

Chicago Access Score
56.0

*Literacy access based on a scale of 1-100

Indicator Access Level

Academic Outcomes

Racial Demographics

Income Demographics

What do you think? Click here to share your feedback.

ALA OFFICE FOR DIVERSITY, LITERACY & OUTREACH SERVICES
FINDING INEQUITIES BENEATH THE SURFACE OF DATA

Longer term implications

- Socially
- Economically
- Politically
Employment patterns in “The Great Recession” (2008)

• 77% of jobs lost required high school diploma or less

• 99% of the jobs created in the first 6 years of the recovery required post-secondary education

Foundational literacy crucial for addressing digital divide

- Reading and writing proficiency needed for digital literacy
- Rapid pace of tech development
- Capacity to skill and reskill
- Access to services, healthcare, jobs, etc.
FIGURE | Trend in twelfth-grade NAEP reading average scores and score gaps, by race/ethnicity

DISPLAY AS GRAPH | TABLE
FIGURE | Trend in twelfth-grade NAEP reading average scores and score gaps, by race/ethnicity

DISPLAY AS GRAPH | TABLE

[Graph showing trend in NAEP reading scores by race/ethnicity from 1992 to 2019. The graph includes data points for White and Hispanic students, with annotations for accommodations not permitted, accommodations permitted, significant difference (p < .05), and significantly different (p < .05) from 2019.]
Generational Wealth Rate by Race/Ethnicity

Figure 5
Median Family Net Worth Estimates by Race and Ethnicity and Generations, 2019

A. Silent generation (born 1928-45)
- White net worth = 3.7 times Black net worth
- Non-Hispanic White: $285,500
- Non-Hispanic Black: $78,100
- Hispanic (any race): $102,400

B. Boomer generation (born 1946-64)
- White net worth = 7.3 times Black net worth
- Non-Hispanic White: $330,700
- Non-Hispanic Black: $45,400
- Hispanic (any race): $140,500

C. Generation X (born 1965-80)
- White net worth = 3.4 times Black net worth
- Non-Hispanic White: $203,900
- Non-Hispanic Black: $59,200
- Hispanic (any race): $58,800

D. Millennial generation (born 1981-96)
- White net worth = 19.1 times Black net worth
- Non-Hispanic White: $53,500
- Non-Hispanic Black: $2,800
- Hispanic (any race): $14,900

NOTE: Net worth based on self-reporting of the “reference person” who answers the survey for the family during the year 2019.
SOURCE: 2019 Survey of Consumer Finances
Economic impacts of reducing literacy inequity – Gallup study, 2020

- 54% of American adults read below PIAAC level 3 (adult equivalent of 6th grade level)
- 1 in 5 read below the equivalent of a 3rd grade level
- PIAAC level strongly correlates with income
Mean Income in 2017 by Level of Literacy (2020 USD)


- Mean annual income, 2020 USD

- Levels 0-1: $34,127
- Level 2: $47,596
- Level 3: $62,997
- Levels 4-5: $73,284
Gallup study (2020) findings

“Getting all U.S. adults to at least a Level 3 of literacy proficiency would generate an additional **$2.2 trillion** in annual income for the country. That is **10%** of the gross domestic product.”
"We should measure the prosperity of a nation not by the number of millionaires but by the absence of poverty, the prevalence of health, the efficiency of public schools, and the number of people who can and do read worthwhile books."

-- W. E. B. Du Bois (1953)
Wrapping up

• Need to address literacy inequities at the structural level
• Respond to moving “goalposts”
• Focus on “more perfect union” and the literacy equity that it requires
• Broad benefits
Equity of Access to Information

John Agada
Senior Fellow
ALA Center for the Future of Libraries
John Agada
Bio-data
Professor Emeritus
Ph.D., (University of Pittsburgh) Library and Information Studies

Professional and Research Agenda:
Human Information Behaviors with special reference to
Under-served populations.
This presentation advocates adopting a blended policy of equal and equitable access to information. Such approach would contain the digital divide’s adverse impact on library communities.
Libraries and the Digital Divide

Information technologies enhanced production and distribution of information since the past century.

