



DRAW

Digital Skills Content and Curriculum: DRAW Detailed Findings and Discussion

With the urgent need for adult digital skill development as a backdrop, the Digital Resilience in the American Workforce (DRAW) initiative, funded by the U.S. Department of Education's Office of Career, Technical, and Adult Education (OCTAE),¹ conducted a wide-ranging landscape scan to identify effective approaches and existing resources supporting digital skill development. The scan also identified current efforts to advance digital access and digital equity; useful skill definitions, frameworks, and assessments; and

practitioner professional development opportunities. Learnings from the scan are summarized in the report [*Digital Resilience in the American Workforce: Findings From a National Scan on Adult Digital Literacy Instruction*](#).

This deep dive explores existing instructional content and use as well as opportunities to improve the quantity and quality of resources available to learners and practitioners.



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Introduction

As part of the national landscape scan for the Digital Resilience in the American Workforce (DRAW) initiative, the research team explored digital skills curricula in use in adult education using a range of sources, including questionnaires, open online calls for content submissions, interviews, and online discussions. The team also researched how content of different types and formats is being used by educators and what gaps exist. This deep dive explores what the team learned about existing instructional content and use as well as opportunities to improve the quantity and quality of resources available to learners and practitioners.

The crowdsourced list of instructional content can be [downloaded here](#).

Instructional Content and Curriculum: What’s Available?

Content for digital literacy training and instruction includes skills-based training and contextualized curriculum:

- Skills-based training addresses basic to advanced digital literacy concepts and targets proficiency of discrete skills such as identifying computer hardware, using the keyboard, navigating websites, and collaborating using cloud-based computing.

- Contextualized curriculum integrates digital literacy into instruction of academic, workforce, and life skills or varied contexts.

A small set of resources is used consistently across programs. [GCFLearnFree](#), the [Northstar Digital Literacy Assessment](#), [Burlington English](#), and YouTube were the resources most mentioned as being useful to learners. The [Google Applied Digital Skills curriculum](#) was noted as the resource most commonly used to support instructors. A JFFLabs market scan conducted for DRAW found that, despite clear market need, there are no “noteworthy emergent solutions to train adult learners in foundational digital literacy skills beyond the players already known to be active and leading in the space, such as Northstar, [DigitalLearn](#), GCFLearnFree, etc.”²

What Are the Gaps?

There are gaps in access to, quantity of, and quality of resources. The DRAW questionnaire found that many program staff—including instructors, professional development and instructional designers, and directors—would benefit from greater access to a variety of high-quality resources:

- Staff in a variety of roles have access to *some* highly effective **online tutorials** to meet their program’s needs, but there is still a gap in access to high-quality resources spanning all roles.
- Individuals in leadership roles indicated that they do not have access to tutorials to meet their context.
- Instructors indicated they do not uniformly have access to highly effective **full online courses**.

There are many **lesson plans and activities** accessible online but fewer opportunities to create streamlined access or build *highly effective* curriculum supports to meet the needs of the wide range of people who enroll in adult education programs – a population that includes individuals from a variety of racial, ethnic, linguistic, and academic backgrounds. General and English language instructors, professional development support staff, librarians, and managers all indicated they have access to instructional resources but did not rate those resources as *high quality*.

Overall **awareness** of existing resources varies as well:

- When the instruction of digital skills was embedded within software, teachers were not always aware of that—for example, [Aztec](#), [Voxy EnGen](#), and [Cell-Ed](#) did not come up (though Burlington English did).
- At the same time, when asked what digital skills content they use, some practitioners responded with the name of a digital learning platform they use to teach another subject, such as English vocabulary platform [Learning Chocolate](#), which does not have explicit digital skills instruction.

In addition to awareness and access, educators need support on effective use of content.

Adult education practitioners have limited paid time to prepare for their classes and learn how to use new curricula and resources. While many software companies advertise that their product is an easy solution, all products require training to implement effectively.

Existing Resources and Uses

Existing resources include those designed for in-person use (e.g., [I-DEA](#) and Northstar Digital Literacy), while others can be used for self-paced learning, and distance learning (e.g., Google’s Applied Digital Literacy Skills and [Microsoft’s Office Specialization program](#)) and self-study. Some resources work well for English learners; some are helpful for learners focused on fundamental concepts or foundational skills. The LINCS Teaching Skills That Matter [Digital Literacy topic area](#) provides issue briefs, case studies, and contextualized, project- and problem-based lesson plans to support digital literacy skills integration in the learning environment.

Resources for English Learners

Existing resources to integrate digital skills into programs for English learners include:

- Learning Chocolate and [Digital Homeroom](#) can be used to teach computer-related vocabulary to English language learners. The lessons are categorized by topic and offer image-text matching activities.
- Integrated Digital English Acceleration (I-DEA), a program for English learners, uses contextualization for instruction of English and digital literacy skills in the context of college and career readiness.
- Burlington English incorporates digital skills development contextualized to the workplace and daily living. It also offers a series of animated videos in its “[Using Your Computer](#)” mini-course to introduce the most basic elements of digital literacy, such as how to turn on a computer, use the keyboard, and maneuver a mouse.

