



Universal Design for Learning (UDL)

Reaching ALL Students with Instruction and
Technology

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Making Sense of Universal Design for Learning

What, Why, How?

UDL is ...

- 🌐 Evolved from UD



- 🌐 A framework

- 🌐 Based in brain research

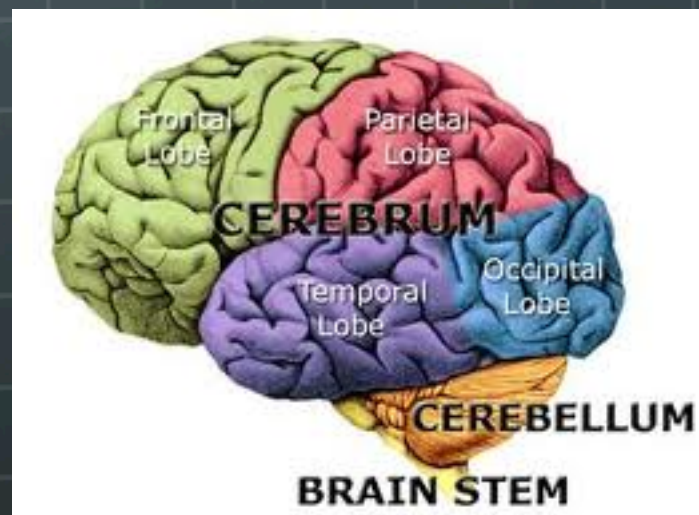
UDL is ...

