



Using Universal Design for Learning for Inclusive Apprenticeships

How UDL Can Ensure Greater Inclusion and Diversity in Registered Apprenticeships

At a Glance

Universal Design for Learning (UDL) is a way of organizing learning environments to accommodate people with a wide array of learning preferences, needs, and ways of expressing and receiving information and demonstrating competency.¹ This brief provides an overview of how applying UDL to Registered Apprenticeships can result in a more welcoming environment that better includes people with disabilities and others with varied learning needs and preferences.

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Acknowledgments

About JFF

Jobs for the Future (JFF) drives transformation of the American workforce and education systems to achieve equitable economic advancement for all. www.jff.org

About JFF's Language Choices

JFF is committed to using language that promotes equity and human dignity, rooted in the strengths of the people and communities we serve. We develop our content with the awareness that language can perpetuate privilege but also can educate, empower, and drive positive change to create a more equitable society. We will continually reevaluate our efforts as language usage continues to evolve.

About the Innovation Hub for Registered Apprenticeship

This product was developed as a contribution to the [National Innovation Hub for Diversity, Equity, Inclusion, and Accessibility in Registered Apprenticeship](#). Operated by JFF, the Innovation Hub drives change in the Registered Apprenticeship system to increase diversity, equity, inclusion, and accessibility for populations that do not yet have access to the full promise of apprenticeship.

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About the Institute for Community Inclusion

The Institute for Community Inclusion is a program of the School for Global Inclusion and Social Development at the University of Massachusetts Boston. ICI's focus is on creating communities and a society that is socially just, where individuals with disabilities participate fully in their communities and lead rewarding, self-directed, and fulfilling lives.

www.communityinclusion.org

Introduction

Why UDL?

UDL is a strategy aimed at supporting instructional design that considers the needs of all learners from the outset. When applied to apprenticeships, UDL promotes ensuring that the workplace and related instructional settings are proactively inclusive. This brief is intended for those involved in Registered Apprenticeship programs (RAPs): sponsors, employers, providers of related instruction, apprenticeship agency staff, and partners. Because workplaces employ a variety of individuals, they naturally comprise a workforce of diverse learners. Implementing a UDL mindset within RAPs helps ensure that the training processes and learning objectives proactively consider and account for the full range of learner needs, allowing for implementing flexible training and assessment approaches. A UDL mindset within RAPs also defines the areas that need focus and attention to fully meet the needs of all apprentices and applicants. Through this brief, those involved with RAPs will have a greater understanding of UDL and how it can be applied to ensure that RAPs are welcoming and supportive of diverse learners.

What Is UDL?

UDL is a framework to guide the design of learning environments, activities, and materials that are accessible, achievable, and challenging for people with wide differences in their abilities to see, hear, speak, move, read, write, understand English, attend, organize, engage, and remember.² Training and education developers use UDL to rethink their approach, and they embed flexibility in the ways that information is presented so that all types of learners can access and benefit from the information.

Necessary for Some, Useful for All

Accessibility is “the facilitation of full and independent access for all people to employment, facilities, services, and information through intentional design, development of accommodations, and respect for the wide range of human ability.”³ UDL helps ensure that the learning environment is as accessible and inclusive as possible for all learners. It is based on a recognition that learners have a diverse range of learning needs and preferences, including possibly specific issues that impact how they learn (disability, literacy, language, culture, etc.), and that learning can be approached in a variety of ways. A strength of UDL is that individual UDL can meet the needs of a wide variety of individuals. For example, information can be provided through either written text or audio devices. Use of audio can better meet the learning needs of people with low literacy, people who are blind or visually impaired, and people

with dyslexia. Similarly, pictures and graphics can boost learning by people for whom English is a second language and people with limited reading skills.