However, this information explosion did not guarantee universal access as information technologies have dual capacity for ushering social equity or a digital-divide.
Equality and Equity of Access

Beyond equal access, (libraries) must simultaneously pursue strategies seeking to effect equity…Thus, in so far as policies aim to achieve equality of access, they must also assimilate more narrowly focused policies that aim to achieve equity; for ultimately, there can be no equality without justice.

Equality and Equity of Access

Equality implies providing the same levels of opportunity to all (Fairness). Opportunities are means to ends, such as access and effective use of library services to resolve information needs.

Equity acknowledges diversity in individual needs and capacities. Libraries seek to balance fairness with justice by customizing service models to overcome systemic obstacles to meaningful outcomes.
Equity of Access to Information

Inequities of information access and use have important cultural as well as socio-economic consequences for civic rights and political participation.

Equity is more purposeful compared to equality-oriented programs as they are designed to address specific needs with measurable outcomes.
Implementing Equality of Access
The Global Approach

Community Analysis (based on Group, Agency, Lifestyle and Individual data sets) reflect differences in information needs, access and use patterns, even within groups of similar socio-economic groupings.

Library services based on this approach address diverse needs with responsive service models, such as books on shelves (Passive model); Reference service (Reactive model) and Information Literacy instruction (Proactive model).
Implementing Equity of Access
The Customized Approach

Community Analysis data serve as proxies for information needs.

Unlike shelter and food, information has value only when a recipient has need for and capacity to process it. The Customized approach therefore relies on research-based user profiles to guide mediation of clients’ information seeking and use.

Uniqueness of clientele needs and circumstances determine how services could be customized to facilitate access and use, such as providing information literacy training or services in languages other than English.
The Digital Divide and its Cultural Precedents

Historically, the dominant literacy in each era (e.g. writing, print, media, digital) is central to economic production in society. Each literacy skill is embedded in compatible knowledge and value-systems.

Today, literacy entails the ability to create, share and understand knowledge in an increasingly digital, text-mediated, information-rich and fast-changing economy. Rates of literacy diffusion reflect cultural, racial, class and economic divides in society.
WHAT IS UNIQUE ABOUT DIGITAL LITERACY?

Digital Literacy entails

(i) *Multiple literacies*: Information, Media, Graphics, Hypertext, Reproduction and Socio-emotional;

(ii) *Thought processes*: Cognitive, Technical (Psychomotor), Ethical (Social and Emotional) skills; and

(iii) *Content Area*: Creation, diffusion and application of knowledge in all disciplines.
<table>
<thead>
<tr>
<th>Hard/Software</th>
<th>Cognitive</th>
<th>Technical</th>
<th>Ethical</th>
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</thead>
<tbody>
<tr>
<td>Information (Digital Content)</td>
<td>Synthesis</td>
<td>Access, Usage</td>
<td>Appropriate Usage</td>
</tr>
<tr>
<td>Computer (Hardware and software)</td>
<td>Evaluate</td>
<td>Usage</td>
<td>Appropriate Usage</td>
</tr>
<tr>
<td>Media (Text, sound, image, video, social)</td>
<td>Create/Critique</td>
<td>Navigation</td>
<td>Assess Accuracy</td>
</tr>
<tr>
<td>Communication (Non-linear interaction)</td>
<td>Create/Critique</td>
<td>Develop and use content</td>
<td>Appropriate Usage</td>
</tr>
<tr>
<td>Technology (Tools for life situations)</td>
<td>Invent, Evaluate tools</td>
<td>Usage</td>
<td>Appropriate usage</td>
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THE DIGITAL-DIVIDE IN SOCIETY: An Illustrative Case

At the peak of Covid lockdowns in April 2020, persons from low income minority neighborhoods ventured out of their homes 135% more than residents of more affluent white neighborhoods compared to pre-Covid levels.

Clearly, poor access to digital connectivity and work-from-home jobs rendered minorities with few choices but to venture out of their home to make a living, even with peril to their lives.

Illustrative Case Study
Assumptions – Based on Studies

The communities are on different sides of the Digital Divide. The more affluent Community will be identified as A; as the the less affluent Community as B.

Research-based profiles suggest the following:

The Communities differ on the average with respect to educational attainment and socio-economic levels. Community A has more access to a wider range of IT hard and software resources in the home than Community B.

