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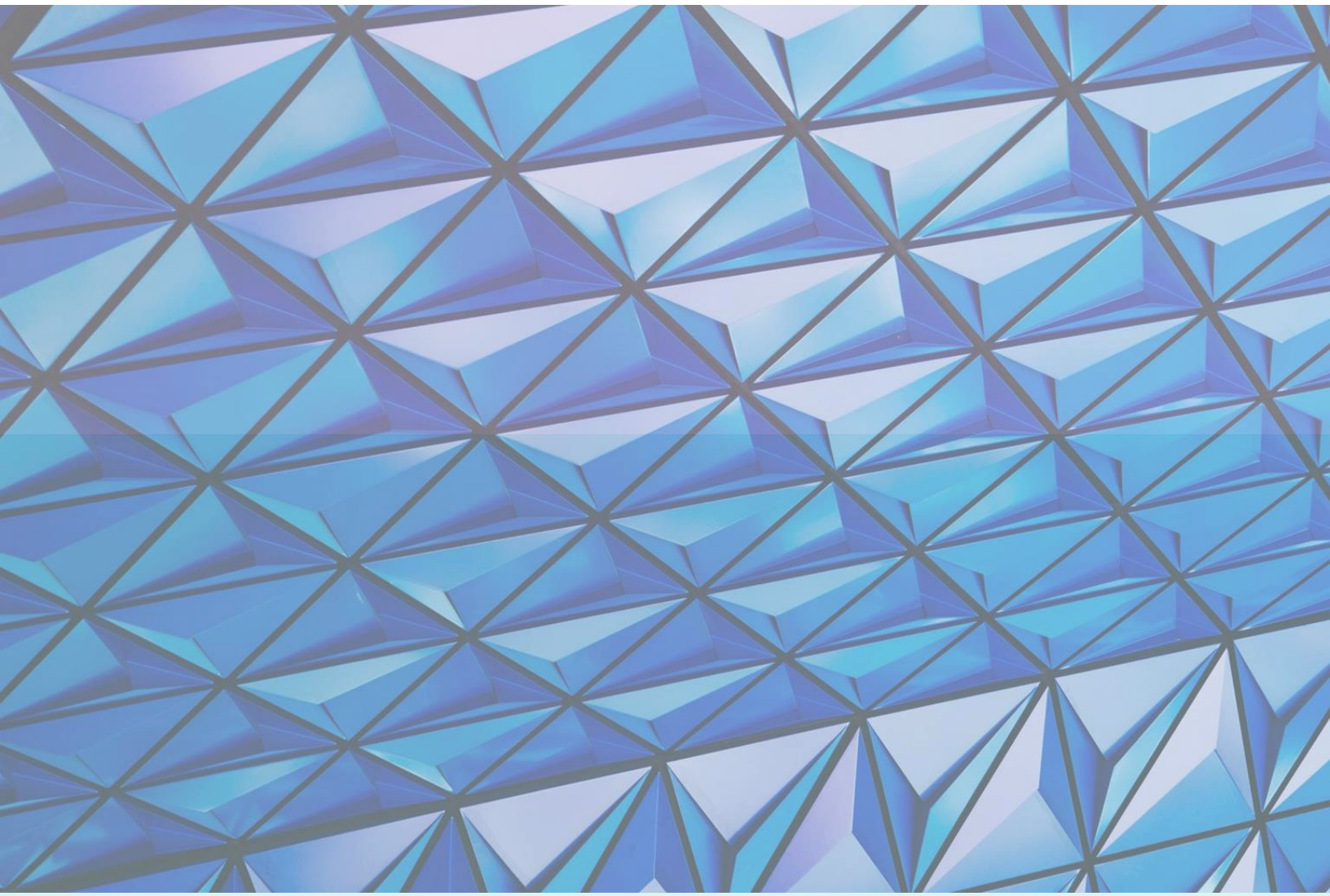
DEPARTMENT OF LABOR
ADULT EDUCATION



