

MLs in CTE: Unlocking the Code to Comprehension and Certification Success

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Objetivos:

- Identifique los desafíos únicos que enfrentan los ML en las aulas de CTE y durante los exámenes de certificación.
- Explore estrategias de instrucción basadas en evidencia que promuevan tanto el desarrollo del lenguaje como la adquisición de habilidades técnicas.
- Muestre ejemplos prácticos de andamios, soportes visuales y UDL en acción para ML.
- Analizar las herramientas y la tecnología que ayudan a los ML a acceder a contenido riguroso de CTE

Objectives:

- Identify the unique challenges MLs face in CTE classrooms and during certification exams.
- Explore evidence-based instructional strategies that promote both language development and technical skill acquisition.
- Showcase practical examples of scaffolding, visual supports, and UDL in action for MLs.
- Discuss tools and technology that help MLs access rigorous CTE content

Challenges MLs Face in the Classroom

Language Barriers

- Social Language
- Academic Language
- Technical Language

Cultural Differences

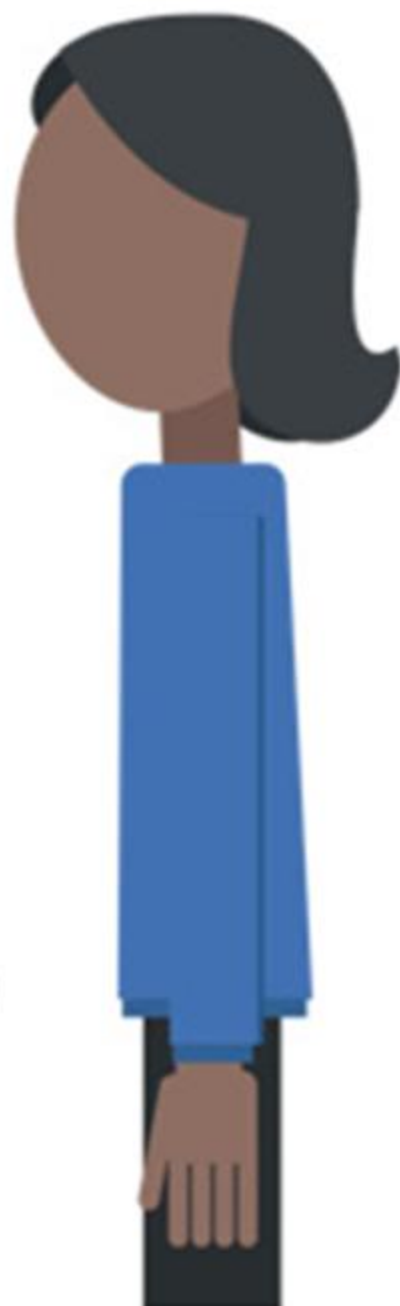
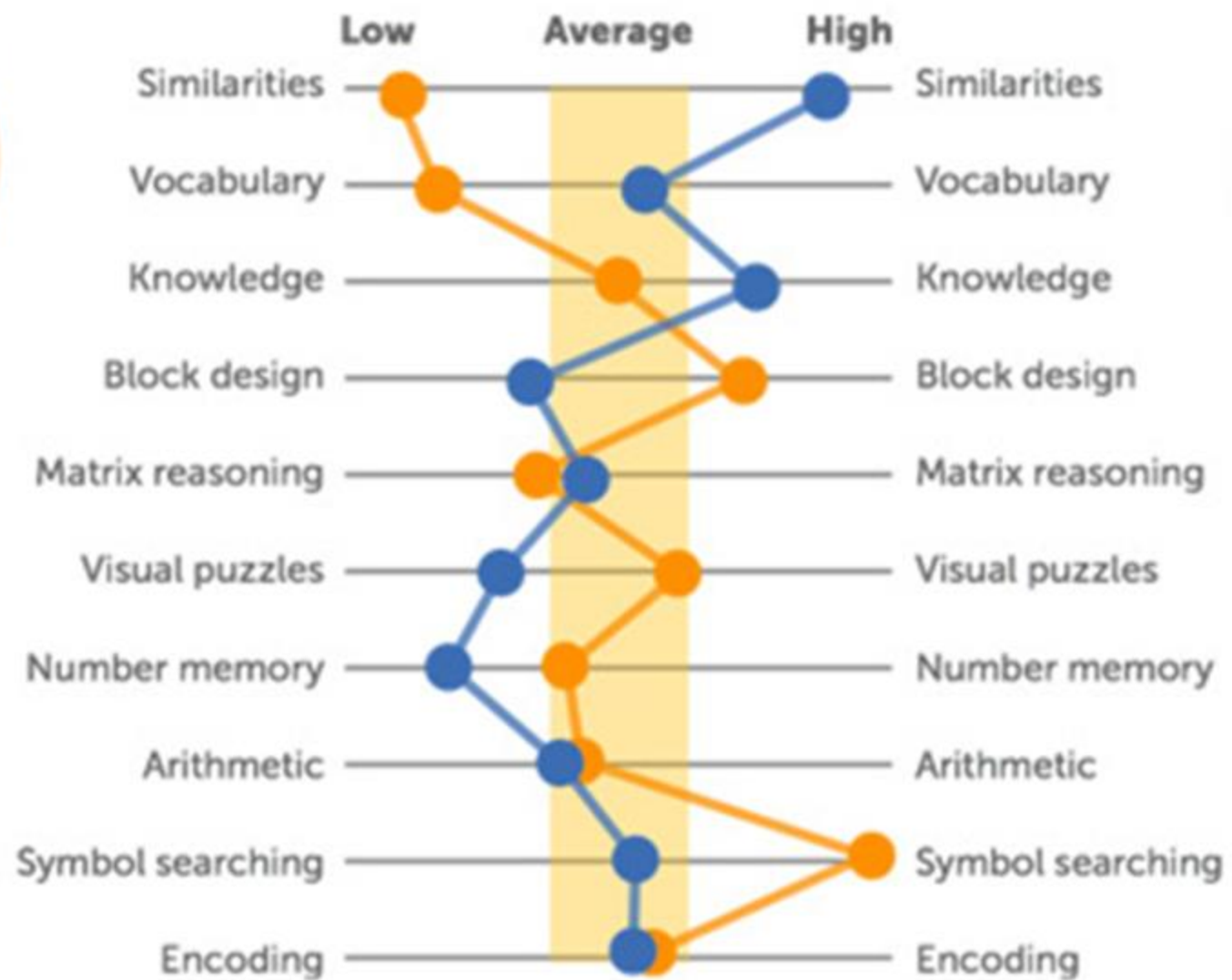
- Classroom Norms & Expectations
- Nonverbal Communication