Community B on the average record more frequent activities on hand-held devices (within and outside the community) than Community A.
Implications for Policy Approaches

It is apparent in this case that members of both communities have digital literate residents. However, acquisition of digital skills alone does not qualify for a professional career in the digital economy. Community A residents who work remotely are engaged in more content creation and related thought processes than Community B residents.

Based on analysis of needs and levels of participation in the economy, the community public library could adopt a combined Equitable and Equity Access policy approach. Such approach would customize services and instruction in digital skills, knowledge and value systems to match emergent job opportunities in the digital economy.
SUMMARY

Libraries operate at the intersection of Equal and Equitable access to information. Maintaining this dual perspective has become more urgent as the digital economy seems to simultaneously centralize and decentralize information and power – social, cultural, political and economic in contemporary society.

As a democratic institution, libraries remain one of a shrinking group of public institutions that strive to balance equity with equal access to information for all. For many, the library is their only avenue to realizing their dreams.
School Library Perspective

Cassandra Barnett
Program Advisor for School Libraries
Arkansas Department of Education’s Division of Elementary and Secondary Education

cassandra.barnett@ade.arkansas.gov
• US Census Bureau estimates about 17 million households have no broadband access of any kind.
• Approximately 1 in 4 people (4.6 million) living in rural and tribal areas lack access to broadband connections.
• Estimated cost to wire 98% or rural America - $40 billion
AASL surveyed school librarians during pandemic:

- 55% of students had access to necessary technology
- 42% of educators had access to technology or connectivity
- 76% of students lacked access to stable internet
- 79% of parents/guardians/caretakers unable to monitor or manage learners
• Approximately 84% of students and teachers reported technology issues such as connectivity and software glitches.
• Approximately 70% of learners lacked the digital/media literacy skills needed to be successful in virtual learning.
Arkansas Broadband Map

SOURCE: Broadbandnow.com
Arkansas Democrat-Gazette
Arkansas Statistics:
• Basic cost of living for family of 4 = $46,000
• 1 in 3 families with children live below the poverty level
• 41% of state population resides in rural counties

• 1054 School Libraries
• 229 Public Libraries
• 57 Academic Libraries
• 3 Specialized Libraries
Library Responses:
• Upgraded websites
• Used ESSER funds to purchase devices, hot spots
• Increased digital resources (including OERs)
• School and public libraries form partnership to share resources
• Even when closed, kept internet access available
• Provided technical support
• Found ways to continue instruction

*Even before the pandemic, school libraries were often the only place that students had access to print and online resources.
New Jersey Libraries:
Working together for Digital Equity

Presented by
Mimi Lee
Director of Literacy & Learning
New Jersey State Library

“Digital Equity through Literacy: Framing the Conversation”
ODLOS & Committee on Literacy
American Library Association
May 31, 2022
2:00 PM – 3:15 PM Central Time
Agenda

Definitions
NJSL+Partners Literacy Project
- Program Models
- Participating Libraries
- Program Design & Curricula
- Evaluation
- Success Stories

Partnerships
Thank you
Digital Inclusion refers to the activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of Information and Communication Technologies (ICTs).

Three-legged stool of digital inclusion

(National Digital Inclusion Alliance)
Digital Literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.

A person with digital literacy skills:

• Possesses the variety of skills – technical and cognitive – required to find, understand, evaluate, create, and communicate digital information in a wide variety of formats
• Is able to use diverse technologies appropriately and effectively to retrieve information, interpret results, and judge the quality of that information;
• Understands the relationship between technology, life-long learning, personal privacy, and stewardship of information;
• Uses these skills and the appropriate technology to communicate and collaborate with peers, colleagues, family, and on occasion, the general public; and
• Uses these skills to actively participate in civic society and contribute to a vibrant, informed, and engaged community. (American Library Association Digital Literacy Task Force)
What is Digital Literacy?

Digital Equity is a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy and economy.

Digital Equity is necessary for civic and cultural participation, employment, lifelong learning, and access to essential services.

(National Digital Inclusion Alliance)
Digital Divide
The gap between those who have affordable access, skills, and support to effectively engage online and those who do not.