DIGITAL LITERACY FRAMEWORK

FOR ADULT LEARNERS

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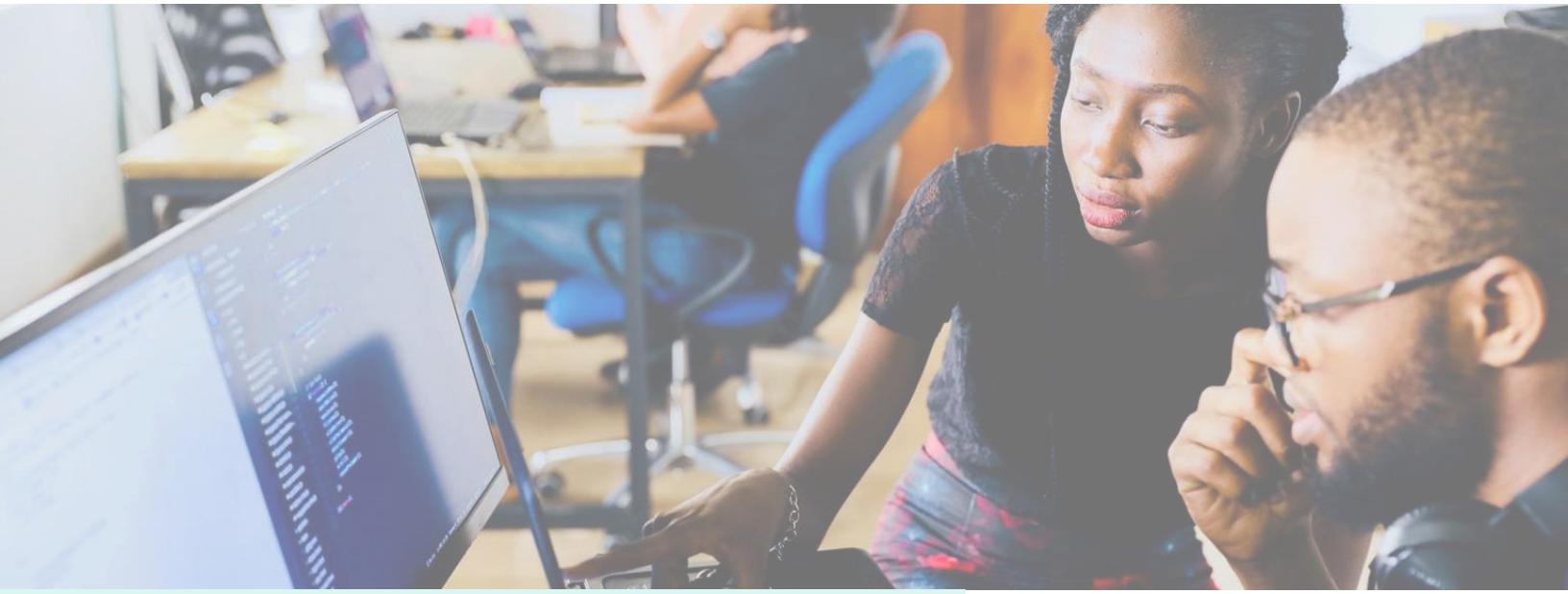

INTRODUCTION

The evolution of digital technology has altered the pattern of human interactions at various levels in profound ways that we can no longer ignore. This transformation requires learners to develop a myriad of "cognitive, motor, sociological, and emotional" skills needed to function effectively in the emerging global society. (Meyers, Erickson & Small, 2013; Eshet-Alkalai, 2004, p.93).

Digital technology also has implications for adult literacy; therefore, it is essential to adapt how and what adults learn. Additionally, there are also foundational questions that demand answers:

- What is *literacy* in the digital era?
- How do we teach literacy?
- What skills are essential for preparing individuals to function successfully in a changing environment?

The role of adult education programs in this process is pivotal. It is imperative to address the quality of professional development efforts and resources available to those who participate and facilitate learning.

Everybody knows something about digital technology. Nobody knows everything there is to know about digital technology. We all have to learn.

- Brad Garner (2016), p. x

METHODOLOGY

The Digital Literacy Framework for Adult Learners was developed for adult learners in Maryland, from the adult basic education student to the administrator committed to lifelong learning. Its overarching goal is to further define, for adult learners at different levels, the elements required to navigate and fully participate in the constantly evolving digital landscape.

Existing guidance
Legislation, standards, competencies, and frameworks used in adult education emphasize the importance of technology and the learner's need for improved digital literacy. The Workforce Innovation and Opportunity Act (WIOA), Employability Skills Framework, College and Career Readiness Standards, National Reporting System's Functional Workplace Skills, Adult Education Teacher Competencies, and English Language Proficiency Standards are some of these guidelines.

Purpose
With existing guidelines emphasizing technology, how do we streamline these guidelines to meet the different performance needs and outcomes? In view of the constant changes occasioned by digital technology, one of the purposes of the Digital Literacy Framework is "scoping," promoting a common understanding of the essential elements and resources of digital literacy for effective integration (Hinrichsen & Coombs, 2013). As such, the Framework provides guidance for integration into already existing contexts, resulting in unique and flexible applications.