Example: The Rhode Island Family Literacy Initiative partners with Roger Williams University to offer the [Microsoft Office Specialization program](#) to English learners. Using the I-BEST model, the lessons are taught by instructors from Roger Williams with the assistance of a Rhode Island Family Literacy Initiative English-language teacher who supports students who need help with unfamiliar vocabulary or understanding directions.

Resources for Addressing Fundamental Concepts and Foundational Skills³

When developing a training plan for adults, it is helpful to consider the foundational digital skills needed as well as any knowledge gaps. Commonly used resources for this include:

- [Northstar Digital Literacy Assessment](#) and [Curricula](#)
- [GCFLearnFree](#)
- [DigitalLearn](#)
- [Wisconsin Online Digital Literacy](#)
- [Microsoft's Digital Literacy course](#)
- [Khan Academy](#)

Distance Learning and Self-Study Resources

Training resources that are effective for self-study are performance based and provide feedback or a self-correcting mechanism. These tools all offer free video-based lessons that provide varying degrees of learner interaction and performance tasks. However, reliable high-speed internet and access to devices are two major considerations for remote teaching and self-study.

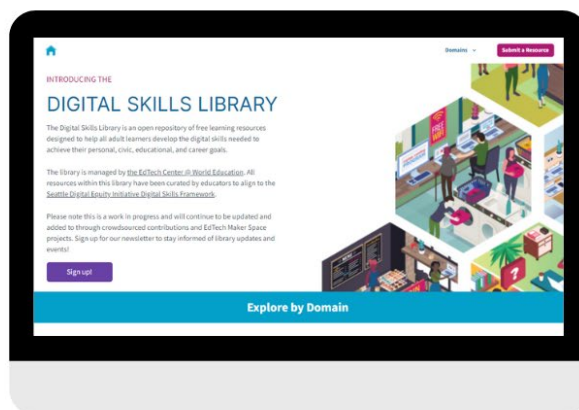
- [Literacy Minnesota](#) remote tutoring resources
- [TeamViewer](#) remote connectivity software
- Northstar [self-paced lessons](#) with badges
- GCFLearnFree [technology-related lessons](#)
- Wisconsin Online Digital Literacy lessons
- DigitalLearn video-based trainings, created by the Public Library Association
- [Learn My Way](#) text-based lessons

An emerging trend is resources that aggregate learning content. These resources can help instructors find the content they need based on their learners and context:

- The [DigCitCommit website](#), from the International Society for Technology in Education, offers a range of learning resources around digital citizenship.
- [Harvard Graduate School of Education's SkillBase platform](#) aggregates learning resources around a range of digital and career skills to provide personalized learning.
- Literacy Minnesota offers a list of [free learning resources aligned to its Northstar Digital Literacy Assessment](#).
- [Digital US offers a resource hub](#) for digital navigators organized by core skills.

Example: CrowdED Learning's open [DigitalSkillsLibrary.org](#) and [SkillBlox](#) platform support educators in easily locating activities based on specific skills, enabling them to create personalized learning playlists for students. The library draws from popular resources including GCFLearnFree.org, DigitalLearn.org, and Google Applied Digital Skills, and tags them for search by language, media type, and more.

DigitalSkillsLibrary.org



Teaching Digital Resilience

Many experts expressed the need for more curriculum that intentionally builds digital resilience, teaching learners to transfer skills across platforms and software environments; comfort with productive struggle; and capacity to learning new technologies. Educators should work to build deeper learning skills like self-direction, problem solving, collaboration, creative production, and knowledge management.⁴ In addition, being effective and safe in digital problem solving takes critical thinking and **media literacy skills**. The scan identified a need to embed information and media literacy throughout all adult education and digital skills instruction for adults.

These resources provide content for addressing some aspects of digital resilience in the classroom:

- [Using the PIAAC Framework for Problem Solving in Technology-Rich Environments to Guide Instruction: An Introduction for Adult Educators](#) provides instructions and example lesson plans and activities for fostering digital problem solving.
- [Common Sense Media](#) offers lesson plans on a range of topics that can be filtered by age, media balance and well-being, privacy and security, digital footprint and identity, relationships and communication, cyberbullying, digital drama and hate speech, and news and media literacy.
- The [Digital Resilience Framework](#) by the UK Council for Internet Safety is designed to help organizations assess and support digital resilience for both individuals and groups.
- Mozilla has a [Core Curriculum](#) that includes a “Participate” module. The activities in the module provide opportunities for learners to explore a range of modes for communicating, sharing, and interacting with others online. Learners can explore visual communication on the web; learn how to curate, share, and comment on collections of media; and work in groups to use technology to solve a problem or make a discovery.
- [Digital Learn](#) and [GCFLearnFree](#) have a small number of video-based lessons about internet privacy.