Digital Equity (what/goals)
Digital Inclusion (how/activities): Access/Device/Training
NJSIL + PARTNERS LITERACY PROJECT

HUB, SPOKE & NAVIGATOR LIBRARIES

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**Hub Libraries (3)**
Atlantic City Public Library
Paterson Public Library
Red Bank Public Library

**Spoke Libraries (11)**
Bradley Beach Public Library
Burlington County Public Library
Cumberland County Public Library
Florham Park Public Library
Gloucester City Public Library
Gloucester County Public Library System
Newark Public Library
South Brunswick Public Library
Trenton Public Library
Union City Public Library
West Orange Public Library

**Access Navigator Libraries (12)**
Butler Public Library
Elizabeth Public Library
Keyport Public Library
Long Branch Free Public Library
Montclair Public Library
North Bergen Free Public Library
Pennsauken Free Public Library
Princeton Public Library
Wanaque Public Library
Warren County Library
West Deptford Free Public Library
Wharton Public Library
Digital Literacy Certification Pathway

Project Empower!: Digital Literacy Pathway for New Jersey Libraries

- Adult Literacy
- Workforce Literacy
- Financial Literacy
- Technology/Computer Literacy
- Digital Literacy Competence - BASIC

IC3 (Internet Core Competency Certification)
- Step 1: Spark (entrance exam)
- Step 2: Key Application
- Step 3: Computing Fundamentals
- Step 4: Living Online
- *Each step is a separate certification
- *Having Steps 2-4 makes a patron IC3 certified (GSS: Global Standard 5).
- *Each certification is equivalent to one college credit in computing science (by American Council on Education)

Microsoft Office Certification

Northstar
*Core skills building
*Essential computer and software skills.
*Certification obtained after taking the 3-day Basic Computer Class and passing 11 modules: Basic Computer Skills, Internet Basics, Using Email, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Mac OS, Windows 10, Social Media, Information Literacy, Career Search Skills

Digital Literacy Certification Pathway - ADVANCED
- Technology/Computer Literacy
- Digital Literacy Competence - INTERMEDIATE-ADVANCED

INSTITUTE of Museum and Library SERVICES

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IC3 Certification

IC3 Certification is an abbreviation for the “Internet and Computing Core Certification”.

IC3 is a global certification designed to certify an individual’s digital literacy skills associated with basic computer and internet use.

Participants are required to take and pass three exams: 1) Computing Fundamentals, 2) Key Applications, and 3) Living Online.

The average income of professionals who have that IC3 certification is higher than the minimum wage.

The IC3 Digital Literacy Certification is a great place to start if you’re either planning a career in IT or wanting to become more effective with technology.

IC3 was created by Certiport, Inc. in 2000.
Join us for

FREE COMPUTER TRAINING

Learn computer skills & gain your Digital Literacy Certification from your local library through our remote IC3 Boot Camp!

IC3 REMOTE BOOT CAMP: MAY 23 - JULY 21

- No cost to you!
- Entry-level computer training
- In-person support at your local library
- Instructor-led classes taught in English
- An in-person or online remote class option for you to choose from

Visit https://tinyurl.com/NJSL-IC3 to learn more & secure your spot!

Questions? Contact Sarah Antonelli at sarah.antonelli@plfdpl.info or (908) 757-1111 x142.
PLAINFIELD PUBLIC LIBRARY PROMOTES TECHNOLOGY SKILLS IN THE COMMUNITY WITH IC3 AND MOS

As more people find their employment journey crossing multiple careers, industries, and roles, the need grows for programs that quickly and efficiently help job seekers update and certify their skills, particularly in Digital Literacy. Few modern jobs do not require the ability to proficiently, efficiently, and securely use technology and the Internet.

That is where institutions like New Jersey’s Plainfield Public Library and Certiport come in. "Plainfield is a community disproportionately affected by the digital divide," says Mary Ellen Rogers, PPL Director. "The lack of access to computers and the skills that would come with that access hurts our residents, particularly when seeking employment. We, in public spaces, are great, but they aren't enough to close the skills gap and level the employment playing field for our residents. We need to provide the training and certifications necessary for adults to retain the workforce and think in jobs in today’s economy."

In partnership with the City of Plainfield and the New Jersey Department of Labor and Workforce Development, PPL added an intensive IC3 Digital Literacy and Microsoft Office Specialist training and certification program with the help of Certiport exams and prepared learning materials.

