Report from the Field

Using Universal Design for Learning to Design Self-Paced Professional Development Modules for Adult Education Instructors

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Abstract

Adult education instructors are as diverse as the students they teach. Their professional backgrounds, training, licenses, and modalities of teaching (online, in person, open vs. closed enrollment, etc.) vary widely, which can make the planning of meaningful, effective professional development challenging. Universal Design for Learning (UDL) is a research-based educational framework developed almost 30 years ago by CAST, a non-profit education research and design organization. Using the UDL framework, CAST has developed self-paced professional learning modules that can be accessed freely through the Literacy Information and Communication System website (https://lincs.ed.gov/). The goal of this article is to argue that two key UDL-based design concepts - accessibility and relevance - can be used to increase the effectiveness of professional development for adult educators.

Keywords: universal design for learning, professional development, adult education instructors

Adult educators vary widely in terms of demographics and experience. Many have a background teaching children. Some have never taught before. The reasons adult education instructors are engaging in professional development (PD) also vary. Some instructors may be completing required training to meet local PD requirements, while others may be trying to increase skills or knowledge in a particular subject area. As we consider how to develop effective PD for adult education instructors, we should begin by asking: Has the PD been designed with the same care we expect adult educators to use when teaching their own adult students?

We believe Universal Design for Learning (UDL), a research-based framework to guide the design of inclusive and engaging learning environments, is the place to start. However, through our research we found that while a majority of adult educators feel positively about UDL and understand the importance of supporting all of the learners in their classroom, they struggle with applying the framework in the adult learning context. This is significant since teacher preparedness has a critical impact on student learning (Cook & Rao, 2018; Murphy, 2021).

To understand how to prepare adult educators to use UDL we need to understand *what* adult educators want to know about teaching and learning and *how* they want or need to learn the information. Through this 2-year collaboration between CAST and the Office of Career, Technical, and Adult Education, which funded the project, we found that the best way to improve the learning environment for the adult education students was to model a UDL professional development learning environment by focusing on relevance and accessibility.
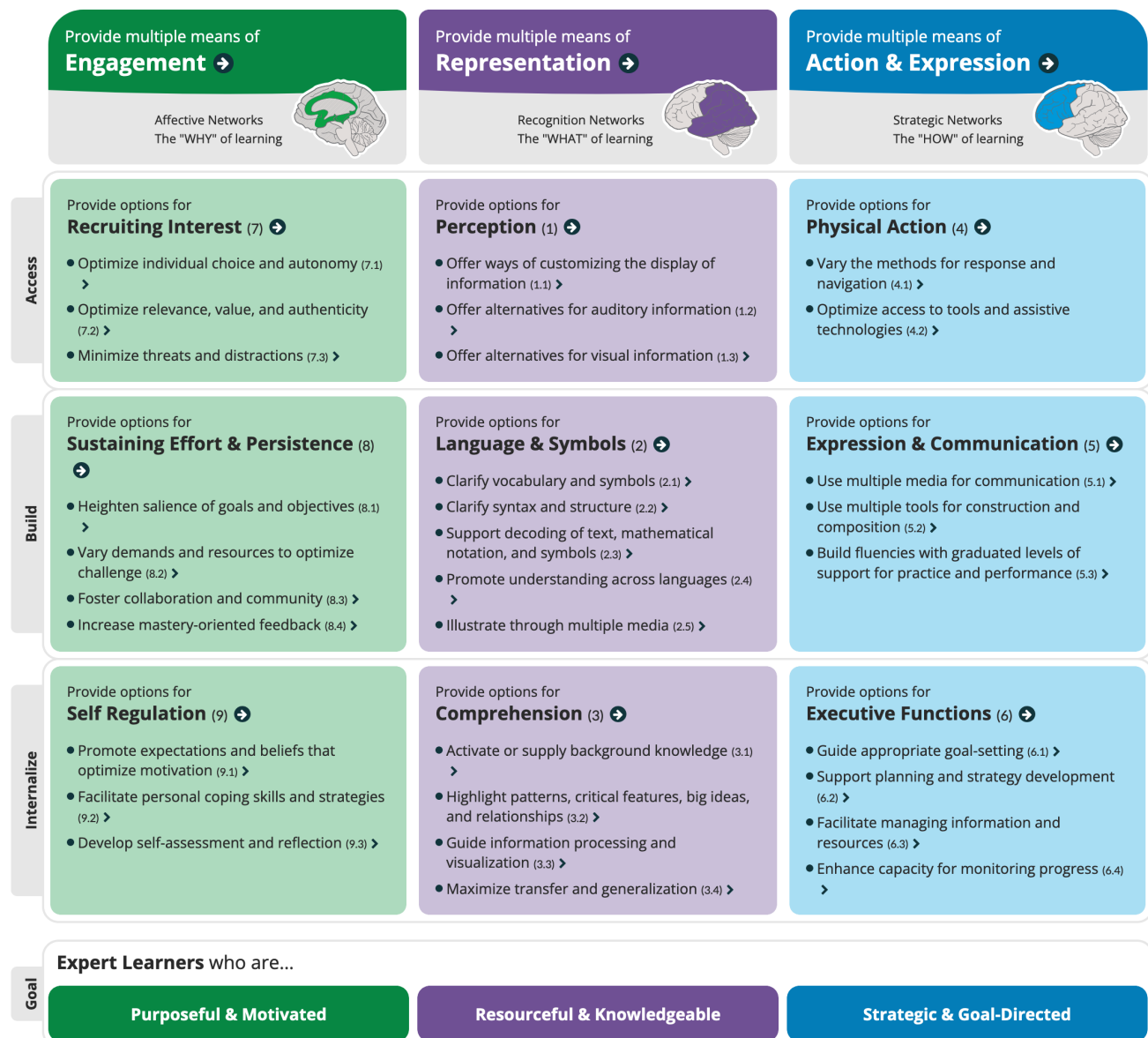
Universal Design for Learning

