Faculty Fellows Program Summer 2024

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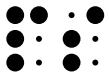
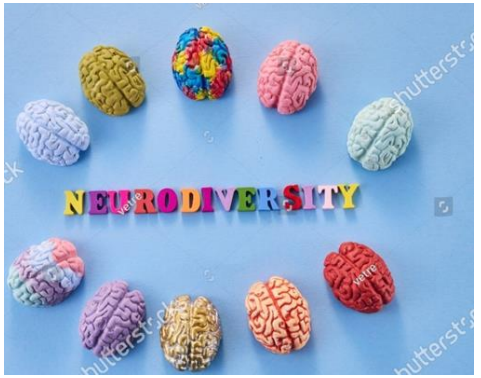
Equity by Design

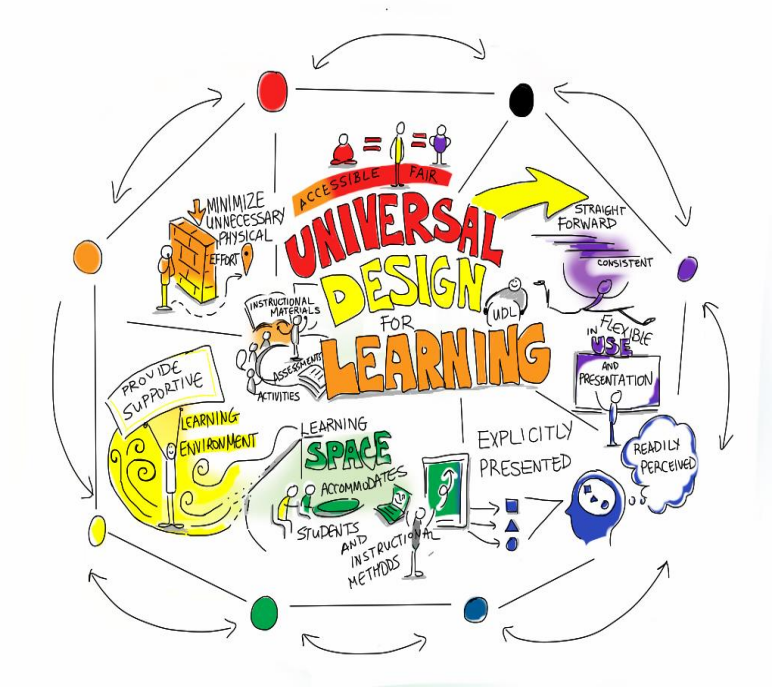
integrate teaching pedagogies to assist students with specific needs





Universal Design for learning

Universal Design for Learning (UDL) is a framework that helps educators create inclusive and flexible learning environments to meet the diverse needs of all students.



Integrating UDL & Technology in Literature Review Assignments

Enhancing Accessibility with Digital Tools in Academic Writing

Why Use UDL & Technology?

- Supports diverse learning needs (Visual Impairments, ADHD, Dyslexia)
- Encourages multimodal engagement
- Improves comprehension and writing skills
- Enhances accessibility with digital tools

The Three UDL Principles

1. Engagement
(The WHY of learning)

Classroom Examples:
- Choice in assignments (essay, video, project)
- Use of multimedia tools
- Assistive technologies
- Scaffolding and peer collaboration

The Three UDL Principles

2. Representation
(The WHAT of learning)

Classroom Application:
-Use visual aids, videos, and interactive simulations alongside traditional lectures.
-Provide audiobooks or text-to-speech tools for students who struggle with reading.
-Use graphic organizers, mind maps, or color coding to support comprehension.
-Offer translations, glossaries, or simplified texts for English language learners.

The Three UDL Principles

3. Action & Expression
(The HOW of learning)

Classroom Application:
-Allow students to choose how they demonstrate learning (e.g., oral presentation, written essay, infographics, videos etc.).
-Incorporate assistive technology like speech-to-text or dictation tools.
-Provide scaffolding and step-by-step instructions for complex tasks.
-Encourage peer collaboration and alternative assessments like portfolios

How to Apply UDL in my classroom

- By applying UDL, I am ensuring that all students—regardless of ability, background, or learning style—have an equal opportunity to succeed.