a framework

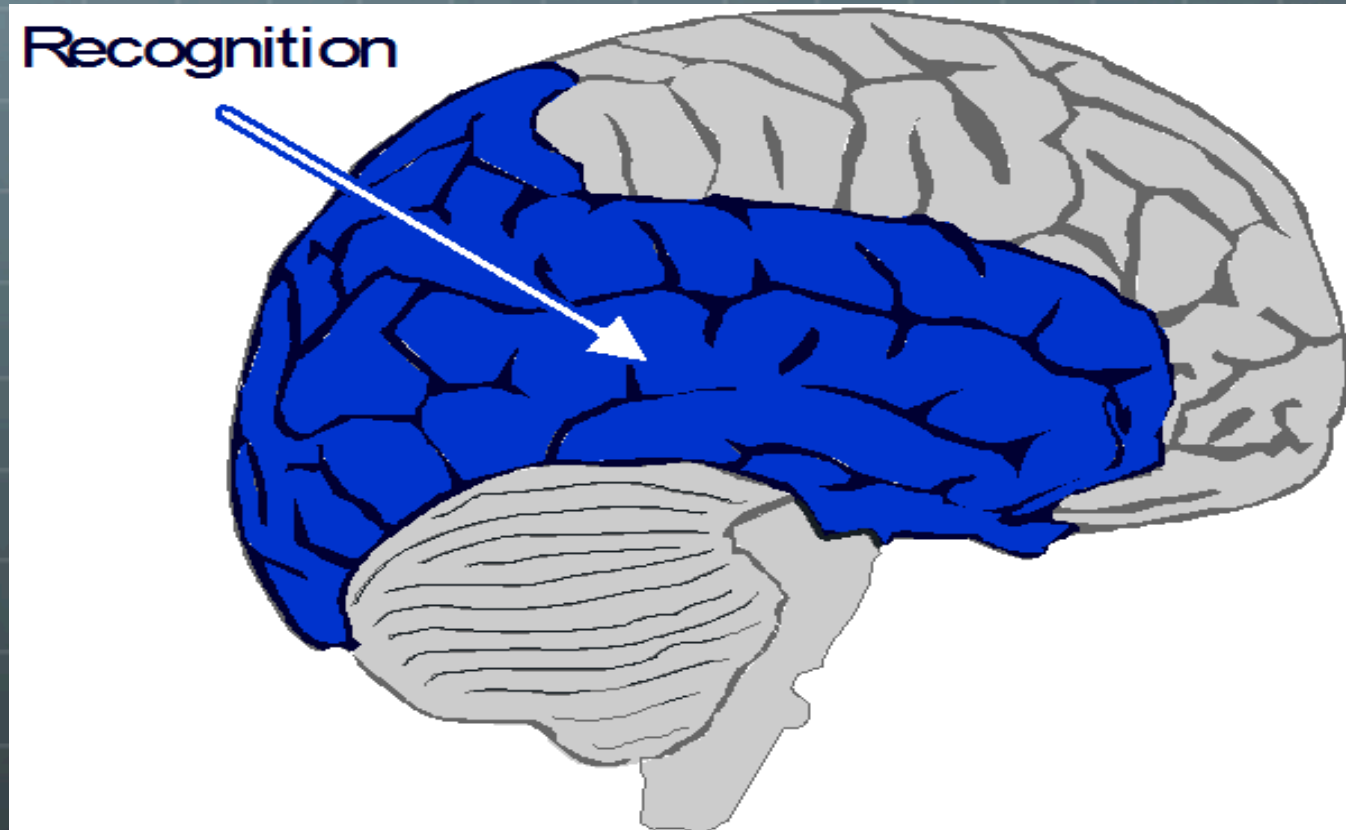


UDL is ...