UDL is an evidence-based framework developed at CAST, a nonprofit education research and design group founded in 1984. Echoing the concept of universal design in architecture, which aims to make spaces and information more accessible to individuals with disabilities (Mace et al., 2000), UDL is intended to expand learning opportunities for the widest range of learners. UDL offers concrete suggestions (see Figure 1) for designing learning environments and learning experiences that are flexible, customizable, and accessible to all learners (CAST, 2018; Meyer et al; 2014; Rose & Meyer, 2002).

FIGURE 1. CAST UDL Guidelines.

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Universal Design for Learning Guidelines

	Provide multiple means of **Engagement** → Affective Networks The "WHY" of learning	Provide multiple means of **Representation** → Recognition Networks The "WHAT" of learning	Provide multiple means of **Action & Expression** → Strategic Networks The "HOW" of learning
Access	Provide options for **Recruiting Interest** (7) → • Optimize individual choice and autonomy (7.1) › • Optimize relevance, value, and authenticity (7.2) › • Minimize threats and distractions (7.3) ›	Provide options for **Perception** (1) → • Offer ways of customizing the display of information (1.1) › • Offer alternatives for auditory information (1.2) › • Offer alternatives for visual information (1.3) ›	Provide options for **Physical Action** (4) → • Vary the methods for response and navigation (4.1) › • Optimize access to tools and assistive technologies (4.2) ›
Build	Provide options for **Sustaining Effort & Persistence** (8) → • Heighten salience of goals and objectives (8.1) › • Vary demands and resources to optimize challenge (8.2) › • Foster collaboration and community (8.3) › • Increase mastery-oriented feedback (8.4) ›	Provide options for **Language & Symbols** (2) → • Clarify vocabulary and symbols (2.1) › • Clarify syntax and structure (2.2) › • Support decoding of text, mathematical notation, and symbols (2.3) › • Promote understanding across languages (2.4) › • Illustrate through multiple media (2.5) ›	Provide options for **Expression & Communication** (5) → • Use multiple media for communication (5.1) › • Use multiple tools for construction and composition (5.2) › • Build fluencies with graduated levels of support for practice and performance (5.3) ›
Internalize	Provide options for **Self Regulation** (9) → • Promote expectations and beliefs that optimize motivation (9.1) › • Facilitate personal coping skills and strategies (9.2) › • Develop self-assessment and reflection (9.3) ›	Provide options for **Comprehension** (3) → • Activate or supply background knowledge (3.1) › • Highlight patterns, critical features, big ideas, and relationships (3.2) › • Guide information processing and visualization (3.3) › • Maximize transfer and generalization (3.4) ›	Provide options for **Executive Functions** (6) → • Guide appropriate goal-setting (6.1) › • Support planning and strategy development (6.2) › • Facilitate managing information and resources (6.3) › • Enhance capacity for monitoring progress (6.4) ›
Goal	**Expert Learners** who are… **Purposeful & Motivated**	**Resourceful & Knowledgeable**	**Strategic & Goal-Directed**