Academic Gaps

- Interrupted Education
- Different Curriculum Standards

Social & Emotional Challenges

- Isolation
- Acculturation Stress



There is no average student

TED^x Sonoma County
The Sonoma County Chapter of TED



Solution?



Differentiated Instruction

What Is Differentiated Instruction?

By: [Carol Ann Tomlinson](#)

Differentiation means tailoring instruction to meet individual needs. Whether teachers differentiate content, process, products, or the learning environment, the use of ongoing assessment and flexible grouping makes this a successful approach to instruction.

Teacher Time Crunch

U.S. teachers avg 5-7 hrs/week
outside of school day on lesson
planning



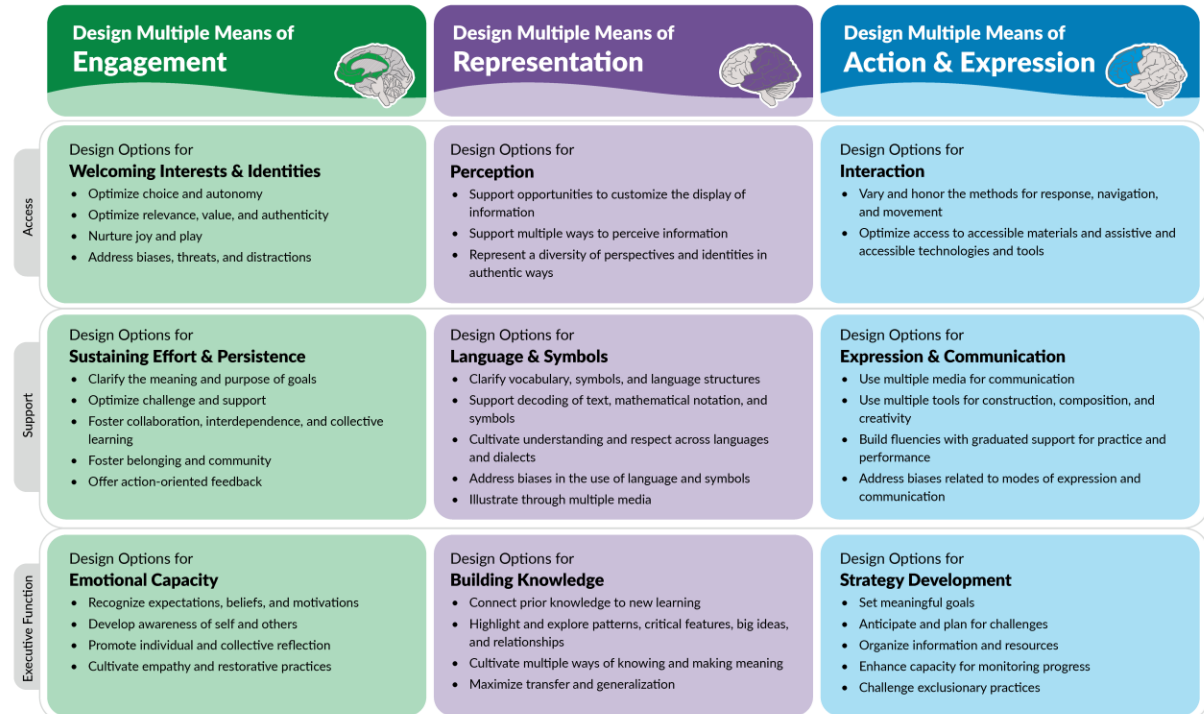
Designing for Variability

CAST.ORG (UDL)

- WHY
- WHAT
- HOW
- Build from ground up
 - MTSS Level 1 and 2

The Universal Design for Learning Guidelines

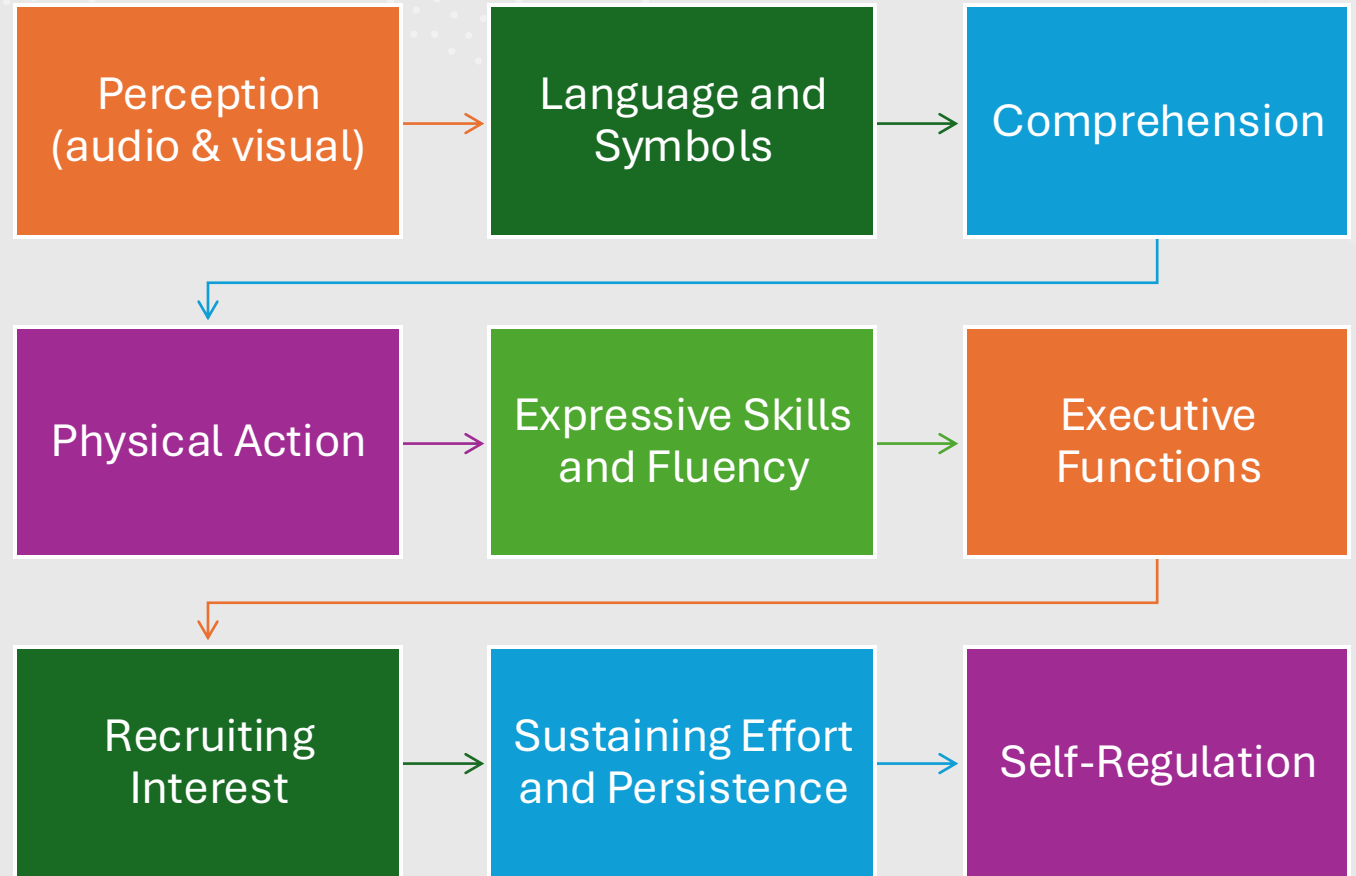
The goal of UDL is **learner agency** that is purposeful & reflective, resourceful & authentic, strategic & action-oriented.