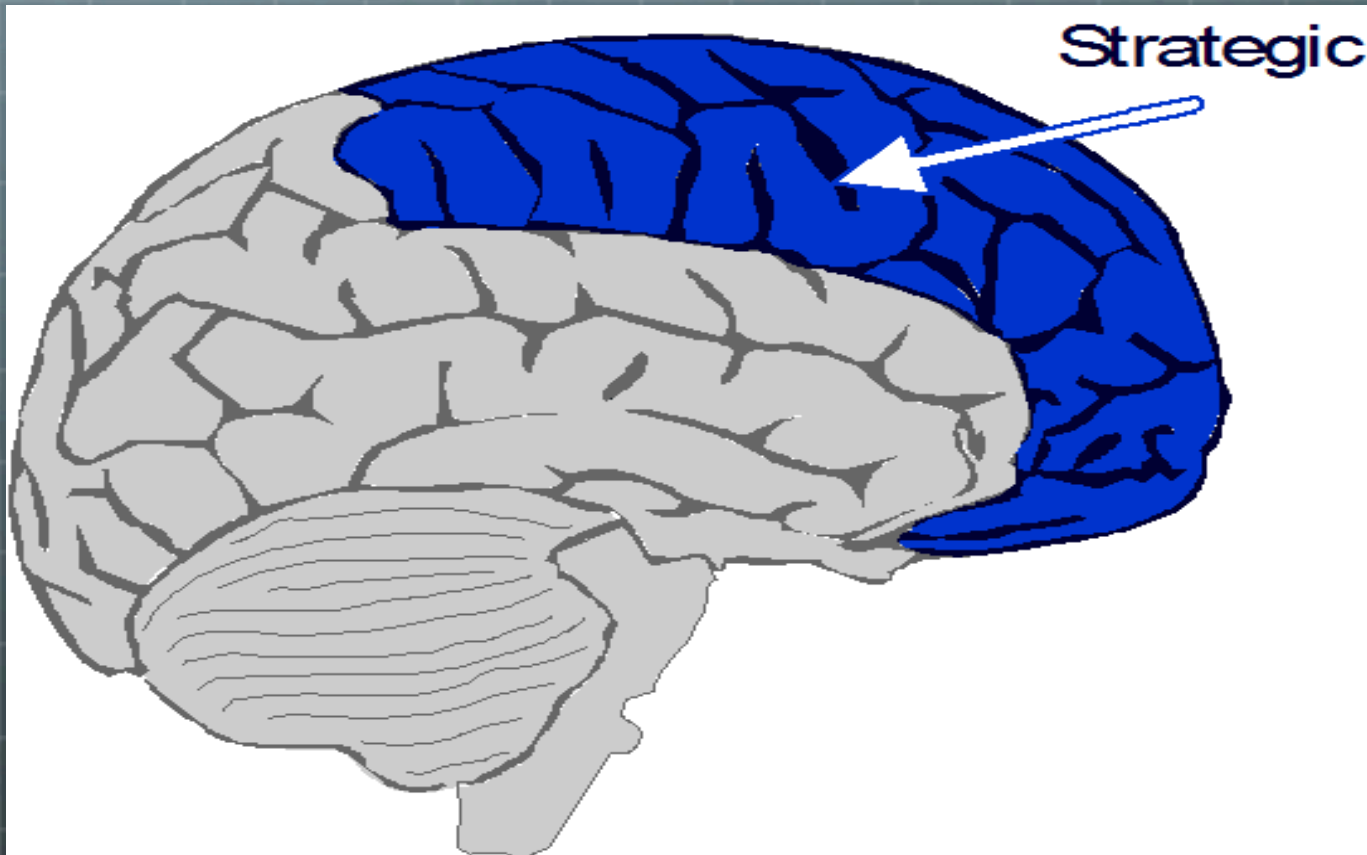
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- 🌐 A framework