- Assistive technology (AT) plays a crucial role in enhancing Universal Design for Learning (UDL) by providing students with multiple ways to access information, engage in learning, and express their understanding

Example ENG 102

- Objective:

Students will understand the purpose, structure, and process of writing a literature review, enabling them to critically analyze existing research and situate their work within the broader academic discourse.

Example ENG 102

Designing a lesson plan on gender disparity in STEM fields while incorporating Universal Design for Learning (UDL) principles, ensures that all students can engage with and understand this critical issue. UDL emphasizes providing multiple means of representation, action and expression, and engagement to accommodate diverse learner needs.

Module 1

- Introduction to Academic Writing/ IMRaD Analyzing Scholarly Articles
- Tools : Panopto and Perusal

- Watched a Panopto video prepared by me before the session
- Upload assigned articles to Perusal

➔ Students highlight key ideas, add audio comments, and use text-to-speech features.
➔Visually impaired students can use screen readers, while ADHD/dyslexic students benefit from line focus and background adjustments in Immersive Reader.
➔ Discussion questions are embedded in Perusal to prompt engagement.

module 2

- Note-taking for IMRaD Papers

- Tool: Google Docs

➔ Create google docs using headers and highlights.

➔ Work on the template for IMRaD structure in Docs

➔ Peer review through Google Docs comments (text or audio feedback).

Module 3

- Creating a Synthesis Matrix
- Tool: Coggle

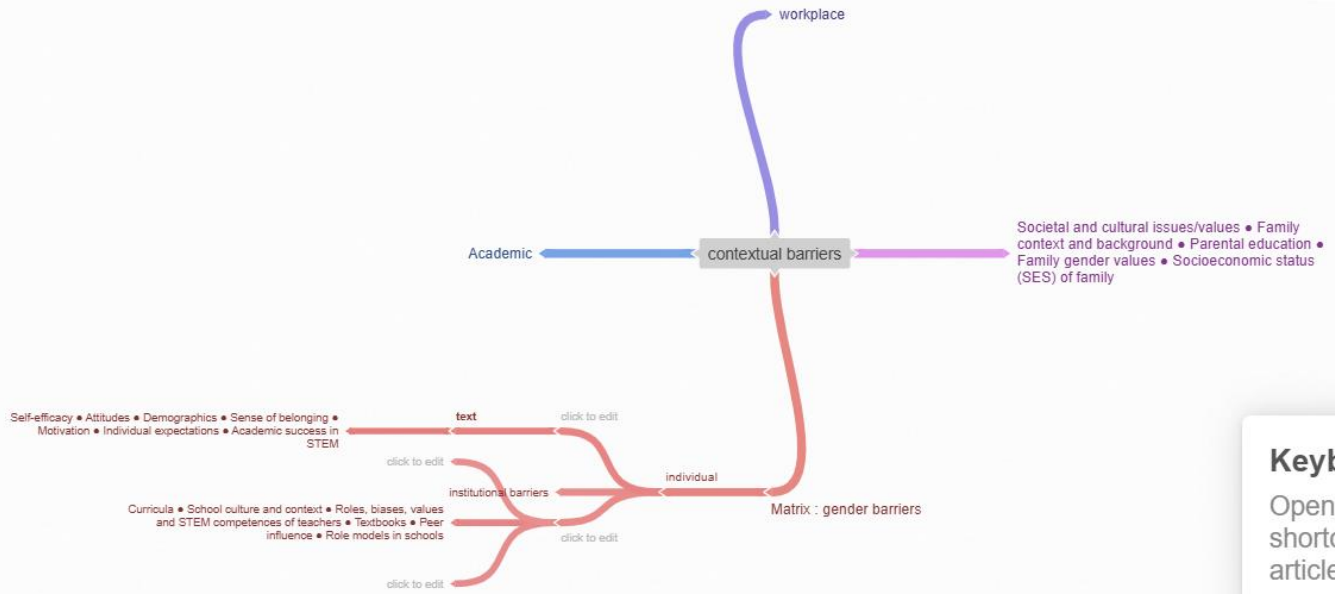
➔Created an in-class digital matrix with students organizing main ideas based on the theme

➔ A mind mapping tool that helps in the visual representation of information

➔ An interactive tool that fosters collaboration among students

➔ Helps simplify complex ideas by breaking down ides into chunks

➔ ADHD students benefit from the spatial, color-coded format for focus.