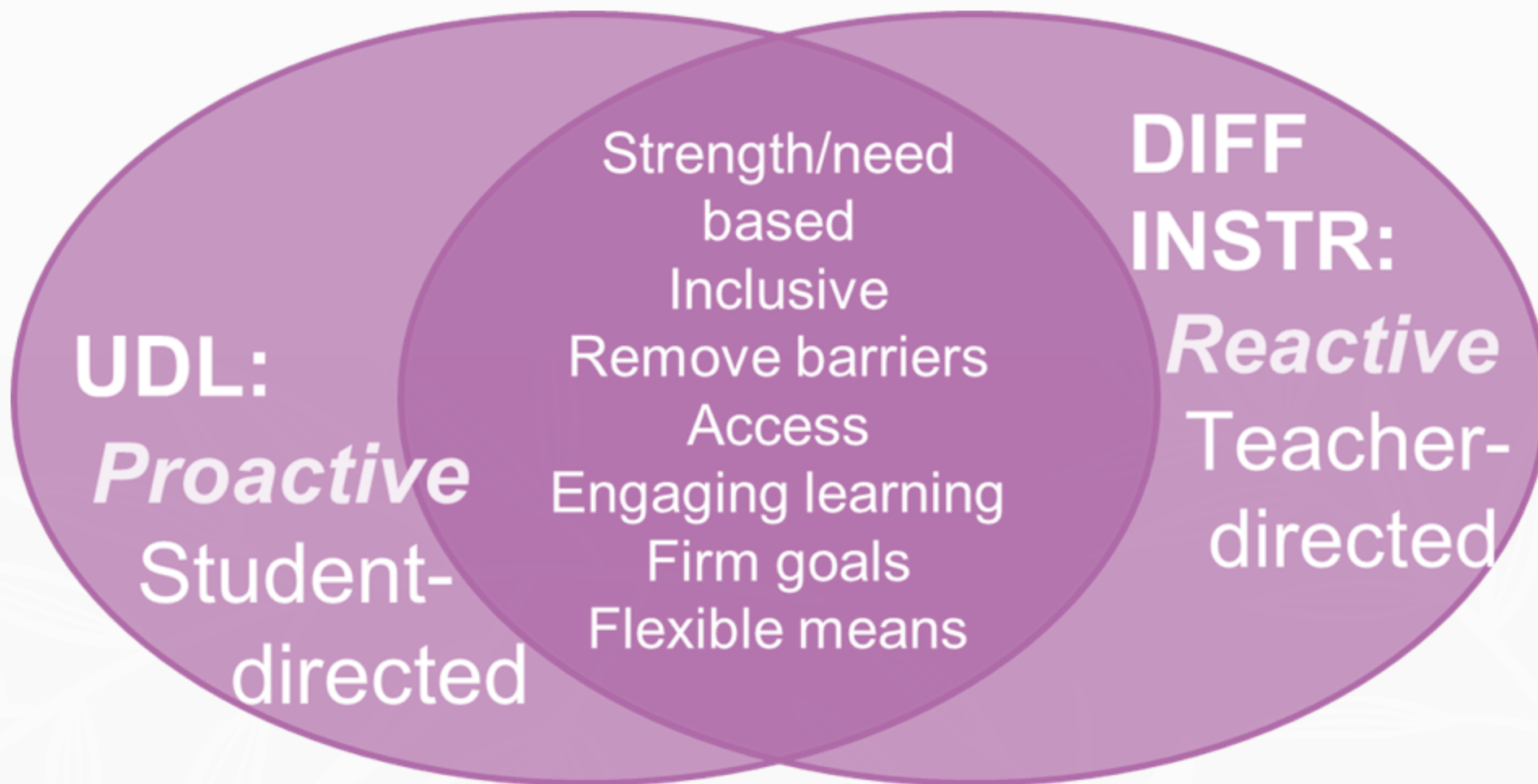
CAST | Until learning has no limits®

udlguidelines.cast.org © CAST, Inc. 2024
Suggested Citation: CAST (2024). Universal Design for Learning Guidelines version 3.0 [graphic organizer]. Lynnfield, MA: Author.