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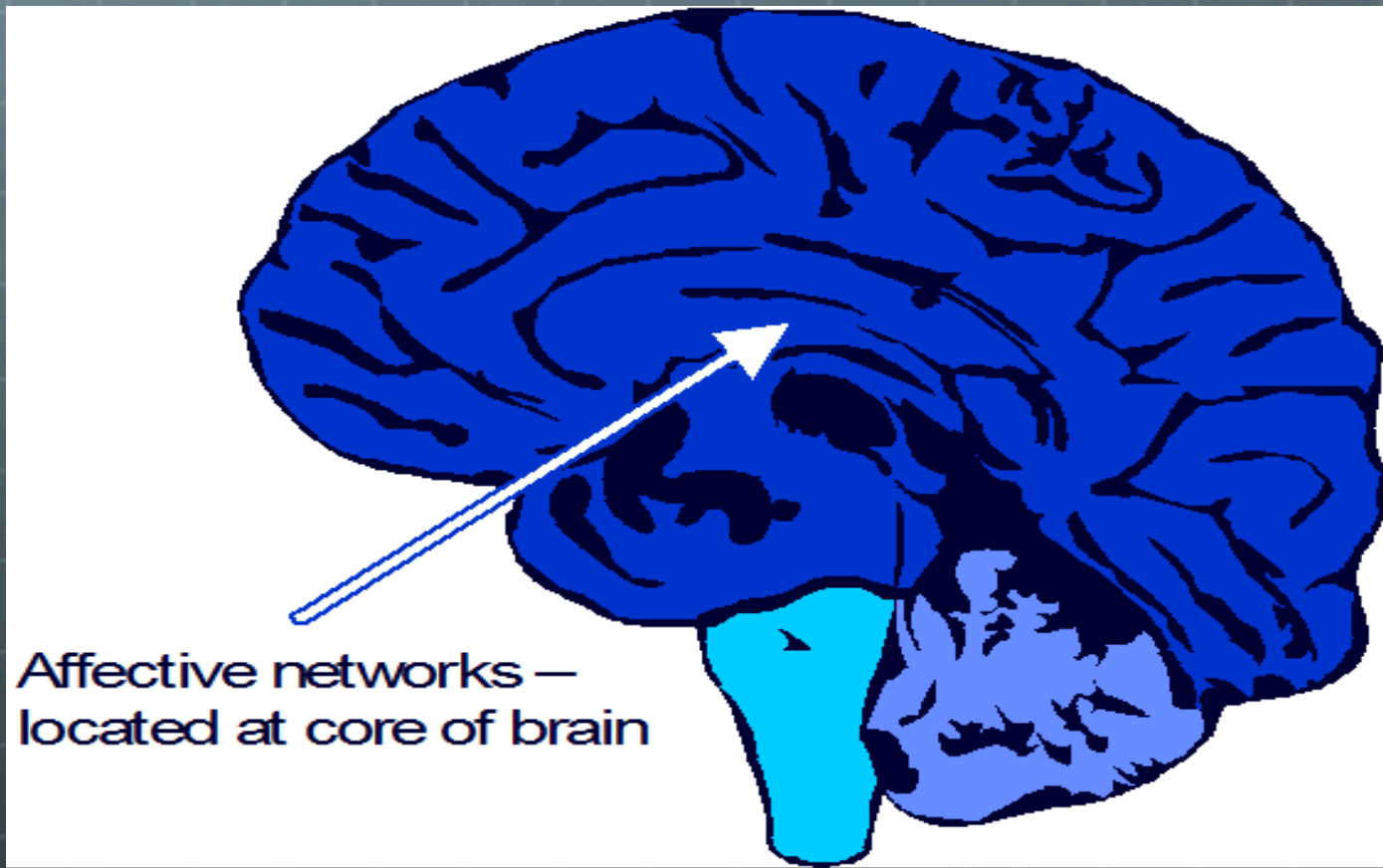
Recognition network