Certiport’s industry-recognized certifications help define the knowledge and skills needed as a trusted metric to measure learning outcomes, while validating the learner’s success and preparing them for 21st century employment. "The program has been a massive success due to a few important factors," says Scott Rachinsky, PPL’s Adult Literacy Coordinator, citing strong partnerships, client support, and high-quality training. "We also know that an entry-level, industry-recognized digital literacy certification like Certiport’s is one of the fastest and most cost-effective ways to make clients more employable. There is almost no career for which these foundational skills would not be an asset and a huge value added."

Certiport’s IC3 Digital Literacy certification measures introductory computer skills that apply to almost any career pathway. The program includes three exams to help one progress from a basic understanding to a mastery of the concepts required to be digitally literate. IC3 Spark targets the same foundational concepts as IC3 Digital Literacy but was created for individuals, who are totally new to computers and the Internet, to address their lack of digital skills.

The Microsoft Office Specialist certification takes the next step to guarantee that every certified user has demonstrated the ability to control the features and functionality of Microsoft Office products, preparing them to get the most out of the three widely used applications.

"Offering a variety of certifications allows us to address our learners varied needs," says Colleen Cornell, PPL Program Administrator. "We have participants who have never used a mouse, and we have others who come in wanting to learn Microsoft Access. The control of offering IC3 and Microsoft Office Specialist certifications allows us to cater to both."

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**Essential Computer Skills**
- Basic Computer Skills
- Internet Basics
- Using Email
- Windows
- Mac OS

**Essential Software Skills**
- Microsoft Word
- Microsoft Excel
- Microsoft PowerPoint
- Google Docs

**Using Technology in Daily Life**
- Social Media
- Information Literacy
- Career Search Skills
- Accessing Telehealth Appointments
- Your Digital Footprint
- Supporting K-12 Distance Learning

https://www.digitalliteracyassessment.org
Northstar certificates in Basic Computers obtained by brothers from Burkina Faso who work as Uber drivers—West Orange Public Library
“After five weeks of being mentored in the North Star program, I’ve a better understanding of computer language, landscape, techniques etc. I like how the lessons are set up in progressive steps followed by review questions, making for smooth learning. Although the program has its quirks, all in all I highly recommend it for anyone wanting to learn or improve their computer skills. I’m a grateful student who went from being intimidated to having a new friend in my computer!”

— George Foerst
Success Stories

“The instructor is very pleasant and very patient and courteous. He helps you to comprehend what you don’t understand. Helps me to stay encouraged and not to give up. He helps reinforce my strengths where I am weak. It helps me get better each day.”

— Barbara Thomas

Barbara Thomas and Guide, Christian Malave, using one of the computers in the Labor and Literacy Lab at the Trenton Free Public Library.

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# Measuring Outcomes & Impact

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<th>Project Models</th>
<th>Forms</th>
<th>Timeline</th>
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<td>Library Admin (directors, staff coordinators)</td>
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<td>Admin Evaluation</td>
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<tr>
<td>Lab Guides, Instructors</td>
<td>Access Navigators</td>
<td>Staff Evaluation</td>
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</tr>
<tr>
<td>Community Level</td>
<td>Patrons/Users/Clients/Students</td>
<td>Exit Survey, Program Evaluation</td>
<td>February 1 – September 30, 2022 (7 months)</td>
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**Key questions:**

- How effective was NJSL+Partners project in providing digital literacy services, particularly to individuals living in poverty?
- Did the two models achieve similar results?
- What were key barriers to implementation? What were success factors?
Moving Toward Digital Equity

• **Defining digital literacy**
  Frameworks, related terms, target audiences, needs, barriers

• **Evaluating and measuring digital literacy**
  Standards, competencies, metrics, assessments

• **Social media, content creation, digital citizenship**
  Computer Literacy, Hyperliteracy, Internet Literacy, Web Literacy, Media Literacy, Transmedia Literacy, Information Literacy and more

• **Equity & Inclusion**

• **Collaborations and partnerships**
If you want to go fast, go alone,
If you want to go far,
GO TOGETHER

-African Proverb
New Jersey State Library Launches Statewide Literacy Initiative To Address Adult Literacy, Workforce Development, And The Digital Divide

Questions?

mlee@njstatelib.org