Guiding questions
Three guiding questions contributed to the development of the Framework:

- What foundational, intermediate and advanced digital skills does the adult learner need to be successful for life, academia and employment?
- What role do adult education providers play in developing digital literacy?
- How can adult learners be empowered to use digital literacy skills in various contexts?

Integration
One of the foundations of the Framework is the idea that digital literacy is not solely about the operational skills but about cognitive processes (Gilster, 1997) such as evaluating, sharing, and communicating (Spires & Bartlett, 2012; Hinrichsen & Coombs, 2013). Digital literacy is perceived more as a mindset that will empower adult learners to operate intuitively in digital environments (Martin, 2008).

The workgroup
The development of the Digital Literacy Framework for Adult Learners was a team effort of multiple Maryland adult education program stakeholders. The Digital Literacy Framework Work Group consisted of Education Program Specialists at the Maryland Department of Labor, local Program Administrators, Instructional Specialists, Intake Assessment Specialists, and instructors. They provided content based on extensive research and offered unique perspectives based on their expertise to create a relevant, research-based tool.

The Result
As a result of extensive research, answers to guiding questions, and understood purpose, The Digital Literacy Framework for Adult Learners identifies seven interconnected, essential elements of a digitally literate adult learner. Within each element, a definition, guiding questions, a description, and situational examples exist.

WHAT IS DIGITAL LITERACY?

"The term 'digital literacy skills' means the skills associated with using technology to enable users to find, evaluate, organize, create, and communicate information," as defined by The International Museum and Library Services Act of 2010 (2010, p. 3595).

WHY DIGITAL LITERACY?

The evolution of digital technology has altered the pattern of human interactions at various levels, including communication, learning, work, and leisure. This transformation requires learners to develop a myriad of "cognitive, sociological, and emotional" skills needed to function effectively in the emerging global society (Meyers, Erickson & Small, 2013; Eshet-Alkalai, 2004).

WHO IS THE AUDIENCE OF THE FRAMEWORK?

All adult learners can improve their digital literacy. With this in mind, the Framework was created for students, instructors, administrators, and staff in adult education.

PURPOSE OF THE FRAMEWORK

The purpose of the Framework is to provide structure and definition, offer a reference for evaluation, encourage technology integration, and support adult educators and learners with digital literacy.

THE FRAMEWORK STRUCTURE

The *Digital Literacy Framework for Adult Learners* includes seven interconnected elements: Technical, Civic, Communicative, Collaborative, Computational Thinking, Investigative, and Productive.

Each element has the following components:

- a definition,
- guiding questions (to frame the skills needed to improve in the element, all from Hinrichsen & Coombs, 2013),
- a description (to clarify Maryland's position for each element based on extensive research), and
- situational examples (to provide examples in life, academia, and employment).

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DIGITAL LITERACY FRAMEWORK

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FOR ADULT LEARNERS

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TECHNICAL

Physical navigation and operation of digital tools, structures, and conventions

GUIDING QUESTIONS

Do I know how to operate the technology device?
Am I confident working with new applications, tools and software?
Am I able to move from one task to another with ease?

DESCRIPTION

The technical element in digital literacy consists of foundational, physical skills, which are necessary for the acquisition of digital literacy. They include:

- Powering on/off devices,
- Accessing tools/applications on devices,
- Mouse or touchpad functionality,
- Basic troubleshooting,
- Internet searching,
- Internet browser navigation, and
- Username and password basics.

A digitally literate individual should be able to navigate (i.e., scrolling, swiping, following links, using multiple windows) on digital devices (Hinrichsen & Coombs, 2013). This element also involves users' ability to transfer skills to a variety of digital tools (i.e., mobile, computer, tablet, etc.).

SITUATIONAL EXAMPLES

LIFE

Use a touchscreen to sign-in at the doctor's office

ACADEMIA

Click links in a blog for more information

EMPLOYMENT

Type in time of entry and exit on a timesheet

CIVIC

Using digital tools safely, effectively, and appropriately

GUIDING QUESTIONS

Do I understand my role in different digital environments?
Am I familiar with the rules of online behavior, privacy, and sharing?
Do I understand how to select a secure password?
Do I present myself appropriately in digital contexts?
Do I understand how to build and protect my online identity?
Am I able to manage my online persona and reputation?
Do I know my rights and responsibilities in the digital environment?