Keyboard Sh

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module 3

- Interview with a researcher based on the theme we are working on.
- Tool : Quizizz
- The interview was recorded and uploaded on Quizizz

Module 3

Using Quizizz in a Universal Design for Learning (UDL) classroom offers several benefits that align well with UDL principles, which focus on providing multiple means of engagement, representation, and expression.

➔Multimodal input: Combines audio, visual, and sometimes text- helpful for learners with dyslexia, auditory processing issues, or English Language Learners.

- ➔ Closed captions or transcripts: Aid students who are deaf or hard of hearing or who comprehend better through reading.
- ➔ Rewatch capability: Students can pause, rewind, or rewatch at their own pace, supporting those with executive functioning challenges or slower processing speeds.

➔Active learning: Embedding questions after a video turns students from passive watchers into active participants

➔Choice and autonomy: Students can choose when to start or replay the video, giving them ownership over their learning.

Module 3

Oral presentations

- Tool: Padlet

➔Flexible formats: Students can upload audio or video recordings or link to platforms like YouTube or Google Drive. This supports students who may have speech anxiety, need more prep time, or work better asynchronously.

➔ Creative expression: Students can customize their presentation style—add visuals, slides, music, or even drawings—offering a variety of ways to express learning.

➔ Re-record option: Students can redo their recording until they're confident, reducing anxiety and improving performance—great for students with language or speech challenges

➔ Safe space to share: Posting presentations online (instead of live in front of a class) can help reduce performance anxiety, especially for neurodivergent learners or English Language Learners

Module 3

➔ Peer interaction: Classmates can comment with voice, text, emojis, or video, offering peer feedback in diverse ways and building a sense of community.

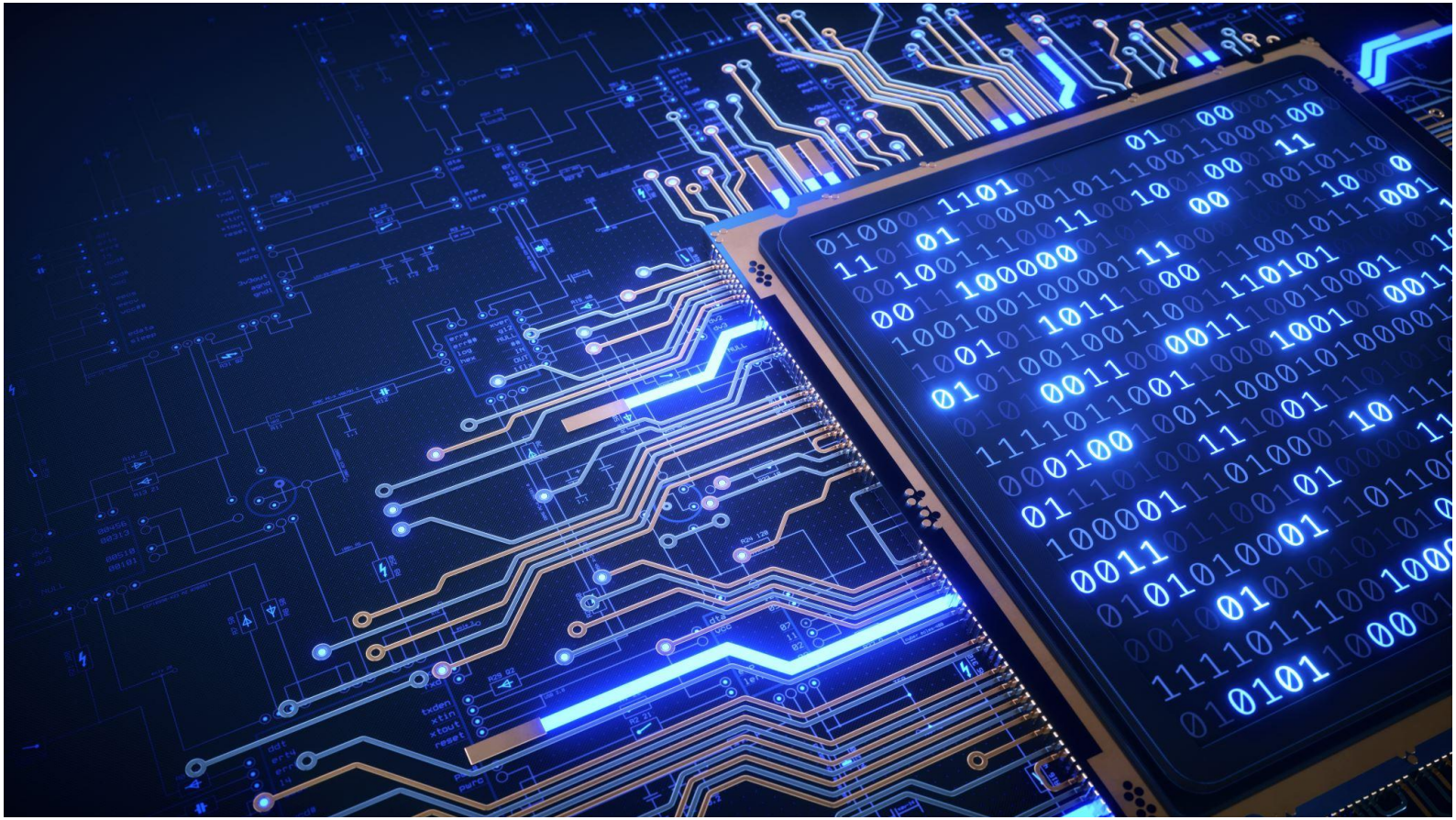
➔ Ownership & choice: Students decide how they present—video, audio, animation, slides—giving them autonomy and motivation through creative control.