Strategic network



Affective network



UDL is not ...

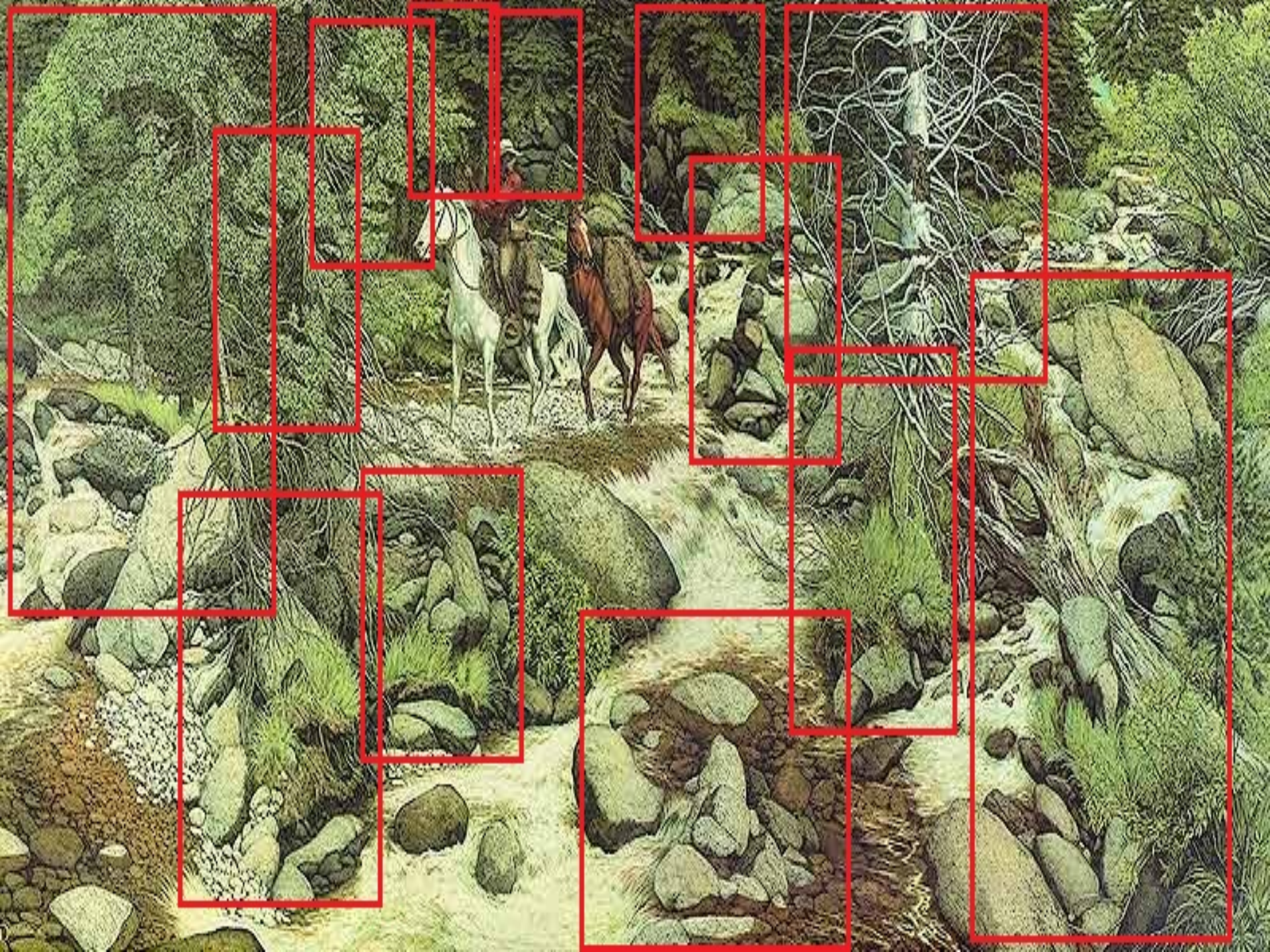
 **An intervention**

 **New**

 **Technology**

How many faces do you see?





Principles



Multiple Means
of Representation
"WHAT"

Multiple Means
of Expression
"HOW"

Multiple Means
of Engagement
"WHY"

UDL Guidelines (2014)



Provide Multiple Means of Engagement

Purposeful, motivated learners

Provide options for self-regulation

- + Promote expectations and beliefs that optimize motivation
- + Facilitate personal coping skills and strategies
- + Develop self-assessment and reaction

Provide options for sustaining effort and persistence

- + Heighten salience of goals and objectives
- + Vary demands and resources to optimize challenge
- + Foster collaboration and community
- + Increase mastery-oriented feedback

Provide options for recruiting interest

- + Optimize individual choice and autonomy
- + Optimize relevance, value, and authenticity
- + Minimize threats and distractions



Provide Multiple Means of Representation

Resourceful, knowledgeable learners

Provide options for comprehension

- + Activate or supply background knowledge
- + Highlight patterns, critical features, big ideas, and relationships
- + Guide information processing, visualization, and manipulation
- + Maximize transfer and generalization

Provide options for language, mathematical expressions, and symbols

- + Clarify vocabulary and symbols
- + Clarify syntax and structure
- + Support decoding of text, mathematical notation, and symbols
- + Promote understanding across languages
- + Illustrate through multiple media

Provide options for perception

- + Offer ways of customizing the display of information
- + Offer alternatives for auditory information
- + Offer alternatives for visual information