DESCRIPTION

The Civic element in digital literacy is akin to the idea of traditional citizenship, where individual participants have rights and responsibilities that need to be respected. Several aspects include:

- *Online Safety:* evaluating online sources for reliability, appropriate/ inappropriate content, protecting individual privacy, and refraining from viewing or posting inappropriate materials;
- *Building Identity:* developing the different aspects of identity and safeguarding them. Building identity includes an understanding of individual and group responsibilities, a knowledge of one's role(s) in different digital environments, and the permanence of one's digital footprint;
- *Managing Reputation:* realizing that one's online reputation is developed and managed; and
- *Etiquette and Participation:* Acknowledging the contribution of others and participating appropriately in the digital space.

SITUATIONAL EXAMPLES

LIFE

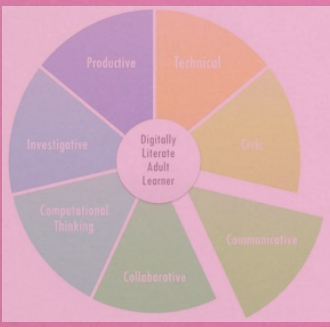
Create different passwords for different accounts for safety

ACADEMIA

Provide references to avoid plagiarism of a copied graph

EMPLOYMENT

Secure and protect personally identifiable information (PII)



COMMUNICATIVE

Sharing ideas clearly, effectively, and creatively with different audiences following digital communication protocols

GUIDING QUESTIONS

Do I have a clear understanding of the needs of the intended audience?
Am I able to identify alternative or concise ways to share information?
Am I able to use appropriate tools for different audiences following ethical and legal criteria?
Do I understand the connections between recipients, source, and purpose of the information I share?

DESCRIPTION

The communicative element in digital literacy enables the individual to access and share a variety of digital resources and materials with others using various platforms. This element also includes:

- *Netiquette:* The rules guiding appropriate communication in a digital environment;
- *Tool Selection:* Selection of appropriate platforms and tools to share and disseminate ideas, products, and knowledge; and
- *Relevance:* The presentation of information and development of customized content for intended audiences.

SITUATIONAL EXAMPLES

LIFE	ACADEMIA	EMPLOYMENT
Post an image and comment on social media	Participate on a discussion board	Compose a professional email

COLLABORATIVE

Connecting and working with others, while using appropriate digital platforms and tools

GUIDING QUESTIONS

Who am I in the group? Will I always have the same role?
Will I work with others now or at different times (synchronous or asynchronous)?
Am I able to work with others using a variety of technology modes?
Do I understand the potential ethical or cultural challenges associated with working with others in the digital space?

DESCRIPTION

Digital technology provides opportunities for individuals to work together in real-time or at their own pace to achieve common goals. The collaborative element includes:

- *Team Work:* contributing to a team effort, taking on different roles and responsibilities, and working effectively with others to achieve common objectives;
- *Problem Solving:* working with others to explore and analyze issues and co-develop solutions, while incorporating different points of view;
- *Expanding Horizons:* using digital tools to expand learning experiences and gain new perspectives; and
- *Being Engaged:* becoming more engaged in the team process by taking personal responsibility for achieving common goals, feeling valued, and becoming confident to share ideas (Sharp, 2018).

SITUATIONAL EXAMPLES

LIFE	ACADEMIA	EMPLOYMENT
Schedule appointments on a website	Work together to complete a document on a learning management system (LMS)	Use a webcam to foster community during a virtual meeting

COMPUTATIONAL THINKING

Using critical thinking and problem-solving skills in conjunction with technology to gather data, analyze information, and find a solution

GUIDING QUESTIONS

Do I understand how ideas work together to create a solution?
Do I see possible outcomes from decisions made when solving a problem?
How do I give clear guidelines for others to follow?
What steps can I take to solve the problem?
What information distracts me from solving the problem?

DESCRIPTION

The computational thinking element allows an individual to leverage digital media and technology to solve a problem. Alternatively, a user can utilize technology to simulate complex situations to determine potential outcomes. Research identifies the following components of computational thinking (Cansu & Cansu, 2019, pp. 4-5):

- *Decomposition:* breaking down tasks into smaller more manageable components;
- *Gathering & Analyzing Data:* acquiring and making sense of data, finding patterns, and drawing conclusions;
- *Abstraction:* reducing complexity and focusing on the main idea. Abstraction may also involve a new representation of a system or a problem, by hiding details irrelevant to the question to focus on the solution; and
- *Algorithm Design:* designing step by step, precise instructions to create a solution, which should apply to multiple problems.

Problem Solving + The Power of Technology = Computational Thinking

SITUATIONAL EXAMPLES

LIFE	ACADEMIA	EMPLOYMENT
Make a personal budget on a spreadsheet	Analyze a poem for tone, rhythm, and structure	Schedule an agenda for a planning meeting

INVESTIGATIVE

Searching, identifying, and validating reliable and authentic digital resources

GUIDING QUESTIONS

Can I identify who created the source and the author's intended purpose?
Is there a better resource to use?
What information do I need to decide on the use of this information?
How do I know if something is valuable, accurate, and truthful?