UDL clearly benefits employees and apprentices, but there are clear benefits for businesses, sponsors, and related technical instruction providers as well. Business training apprenticeship learning materials are too often designed as a one-size-fits-all approach. However, workforce diversity and variability in learning preferences require a more comprehensive approach to effective employee training. The reality is, there is no “average” employee that training materials and strategies can target. Businesses that embrace and utilize UDL practices create a workplace that reflects the following advantages:

1. An inclusive workplace that creates greater opportunity for innovation and improved performance.⁷
2. Training content is created to maximize retention and proficiency.
3. Promotion of workplace diversity, which has been shown to increase business productivity, creativity, and improved collective thinking.⁸
4. A workplace that is more open and welcoming to a diverse array of employees and job applicants.

CAST UDL Framework and Learning Guidelines

The Center for Applied Special Technology (CAST) created the [UDL framework](#)⁴ and the [UDL guidelines](#)⁵ to make learning more inclusive. The three categories of the UDL guidelines do the following:

Help engage learners at the recruitment stage, at the point when it becomes necessary to help them sustain effort and persistence, and throughout the process to steer them toward self-regulation⁶

Provide multiple options for the representation of information, including how information is perceived, how the language and symbols used to impart the information are understood, and how comprehension of the information can be increased

Provide multiple options for the physical aspects of education, including tools, assistive technologies, and media for communication, and for guiding learners toward achieving goals

The CAST [UDL guidelines](#) provide a variety of specific strategies for incorporation of UDL.

UDL Provides New Options for Learners

UDL champions changing the learning environment rather than changing the learner. However, UDL is not meant to take the struggle out of learning or to make learning goals easier. There are times when students need to grapple with a concept in order to learn problem-solving skills and stretch their executive functioning muscles. Goals are not made easier as a result of UDL;

instead, students are able to use a variety of options and resources to deepen their learning and meet their learning goals.

Natural Application Within Apprenticeship

Apprenticeship appeals to a wide variety of diverse learners, including people with disabilities, English language learners, and people within a wide range of ages. Because of the flexibility apprenticeship allows in learning approaches (including classroom and on-the-job, hands-on learning), RAPs can easily accommodate UDL's preference for multiple methods of learning and assessment.

“The most common approach to curriculum design is to address the needs of the so-called average student. Of course, this average student is a myth, a statistical artifact not corresponding to any actual individual. But because so much of the curriculum and teaching methods employed in most schools are based on the needs of this mythical average student, they are also laden with inadvertent and unnecessary barriers to learning.”

—Anne Meyer, David Rose, and David Gordon, CAST ⁹

Applying UDL to Registered Apprenticeship

UDL Design Considerations

1. Set Clear, Rigorous, and Relevant Goals

- Clearly define goals and outcomes so that they are easily understood by trainers, teachers, apprentices, and employers.

2. Anticipate Barriers

- Design learning and practice options to reduce barriers for all and sustain learner motivation and persistence.
- Consult numerous stakeholders about barriers to learning.
- Evaluate data and past experience to identify areas where an apprentice is most likely to encounter difficulties or even to fail, so that changes can be made to increase the chances of success.
- Ensure assessments are inclusive through the use of a variety of assessment methods.
- Make sure that all participants understand the assessment process.

3. Design Options to Reduce Barriers for All

- Implement opportunities to learn, or provide a refresher class on relevant background knowledge required for a skill or lesson (including vocabulary).
- Offer a variety of learning and assessment solutions that meet the needs of all participants.

- Design apprenticeships with input from stakeholders, including apprentices, to ensure the program meets specific participant needs (and get more feedback as new needs arise).
- Incorporate multiple paths for achievement, including multiple options for increased perception and comprehension of information, such as the choice of written or audio language and symbols.
- Devise strategies to complete goals in the UDL guidelines related to the physical aspects of education and communication.
- Identify any need for reteaching.