Nine Principles of UDL



Differentiation VS. UDL



UDL Guidelines



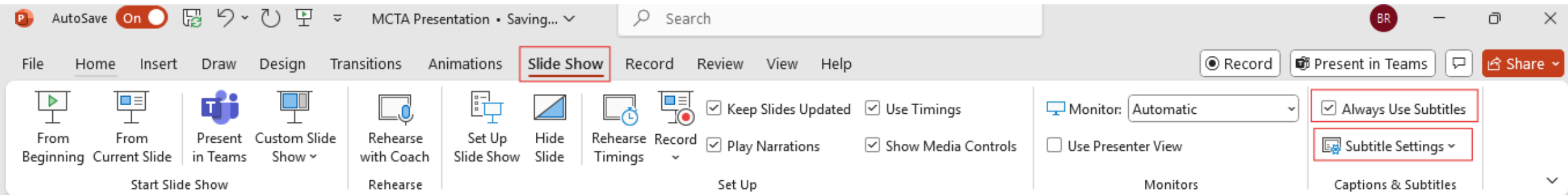
Multiple Means of

- Engagement (Why): interest-driven chat scenarios
- Representation (WHAT): multimodal resources (Audio, Text, Video, Images)
- Expression (HOW): Show what they know
 - Model Building,
 - Creative Displays,
 - Code music
 - Build an app

Examples

Live Captions

- PowerPoint allows for live captions.



- Live Captions on Windows

- **Keyboard Shortcut:** Press Windows key + Ctrl + L.
- **Settings App:** Go to Settings > Accessibility > Captions and toggle on "Live captions".

- Subtitles on Videos
- PowerPoint Live

**PPT
LIVE**



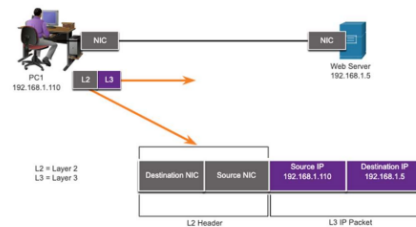
New Terms and Commands

- | | |
|---|---|
| <ul style="list-style-type: none">• Logical Link Control (LLC)• Media Access Control (MAC)• Institute of Electrical and Electronic Engineers (IEEE)• International Telecommunications Union (ITU)• International Organization for Standardization (ISO)• American National Standards Institute (ANSI)• Physical Topology• Logical Topology• Half-duplex• Full-duplex• CSMA/CD• CSMA/CA | <ul style="list-style-type: none">• Cyclic Redundancy Check (CRC)• Contention-based access• Controlled access |
|---|---|

csisco

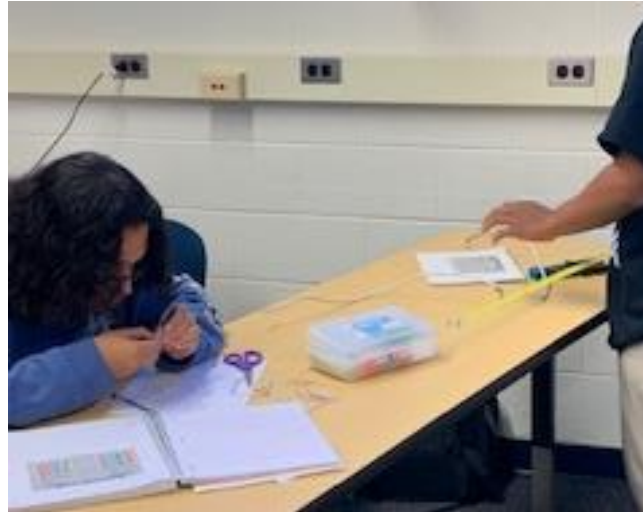
Purpose of the Data Link Layer The Data Link Layer

- The **Data Link layer** is responsible for communications between end-device network interface cards.
- It allows upper layer protocols to access the physical layer media and encapsulates Layer 3 packets (IPv4 and IPv6) into Layer 2 Frames.
- It also performs **error detection** and rejects corrupts frames.