DESCRIPTION

The investigative element requires users to have the ability to search, identify, and validate information.
Combining these abilities help an individual to make meaning from and identify relevant and reliable sources. Critical thinking, bias recognition, and the ability to determine credibility are vital to the investigative element. The investigative element also includes:

- *Searching:* to locate reliable and accurate information as a means of solving a problem. Searching requires an individual to understand the use of search engines and domain names and craft relevant Web search terms (Spires & Bartlett, 2012);
- *Identifying:* to critically make judgments and determine if information on digital sources ae credible. Identifying requires conclusions about the relevance of content when making an informed decision. This also includes the need to identify bias, stance, or purpose of its creators (Leu, Zawilinski, Forzani, & Timbrell, 2014); and
- *Validating:* to assess the accuracy of the informational resources. Validating resources requires critical thinking with the base knowledge that digital resources can be created and published by all.

SITUATIONAL EXAMPLES

LIFE	ACADEMIA	EMPLOYMENT
Find a digital menu of a restaurant serving your favorite cuisine	Find credible, valid research for an argumentative essay	Find the best company for office supplies

PRODUCTIVE

creating content and/or products through the use of digital tools

GUIDING QUESTIONS

What is the best platform to use when sharing my created content?
Am I able to develop/adapt digital content suitable for different platforms and audiences?
Who is the audience of this content?
Am I able to identify and develop digital resources to solve specific problems or meet identified needs?
Does my solution solve or answer the original problem/question/task?

DESCRIPTION

The productive element highlights participation in the digital environment by means of curation and content creation.

- *Curation:* "A curator ingests, analyzes and contextualizes web content and information of a particular nature onto a platform or into a format we can understand" (Buck, 2013, para. 2).
- *Content Creation* is dynamic as it changes based on new skills, context and experiences. It is also context dependent as the producer considers the intended audience, feedback, and the scope of information. Created content is also influenced by the producer's attitudes, preferences, behavior and identity (Terras, Ramsay, & Boyle, 2015).

Using all the digital literacy elements allows learners to become effective content curators, creators, and producers.

SITUATIONAL EXAMPLES

LIFE	ACADEMIA	EMPLOYMENT
Make a digital birthday invitation	Record a YouTube video for a class presentation	Create a professional LinkedIn profile or resume

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Appendix

GUIDING QUESTION LIST
WORKGROUP PARTICIPANT LIST

GUIDING QUESTIONS LIST

Content taken from Hinrichsen & Coombs (2013)

Technical
Do I know how to operate the technology device?
Am I confident working with new applications, tools and software?
Am I able to move from one task to another with ease?

Civic
Do I understand my role in different digital environments?
Am I familiar with the rules of online behavior, privacy, and sharing?
Do I understand how to select a secure password?
Do I present myself appropriately in digital contexts?
Do I understand how to build and protect my online identity?
Am I able to manage my online persona and reputation?
Do I know my rights, responsibilities and those of others in the digital landscape?

Communicative
Do I have a clear understanding of the needs of the intended audience?
Am I able to identify alternative or concise ways to share information?
Am I able to use appropriate tools for different audiences following ethical and legal criteria?
Do I understand the connections between recipients, source, and purpose of the information I share?

Collaborative
Who am I in the group? Will I always have the same role?
Will I work with others now or at different times (synchronous or asynchronous)?
Am I able to work with others using a variety of technology modes?
Do I understand the potential ethical or cultural challenges associated with working with others in the digital space?

Computational Thinking
Do I understand how ideas work together to create a solution?
Do I see possible outcomes from decisions made when solving a problem?
How do I give clear guidelines for others to follow?
What steps can I take to solve the problem?
What information distracts me from solving the problem?

Investigative
Can I identify who created the source and the author's intended purpose?
Is there a better resource to use?
What information do I need to decide on the use of this information?
How do I know if something is valuable, accurate, and truthful?

Productive
What is the best platform to use when sharing the content I will create?
Am I able to develop/adapt digital content suitable for different platforms and audiences?
Who is the audience of this content?
Am I able to identify an develop digital resources to solve specific problems or meet identified needs?
Does my solution solve or answer the original problem/question/task?

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DIGITAL LITERACY FRAMEWORK

FOR ADULT LEARNERS

For program funding details in compliance with the Stevens Amendment,
please visit http://labor.maryland.gov/employment/dwdalfederalprogramfunding.shtml.

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