UDL is grounded in three core principles:

1. Using **multiple methods for engaging students in learning** that celebrate diverse neurology, culture, personal relevance, subjectivity, background knowledge, and more (the "why" of learning)

2. Using **multiple methods for representing information**, catering to differences in how learners absorb and process information (the "what" of learning)

3. Using **multiple means of action and expression** that allow learners to best express what they know based on personal preference and talent (the "how" of learning; CAST, 2018; Meyer et al; 2014; Rose & Meyer, 2002).

Designing PD for Adult Education Instructors Using UDL

The first steps in designing PD for adult education instructors that models UDL were to increase our knowledge of the context and conduct a needs assessment. We focused both on learning process needs and content knowledge. First, we gathered information on the adult educator experience. What did educators want or need to know about teaching and learning? We also reviewed current literature on supporting adult learners with disabilities and learning differences, as well as data on the educational backgrounds and training adult educators received. We analyzed effective strategies for designing online learning for adults and the use of UDL in PD (Hartsoe & Barclay, 2017; Kang et al., 2018). In addition, we conducted individual interviews, surveys, and online focus groups. Participants included education instructors, administrators, coordinators, community group facilitators, and state-level directors. We asked questions such as:

- How do you support the variability in learners?

- How do you help students become independent learners?

- How do you support all learners (English learners, racially diverse learners, students who have been traditionally marginalized, and those with learning differences)?

- Where do you find strategies to apply in your classroom?

Using this research, we developed a series of data-driven instructor and learner personas or thoughtfully developed fictional profiles. By considering how these personas would interact we were able to identify a variety of teaching/learning challenges adult educators and their students might face. The personas helped us investigate how adult educators wanted or needed to consume learning, as well. For example, adult education teachers might be younger than the adults they are teaching. Adult learners might not have access to devices such as laptops or computers for completing work but might be solely reliant on their phones; conversely, adult education teachers might not be comfortable using technology or might not know how to use technology to engage learners. Adult educators may have previous experience as elementary or secondary school teachers and may have limited knowledge of how to leverage adults' prior learning and experience in the classroom.

Leveraging UDL

Next, we analyzed the UDL guidelines to identify which design strategies would most effectively address both the preferences and needs of adult educators:

Accessibility

Adult educators reported limited time, knowledge of resources, and access to the internet (e.g., at correctional facilities). Many volunteers and adult educators work in the field part-time and have multiple jobs. They reported a need for PD that provided clear access to the learning and reduced the cognitive load - working memory and attention - needed to understand and utilize the new information.

Chunking (or breaking up) long blocks of text with images, icons or bullets can make it less challenging for learners to identify and absorb important information. We applied this approach to the self-paced PD modules since adult educators reported having limited blocks of time to devote to asynchronous learning. We also highlighted key concepts to assist with retaining and utilizing essential ideas.