Examples of UDL Application

Application in Employer and Work-Based Learning Settings

Strategies for designing workplaces for broader inclusion and diversity through UDL include:

1. Providing information in multiple formats—oral, written, and visual—so that populations such as those with visual impairments are not disadvantaged. Similarly, make it possible for apprentices to convey information through multiple methods.
2. Make all materials available electronically so that people with various learning needs can choose options such as voice output and can easily organize and highlight information.
3. Identify a variety of pathways and options for apprentices to both learn and demonstrate competencies. For example, apprentices can learn through demonstration of techniques, can be coached by a mentor, can do self-study, and can follow written or audio instructions. They can demonstrate competency through written or oral testing, completion of tasks on the job, and evaluation by a supervisor or mentor.
4. Provide procedural instructions in clear, simplified checklists, using both text and visuals such as pictures or video.
5. Build in self-assessment opportunities so that apprentices can gauge their progress throughout the workplace training, in preparation for their post-training assessment.
6. Provide maximum opportunities for choice and autonomy during the work-based learning. For example, apprentices should be able to determine the context for practicing skills, the sequence of tasks and activities, and so on.¹⁰
7. Ensure that all apprentices are aware of the accessibility features of the computer operating systems they use and know how to change to meet their needs.

8. Assist apprentices with the use of apps that can support them on the job, including alarms, checklists, visual guides, etc.
9. Post safety information in multiple formats on high-contrast signage.
10. Provide feedback that is actionable for the apprentice and guides them toward mastery of a skill. Emphasize effort, improvement, and achievement of a standard rather than focusing on relative performance; for example, instead of saying, “Good job,” cite a specific task or goal that has been achieved and recognize how they did it.¹¹
11. Create a culture where requesting reasonable accommodation and assistance is welcomed and seen as a sign of strength.

Application in Classroom Instruction

The following strategies may be applied to lectures, classroom discussions, group work, handouts, web-based instruction, and assessment protocols:

1. Use multiple modalities (lectures, videos, graphs, charts, demonstrations, illustrations, slides, etc.) for instruction.
2. Use a variety of teaching methods (lectures, group work, project-based learning, self-paced learning, etc.).
3. Use graphics rather than text whenever possible for slide presentations. Vary the format to keep students engaged.
4. Make available electronically all notes pages, outlines, and slide presentations that are used in classroom lectures.
5. Use clear and simple language in teaching materials, directions, and assessments.
6. Provide handouts in a font that is large enough to be easily read by those with visual impairments (14 or 16 point).
7. Provide alt text for all visuals in materials distributed to students.
8. Provide opportunities for students to clarify instructions for assignments and assessments. In addition to verbal instruction, identify media types that may be used for giving directions and receiving responses, such as assistive technology (closed captioning, speech to text, text to speech, etc.).
9. Provide closed captioning for all videos.
10. Provide multiple methods for testing/evaluation (oral, written, demonstration of skill, etc.).

11. Make learners aware of the multiple methods available for learning and demonstrating their knowledge and skill acquisition.
12. Be clear with all apprentices about the availability and procedures for requesting assistance and reasonable accommodations.

“When developing UDL strategies, consider this summarizing question: How is information translated into meaningful learning?”

Application in Apprenticeship Recruitment and Assessment

The following are examples of the incorporation of UDL in the recruitment and assessment of apprentices.

1. Recruitment information should be available in writing and as visuals such as pictures or video.
2. The pictures and videos used for recruitment purposes should represent diversity of apprentices by including people with disabilities and individuals from diverse racial and cultural backgrounds.
3. It should be possible to complete application for the RAP through multiple mechanisms (e.g., electronically, on paper, oral responses).
4. The availability of reasonable accommodations for completing the application process should be highly visible, and clear procedures for requesting such accommodations should be provided to all applicants.
5. Assessments should be directly related to apprenticeship requirements, and multiple methods of testing and assessment should be available (written testing, oral testing, demonstration of skills or competency). Testing accommodations such as extra time should be readily available.
6. Applicants and new recruits should be asked about their learning needs and preferences, and staff should discuss with applicants how they can best succeed in the apprenticeship based on their learning needs.

Reasonable Accommodations in the Context of UDL

UDL can potentially reduce the need for reasonable accommodations for persons with disabilities because it represents a proactive effort to design curriculum and materials to meet a diversity of learner needs. However, it is important to recognize that the use of UDL is not a replacement for reasonable accommodations in the workplace or classroom settings as required by the Americans with Disabilities Act.