Provide Multiple Means of Action & Expression

Strategic, goal-directed learners

Provide options for executive functions

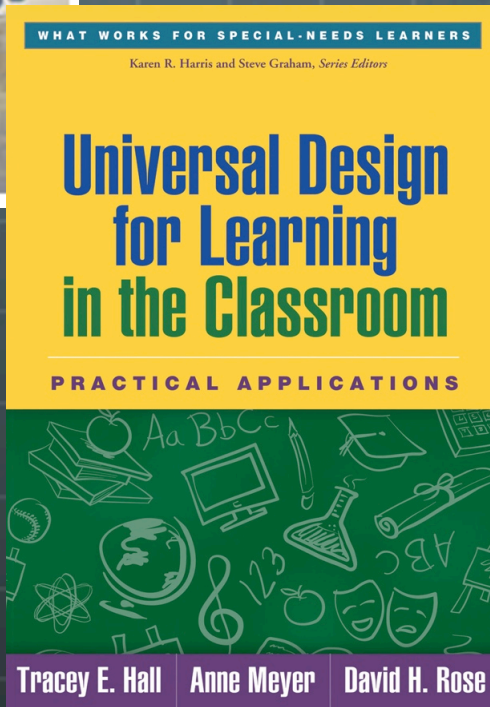
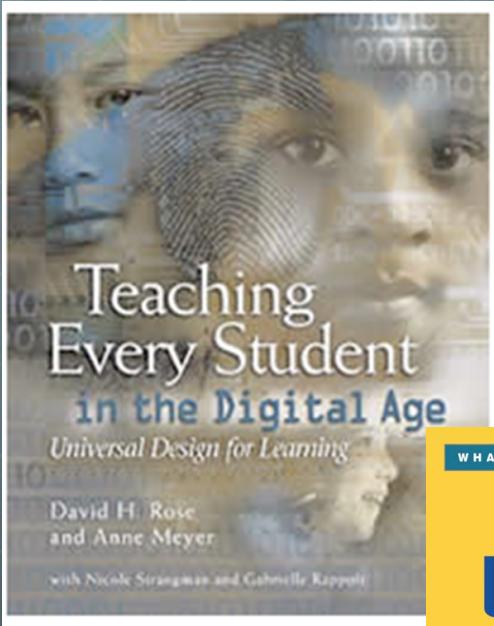
- + Guide appropriate goal-setting
- + Support planning and strategy development
- + Enhance capacity for monitoring progress

Provide options for expression and communication

- + Use multiple media for communication
- + Use multiple tools for construction and composition
- + Build uencies with graduated levels of support for practice and performance

Provide options for physical action

- + Vary the methods for response and navigation
- + Optimize access to tools and assistive technologies



Why UDL?

- 🌐 Learning is **unique** to individuals
- 🌐 Abilities **continually shift**
- 🌐 Intersection between individual and **environment**
- 🌐 An average student is **mythical**
- 🌐 Variability

Why UDL?

States, provinces are turning to UDL as a means of helping educators meet the demand to provide standards-based education to all learners, while recognizing and honoring individual variability and diversity.

Policy

- 🌐 National UDL Task Force
- 🌐 UDL is defined in **IDEA 2004** and the **Assistive Technology Act of 1998**
- 🌐 U.S. Department of Education's **Blueprint for Reform: Reauthorization ESEA**
- 🌐 U.S. Department of Education's **National Educational Technology Plan**

<http://www.udlcenter.org/advocacy>

Policy

- **Common Core Standards Initiative –
FAQ handout**
- **Several States have Statewide
Initiatives**
- **NIMAS/AIM**
- **Higher Education Opportunity Act
(HEOA)**