These resources focus on media literacy:

- [Media Literacy Education in Libraries for Adult Audiences](#), an American Library Association project, provides resources for libraries to address media literacy, including webinars, lesson plans, and articles.

- The [National Association for Media Literacy Education](#) offers media literacy definitions, principles, questions, and resources.
- [Digital Skills for a Global Society](#) provides resources for evaluating sources of digital information on credibility, bias, and influence.

Designing Potential Future Resources

Interview and questionnaire responses emphasized the need for investment in new content and curriculum. The scan also revealed guiding principles for the design and functionality of new content and materials.

Digital Skills Content: What Practitioners Need

Interviews and Practitioner Questionnaire responses reveal some of the top priorities for future digital skills content development:

- Resources to support instruction of **employability skills** in the context of digital resilience, including developing lifelong learning skills. This includes resources to prepare learners for using online platforms for employer-sponsored training and other technologies in the workplace.
- **Culturally relevant and multilingual resources.** While there are some resources available in other languages (GCFLearnFree is available in English, Spanish, and Portuguese, and DigitalLearn has Spanish versions of its digital skills training videos), questionnaire respondents frequently said there is a gap in bilingual resources.
- **Adaptable, reusable curriculum** that instructors can return to again and again. In particular, they need content that models the integration of digital skills in a lesson. The materials must be adaptable so they can be contextualized for the variety of adult learner needs and available for facilitated instruction as well as independent, self-access learning.
- **Holistic content** focused on all the needs and goals of adults, not only on career and education.
- Resources to **bridge adult learners from foundational into higher level digital skills**, “from foundational skills to career-specific training, informed by workforce needs but not limited to them.”⁵ This includes more resources to develop basic computational thinking, programming, data analytics, and coding skills.

- Digital education resources for **adults with development disabilities**.

Design Principles

New digital literacy solutions should seek to **engage learners** differently, both in the workplace and beyond, based on the ongoing evolution of technology, such as the use of augmented and virtual reality and screencasting. New solutions should be:

- **Multilingual**, available and performant in all relevant languages.
- **Mobile first**, with chat and messaging interfaces, responsive mobile web experiences, native Android, and native iOS. Mobile-oriented approaches might help bridge some of the common accessibility gaps, such as language and logistics. Additionally, focusing too narrowly on desktop and wired broadband may be increasingly out of step with the growth of “deskless” jobs in which workers use mobile devices such as phones or tablets to complete core job responsibilities.
- **Universal design**, to ensure accessibility for individuals with physical and cognitive disabilities.
- **Optimized for user experience and engagement**, with bite-sized content and interactives; gamified experiences; transferable concepts and tactical skills development; intuitive interactions that facilitate independent, remote engagement; and moderated support.
- **Open**, without requiring a password if teaching foundational skills, as many beginning learners struggle with creating accounts and remembering usernames and passwords.
- When possible, **designed for low bandwidth** with offline caching to enable online and offline access.
- **Open source** so that solutions remain affordable and programs can adapt them to their own needs.

Conclusion

While it has never been easier to find digital skills curricula and content given the power of the internet, practitioners in our scan expressed need for support in finding resources that work for a diverse group of learners. They are also eager for resources that are flexible enough to fit different instructional models including in person, blended, and distance, and easily adaptable

to better meet their learners' needs. While there are exciting emerging efforts to help instructors more easily find quality resources, such innovations must be sustained, and investment is needed to create new resources to fill many of the gaps identified in the scan. The DRAW initiative's next step is to take all the learnings from the landscape scan and develop professional development resources and training to help adult educators learn how to better support their learners in developing foundational digital skills, including selecting and using quality content and curriculum. Please follow the [DRAW project page](#) for further updates, information, and professional development support, and opportunities to join discussions on advancing digital resilience and equity.

Endnotes

¹ DRAW is funded by the U.S. Department of Education's Office of Career, Technical, and Adult Education under contract GS10FO094X.

² Internal market scan conducted for DRAW by the JFFLabs team.

³ Resources mentioned in landscape scan interviews and questionnaire responses. For more on the need to consider foundational skills and concepts see: Digital US Coalition, *Building a Digitally Resilient Workforce: Creating On-Ramps to Opportunity* (Boston: Digital US, World Education, May 2020), <https://digitalus.org/wp-content/uploads/2020/06/DigitalUS-Report-pages-20200602.pdf>.

⁴ Tatiana Iñiguez-Berrozpe and Ellen Boeren, "Twenty-First Century Skills for All: Adults and Problem Solving in Technology Rich Environments," *Technology, Knowledge and Learning* 25, no. 4 (March 27, 2019): 929-951, <https://link.springer.com/article/10.1007/s10758-019-09403-y>; and Aime-acha Silamut and Sirirat Petsangsri, "Self-Directed Learning With Knowledge Management Model to Enhance Digital Literacy Abilities," *Education and Information Technologies* 25, no. 6 (2020): 4797-4815, <https://link.springer.com/article/10.1007/s10639-020-10187-3>.

⁵ P. Balboa, personal communication, September 28, 2021.