➔ All presentations are stored in one place for students to revisit and learn from each other—building a growing, shared learning portfolio

Sources

- https://udlguidelines.cast.org/?utm_source=castsite&lutm_medium=web&utm_campaign=none&utm_content=aboutudl&_gl=1*1le6t0x*_ga*NzE1NjI2MDkyLjE2ODQxNzQwODA.*_ga_C7LXP5M74W*MTY4NDE4Mjk0MC4yLjEuMTY4NDE4Mjk1My4wLjAuMA.

Tools used



Team Based learning

Team Based learning (TBL) aligns well with UDL:

➔naturally incorporates the flexibility, engagement, and accessibility that UDL promotes.

➔ TBL supports UDL's core principles, for example:

➔ Encourages peer interaction

➔Fosters accountability

➔Supports collaborative problem-solving

➔accommodates diverse learners using case studies, readings, multimedia, and discussion—

➔Encourages verbal explanations, written answers, or visual aids within team settings

Flipped Classrooms

The flipped classroom approach aligns well with UDL because both promote flexibility, learner autonomy, and multiple ways to access, engage with, and show understanding of content.

- ➔ Self-paced pre-class materials (videos, podcasts, readings) give learners control over when and how they engage
- ➔ In-class time is interactive—collaborative work, discussions, or hands-on activities appeal to social and active learners.
- ➔ Video lectures with captions, transcripts, visuals, and audio—all adaptable for different sensory and learning needs.
- ➔ Students can demonstrate understanding through group work, projects, discussions, or creative outputs

Rise 360

Rise 360 is a powerful e-learning tool that aligns with UDL by educators and to create interactive, flexible, and accessible content, which matches UDL's goal: *removing barriers to learning for all students*.

➔ Self-paced modules, letting students control the pace and sequence of their learning.

➔ The use of multimedia and gamified elements to keep learners motivated and interested

➔Helps keep students engaged through choice, relevance, and variety—especially beneficial for students with ADHD or low motivation.

Mentimeter

➔Live polls and word clouds capture attention and make students feel heard.

➔Anonymous participation reduces anxiety for shy or neurodivergent students.

➔Gamified quizzes encourage friendly competition and motivation.

➔Visual displays of student responses (charts, graphs, word clouds) help clarify abstract concepts

➔Emoji voting or rating scales provide alternative response formats beyond writing or speaking.

Kahoot

➔Timed vs. untimed modes accommodate learners who thrive on competition and those who need more processing time.

➔Solo and team modes offer choice and flexibility depending on social preferences.

➔Instant feedback keeps learners engaged and informed.

➔Visual and auditory cues: Questions can include images, videos, and audio clips to enhance understanding.

➔Color-coded answer options support memory and recognition for students with learning differences.

➔Question types (multiple choice, true/false, polls, open-ended questions) let students engage in varied ways.

Conclusion & Next Steps

- Implement technology-enhanced assignments
- - Monitor student engagement and feedback
- - Adapt and refine based on accessibility needs
- - Provide ongoing support for faculty and learners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