

Vibe Coding and UDL

Rapidly Building More Inclusive Learning Tools



Workshop Snapshot

**150+ participants. Dozens of prototypes, ideas, and problems of practice explored.
Countless possibilities for reducing barriers to learning.**

In June 2026, CAST and aiEDU brought together more than 200 educators, designers, innovators, and learners from all over the world to explore an emerging question: What becomes possible when AI-powered tool creation is combined with Universal Design for Learning (UDL)?

Vibe coding enables people to create digital tools by describing in plain language what they want to build rather than writing traditional code. It is the process within design thinking. As these tools become more accessible to educators and learners, UDL offers an important framework for ensuring that what we build is not only innovative, but inclusive, accessible, and designed to work for the variability of real people.

Throughout the session, participants moved beyond simply learning about AI. They actively explored how AI can become a creation tool that empowers educators, learners, and organizations to rapidly prototype solutions to meaningful challenges while keeping accessibility, learner agency, and inclusion at the center of the design process.

The combination of vibe coding and UDL enables the future of learning technology to not just be built faster, but also designed better by those who are closest to the learning.

“I came into the session thinking this would not apply to me but left feeling inspired and excited about the vast amount of things vibe coding could do!”



Why Pair UDL and Vibe Coding?

Vibe coding dramatically lowers barriers to creating learning tools. Educators and learners can rapidly prototype solutions for classroom challenges, personalize experiences for learners, and test new ideas without extensive technical expertise.

However, rapid creation does not automatically lead to inclusive design.

UDL helps us ask critical questions before and during development:

- **What barriers might learners encounter?**
- **Who benefits from this tool and who might be excluded?**
- **How can learners exercise agency and choice?**
- **How do we design for variability from the beginning rather than retrofit accessibility later?**

By combining UDL and vibe coding, we can create tools that are:

- ✓ More accessible
- ✓ More responsive to learner needs
- ✓ More engaging and personalized
- ✓ Better aligned with equitable learning outcomes
- ✓ Faster to test, refine, and improve through learner feedback

As AI lowers technical barriers to creation, UDL helps ensure that those creations are designed for real people and real variability.

“I think we have an amazing opportunity to use vibe coding to design more accessible online experiences for users with specific assistive technologies like switch control or eye gaze. It can also be used as a Tier 1 solution where the output meets the widest variety of learners.”

Interested in UDL and AI?

Explore the intersection of AI and learning in our community of 3000+ members. Visit community.cast.org.

A UDL-Informed Vibe Coding Process

1. Start with the Goal, Not the Tool

Before prompting an AI coding platform, identify the learning goal. Ask:

- What is the learning goal?
- What barriers have you identified that are not in service of that goal?
- How will success be measured?

The most effective vibe coding projects begin with a clearly defined problem to solve, instead of a technology looking for a use case.

2. Design for Learner Agency

UDL emphasizes providing meaningful choices and supporting self-direction. Consider:

- Can learners customize their experience?
- Can they choose different ways to interact with content?
- Can they adjust supports as their needs change?

Rather than creating a single pathway, use AI tools to design multiple options for engagement, representation, and action and expression.

3. Co-Design with Learners

One of the greatest opportunities of vibe coding is the ability to quickly build, test, and improve. Whenever possible:

- Involve learners in identifying challenges
- Test prototypes with intended users
- Gather feedback early and often
- Iterate based on real experiences

Designing with learners often leads to stronger solutions than designing for learners.

“As someone who spends much of my time thinking about inclusion, I left wondering what challenges in our schools and organizations might be solved through small, thoughtfully designed tools.”

Examples from the Workshop

Participants moved from identifying learner needs to building working prototypes in real time. A sample of what they created:

Personalized Sight Word Tools

Literacy practice built around each learner's interests to lift engagement, relevance, and choice.

Accessible Spelling Games

Keyboard navigation and switch-compatible play, with accessibility designed in from the first prototype.

Executive Functioning Supports

Customizable scaffolds for planning, organization, and task completion that adjust to individual needs.

Career Exploration Experiences

AI-generated surveys and pathways for learner-directed exploration of interests and future options.

QIAT Helper

A structured self-assessment aligned to the QIAT indicators, helping teams strengthen assistive technology services through guided reflection.

Cash Register Simulator

Money-management practice as cashier or customer across retail settings, with text-to-speech, symbol feedback, and adjustable difficulty.

Speech Recognition Lab

Guided dictation using the Think It, Say It, Check It, Fix It framework to support writing, revision, and self-monitoring.

Accessible Scientific Calculator

Large-print, high-contrast, speech-enabled calculator with full scientific functions and adjustable settings.

SwitchType

An accessibility-first typing and communication app with single- and dual-switch access, row-column and auditory scanning, and word prediction.

Important Considerations

Accessibility Is More Than a Prompt

AI tools can generate functional applications quickly, but accessibility still requires intentional review and testing. Consider:

- Keyboard-only navigation
- Screen reader compatibility
- Sufficient color contrast
- Alternative text for images
- Captioning and transcripts
- Read-aloud and text-to-speech functionality

When seeking feedback on color contrast, layout, or user experience, include screenshots and descriptions in your prompts. Ultimately, AI cannot substitute for testing with assistive technologies or with real users with disabilities.

Safety and Privacy Matter

Before sharing or deploying tools:

- Review how learner data is collected and stored
- Avoid entering sensitive personal information into AI systems
- Verify compliance with local policies and requirements
- Consider whether a prototype is intended for exploration or production use

Not every learning challenge requires an AI-powered solution, and not every prototype should become a publicly available tool.

Continue Your Learning

Getting Started with Vibe Coding

Start small. Choose a specific learner challenge, identify a clear goal, and build a simple prototype focused on reducing barriers.

Remember that the most effective solutions often emerge from addressing a single problem experienced by a specific learner, classroom, team, or organization. Begin with empathy, test with real users, gather feedback, and iterate often.

Join the Conversation

The intersection of AI, accessibility, and Universal Design for Learning is evolving rapidly. Every day, new tools, techniques, and resources are available to enable educators to better break down barriers. Join our growing UDL and AI Community at community.cast.org.

“The session was also a reminder that while AI can accelerate research, organization, and creation, human judgment, empathy, and expertise remain essential. Thank you to CAST and aiEDU for a thought-provoking introduction to a space I'm looking forward to exploring further.”

“Because of this session, I am planning a presentation for my College at my university very soon.”

Helpful Reflection Questions

As you begin experimenting with vibe coding, consider:

- What learner barrier am I trying to reduce?
- How might different learners experience this tool?
- What choices and supports are available?
- Who should help me test and improve this prototype?
- How will I know if this tool is helping learners achieve the intended goal?
- How am I ensuring accessibility from the beginning rather than adding it later?

Key Takeaway

The power of vibe coding is not simply that more people can build tools. It is that more people can help shape what learning tools become.

When combined with Universal Design for Learning, vibe coding offers an opportunity to create learning experiences that are innovative, accessible, and designed for the full variability of learners from the very beginning.

As participants demonstrated throughout this workshop, the future of inclusive learning may not be built solely by software developers. It can also be shaped by educators, learners, families, researchers, and innovators who understand a problem deeply and now have new ways to create solutions together.