- Providing an accommodation is a reactive process in which access is provided to a specific individual based on their specific needs related to their disability and their ability to do their job.
- UDL is a proactive process that promotes a variety of strategies for designing a curriculum that meets the needs of learners who have various learning needs, rather than a one-size-fits-all curriculum.

Summarizing Question for UDL Strategies

When developing UDL strategies, consider this summarizing question: How is information translated into meaningful learning? In thinking through the answer to this question via a UDL lens, multiple opportunities and methods for learning should come to mind.

Incorporating UDL into Policy and Practice

Incorporating UDL within apprenticeships requires a systematic approach capable of sustaining the use of UDL over time. Strategies for doing this include the following:

- Build a knowledge base on UDL that covers training and resources. (See resource section at the end of this brief.)
- Incorporate a co-design process for creating universal design elements. Incorporating learners in the development process ensures that tools and strategies are applicable and respond to the needs of those who are using them.¹²
- Identify local experts and local resources on UDL such as vocational rehabilitation programs that can provide guidance and expertise on the incorporation of UDL.
- Require knowledge of UDL as a core competency for the staff who will support apprentices, and provide staff training on UDL.
- Provide information, guidance, and instruction on UDL to apprenticeship instructors, mentors, and supervisors.
- Draft policies stating that, throughout all components of apprenticeship programs, instruction and learning are to occur using UDL principles and strategies.
- As RAPs are developed, integrate UDL into the design, so that UDL is considered and addressed within each component and stage of the apprenticeship. Include apprentice input in the design process.¹³
- Review current RAPs, and ensure that UDL is incorporated throughout all of their components, including application, work-based learning, related instruction,

mentorship, and support services. Examine each component to see whether multiple methods for expressing and receiving information and for demonstrating competency are incorporated, and to ensure that each component maximizes a learner's motivation and perseverance. Make changes and improvements as needed.

- Institute a strong quality assurance process that is inclusive of UDL, with regular review of curriculum, instruction, and other components of RAPs to evaluate whether UDL has been sufficiently incorporated.
- Use the [CAST UDL guidelines](#) to assist with the process of apprenticeship design, review, and quality assurance in terms of UDL.
- Use functional language during information and orientation sessions with apprentices and potential apprentices to stress the goals of UDL. Explain to apprentices why multiple ways of learning and communicating are being offered, the importance of understanding their own learning needs and preferences, and how they can use the various learning choices/options available.
- In information materials and during information sessions for sponsors and employers, emphasize the goal of incorporating UDL within apprenticeships to meet the needs of all learners.
- Consider identifying funding sources that can support the full adoption of UDL. Initial steps in integration of UDL do not require extensive resources. However, comprehensive use of UDL throughout an apprenticeship program may require additional resources for training, revisions of curriculums, and other steps.¹⁴
- Recognize incorporation of UDL is an ongoing process, in part because of evolving learner needs and instructional methods, requiring continuously identifying methods for enhancing incorporation of UDL.

Resources

CAST (www.cast.org)

CAST is a nonprofit education research and development organization that works to expand learning opportunities for all individuals through Universal Design for Learning. It has several centers with different focuses:

- **The National Center on Universal Design for Learning**
www.udlcenter.org

Shines a spotlight on stories, people, ideas, and conversations related to UDL

- **Universal Design on Campus**

<http://udloncampus.cast.org/>

Focuses on UDL in postsecondary education

- **The National Center on Accessible Educational Materials**

<https://aem.cast.org>

Information on accessible materials, including resources for distance education

Think College Universal Design (<https://thinkcollege.net/think-college-learn/universal-design>)

An eight-part resource from Think College at the Institute for Community Inclusion on application of universal design to higher education

Publications

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Endnotes

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¹² Vinz Koller et al., *Using Universal Design for Learning in Apprenticeship* (Washington, DC: U.S. Department of Labor, Office of Disability Employment Policy, August 21, 2020), <https://www.dol.gov/sites/dolgov/files/ODEP/pdf/AIM/3.UsingUniversalDesignforLearninginApprenticeship.pdf>.

¹³ Koller, *Using UDL in Apprenticeship*.

¹⁴ Koller, *Using UDL in Apprenticeship*.