To improve access, we recommend designing PD for adult educators that follows a predictable format, uses consistent terms, and easily identifiable icons. UDL-based accessibility features to consider when designing PD for adult educators:

- Can adults access the content before and after the presentation or workshop is complete? For example, the self-paced modules all include downloadable PowerPoint presentations, giving learners access to the information offline, providing them with customizable resources they can Zoom in on, follow along with, and return to later. UDL checkpoints: 1.1, 1.2, and 1.3.

- Are there multiple ways for adults to consume the content? For example, the self-paced modules all include videos with downloadable transcripts and captions, descriptive hyperlinks, as well as headings, titles, and bullets to learners with adult educators with executive functioning differences, as well as those who may be using screen readers. UDL checkpoint: 2.5.

Relevance

Adult educators reported a need to experience strategies in an applied way that felt authentic and valuable. This means selecting content that is contextually specific and appropriate. In other words, rather than use an interview from a first-grade teacher talking about teaching reading, highlight strategies used by adult educators.

Considerations for designing PD for adult educators:

- Does PD include real world scenarios and perspectives or examples from the field? For example, the self-paced modules all begin with case studies that highlight problems of practice experienced in adult learning contexts, as well as video interviews with adult educators. Including content like this in PD offers a source of personal motivation and connection, and highlights experiences, big ideas, strategies, or patterns in adult educators use across the country. UDL checkpoint: 3.2.

- Are there ways for adult educators to immediately apply the content? For example, the self-paced modules all include "Try it Yourself" activities educators can use in their classroom. In addition, administrators are encouraged to repurpose the downloadable PowerPoints to design PD experiences that meet local educator needs. UDL checkpoint: 7.2.

We further increased the value of the modules by basing the content on educators' needs, hosting them on the LINCS website (https://lincs.ed.gov/), and by offering a certificate of completion at the end of each module (see Figure 2).

FIGURE 2: UDL Self-Paced Professional Development Modules

TITLE	DESCRIPTION
It All Starts with the Goal	This module focuses on the why and how of helping adult learners set goals. This module will help adult educators feel better equipped to develop and teach a wide range of learners to create and monitor meaningful, obtainable goals.
Learning that Works for All	The purpose of this module is to identify how research-based learning strategies can increase engagement and access for all learners. Through this module adult educators are introduced to the Universal Design for Learning (UDL) along with strategies they can start to use immediately.
Making Math Matter	The purpose of this module is to improve math instruction for all adult learners, including those with learning differences.
Making Reading & Writing Matter	This module expands the view of literacy to include reading, writing, and other forms of media. The concepts in this module will help adult educators reflect on current approaches and consider new strategies to ultimately help adult learners see why reading and writing truly matter.
Building Communities for Learning	Adults need to feel a sense of belonging in the classroom. In this module adult educators will learn why teaching adults is different than teaching children and identify how they can support community building.
Self-Advocacy for Work & Learning	The purpose of this module is to introduce adult educators to two key terms: self-advocacy and learner agency. Through the module educators will learn the value these concepts bring to the classroom and identify ways they can design learning environments to facilitate and build learner agency.
Improving Systems for Adult Education	This module will be especially useful to administrators who seek to create "expert learning systems" - interrelated learning communities — where all individuals (teachers, volunteers, administrators, etc.) are expert learners who can assess their own needs, set personal and professional learning goals, and monitor their progress.

Conclusion

In designing the new self-paced PD modules, we thought critically about how information was represented and displayed, who would be using the modules, and the ways adult educators would consume and use the content from the modules.

We have designed the new self-paced PD modules to teach and model how UDL can be used to improve the learning experience - for *all* learners. By using UDL to increase the accessibility and relevance of the self-paced PD modules available on LINCS, we hope adult instructors will experience a learning environment that was designed intentionally with their needs in mind, one they will be equipped and inspired to emulate in their own classrooms.

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