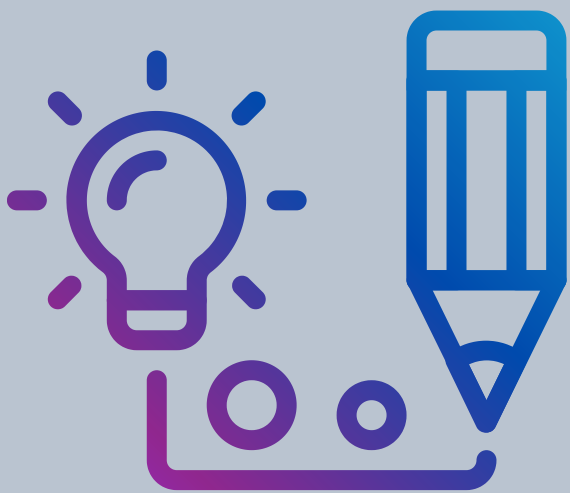


NEURO-INFORMED INSTRUCTIONAL DESIGN

A Unified Framework

Students with neurodiverse traits face more significant challenges in college, exhibit lower motivation to study, and have higher risks for impaired success when experiencing increased cognitive load. Cognitive load and emotional well-being are closely linked to academic achievement.



EMERGING ISSUE

A framework that bridges evidence-based cognitive strategies with personalized instructional design to foster cognitive accessibility in digital learning platforms does not currently exist.

RATIONALE & SIGNIFICANCE

Neurodivergent learners face challenges in digital learning environments due to the lack of neuro-informed cognitive load tests, pedagogical approaches, and instructional design theories.



CONTEXT

Many neurodiverse learners struggle with overwhelming interfaces, poor navigation structures, and the lack of assistive technology integration in online courses, due to the absence of an instructional design framework for digital cognitive accessibility.

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Dr. Dawn Hathaway | EDIT 895: Emerging Tech

NEURO-INFORMED INSTRUCTIONAL DESIGN

A Unified Framework

FOUR CONNECTED COMPONENTS

- Cognitive Load Management
- Neurodiversity-Informed Design
- Adaptive Learning Technologies
- Continuous Assessment and Refinement

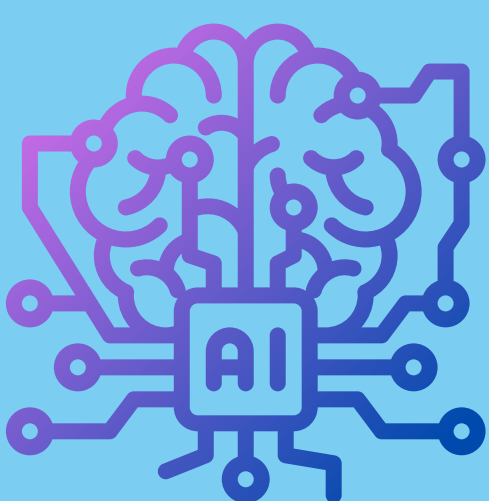
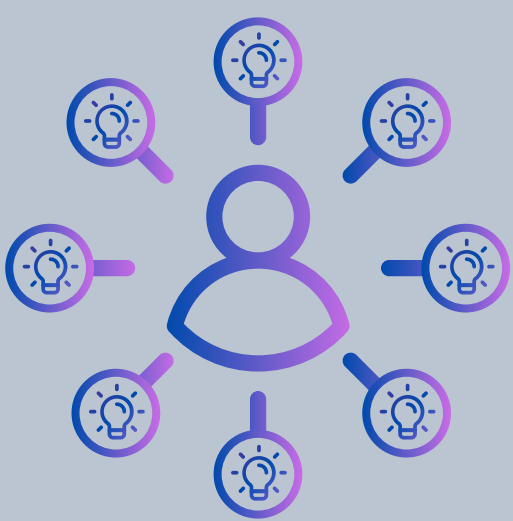


PURPOSES OF PARTS

These connected components help learners manage self-directed learning, executive function, and cognitive load. AI enhances personalization, assistance, and data protection while enabling engagement, feedback, and iteration.

ESTABLISHED FRAMEWORKS

- Cognitive Load Theory
- FEDIS+R Model
- Universal Design for Learning (UDL) Guidelines
- AI-Course Planning Framework
- AI-Driven Cognitive Personalization and Assistance



COMPLEXITIES

Complexity involves ethically adopting, adapting, and integrating AI to support learners while focusing on their rights to awareness, ownership, and data protection.

SCAN FOR REFERENCES