Vocabulary Building

- Providing A Vocabulary List
- Highlighting Key Terms in Presentation
- Providing Copies of Notes



Engaging Notes

- Foldables
- Cornell Notes
- Jigsaw/Gallery Walk

Representations of Learning

Comic Strips

Infographics

Songs

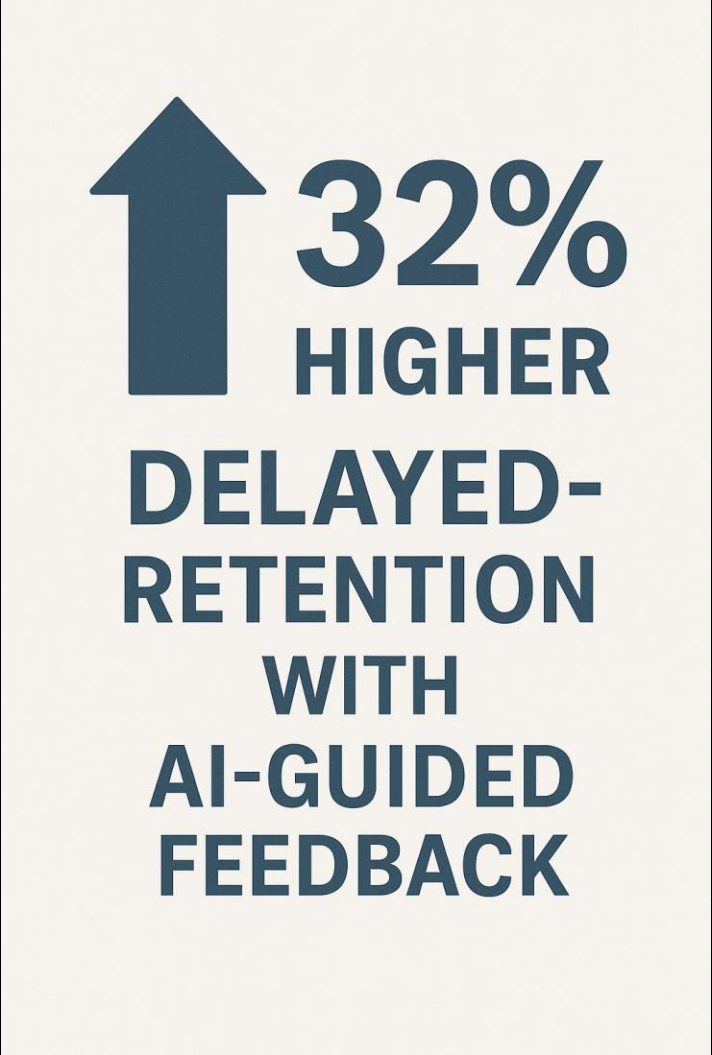
Skits

Physical
Demonstrations

AI Design Can Increase Learning

Sharma et al Meta Analysis

- Review of 55 studies (2020–24) on AI in education
- 32 % higher delayed-retention with AI-guided feedback
- Fairer scores when AI feedback is teacher-monitored (Human in the Loop)



**↑ 32%
HIGHER
DELAYED-
RETENTION
WITH
AI-GUIDED
FEEDBACK**

Tools

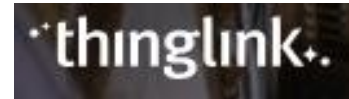
Lesson Planning



Grading/Assessment



Engagement/Tutoring



Content Creation





Serve Diverse Learners
88% of users say that MagicSchool serves the diverse needs of students.



Save Time
94% of users say that MagicSchool saves them time.



Drive Results
Facilitates a 28% improvement in students meeting literacy grade level expectations.



Share the Love
95% of users recommend MagicSchool.

Magic School

<https://www.magicschool.ai/>

ChatGPT

<https://chatgpt.com/>

ChatGPT is a powerful chatbot developed by OpenAI, that uses artificial intelligence to generate human-like text responses. It can engage in conversations, answer questions, and even assist with various tasks like writing, coding, and more. Essentially, ChatGPT is a tool that can understand and respond to user prompts in a way that mimics human interaction.



- [ChatGPT for Educators by Nicole Zumpano](#)

Citations

Cited In Presentation

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Disclaimer: ChatGPT used as an assistant and thought partner in the processing and formatting of some of these slides

Thank You!



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