Singapore

🌐 Self-directed learners

🌐 Collaborative learners

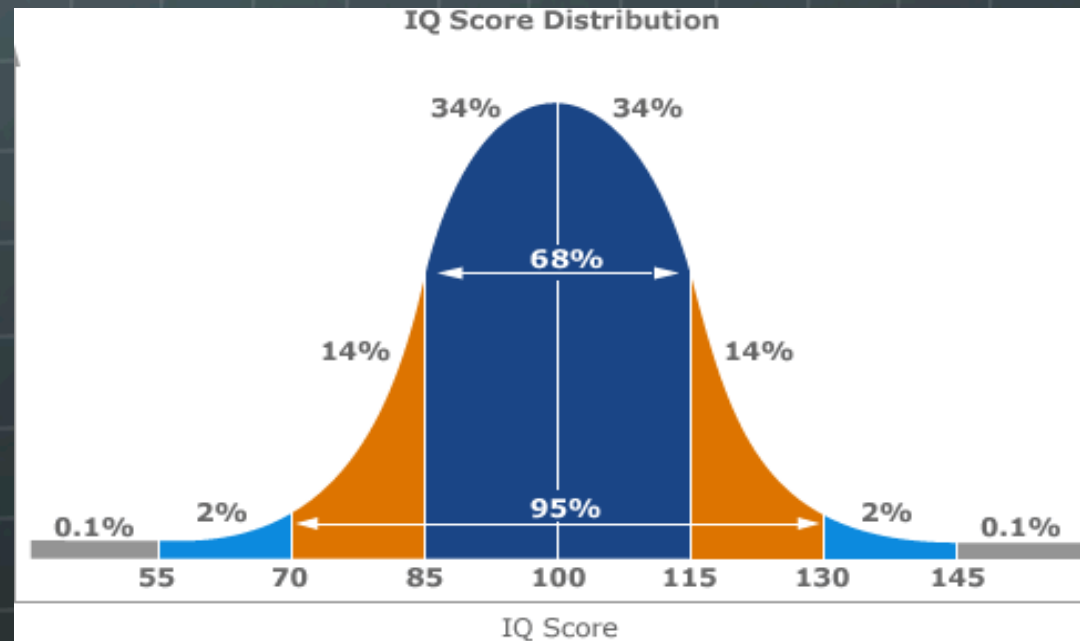


Paradigm Shift

🌐 Curriculum

🌐 Technology

🌐 Knowledge



Access and Equity



Paradigm Shift

 Curriculum

 Technology

 Knowledge

Technology Changes Everything

- 🌐 Communication
- 🌐 Any time, any place, any how (any path, any pace) learning
- 🌐 Personalization
- 🌐 Openness, sharing
- 🌐 Participation in content ,knowledge, and news production
- 🌐 Collaboration

WATSON



GPS Analogy

- 🌐 What is the present location?
- 🌐 What is the destination or goal?
- 🌐 What is the best route for reaching that goal?





Paradigm Shift

 Curriculum

 Technology

 Knowledge

Prensky 2013

-  The font of knowledge used to be the teacher, now it is the internet
-  Teachers are guides and coaches of how to use it well and wisely

Teach & Assign Verbs
(Skills)

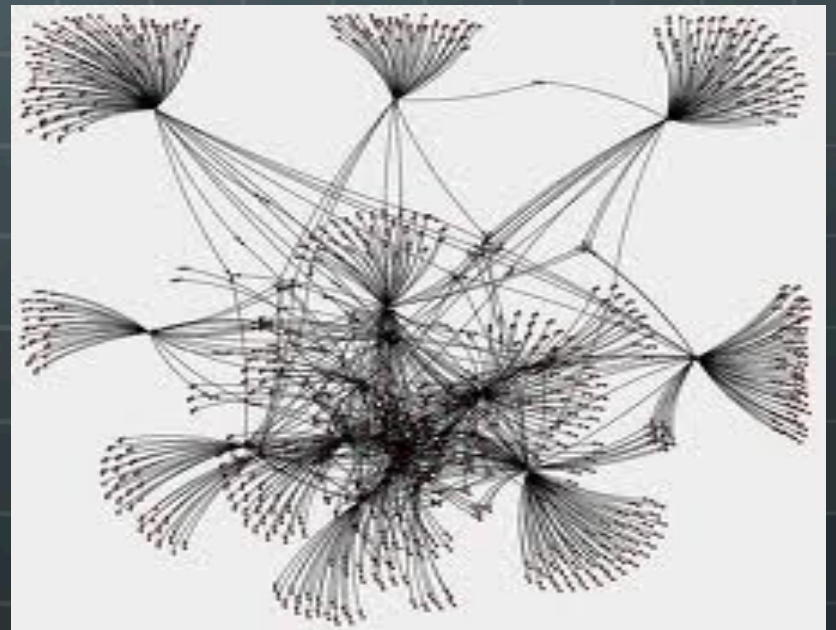
and

Give students the
choice of Nouns (Tools)

A recent @marcprensky tweet

“Our education needs more self-direction.

Kids should leave school with self-knowledge, self-discipline, and the ability to teach themselves.”



**“We cannot always build
the future for our youth,
but we can build our
youth for the future.”**

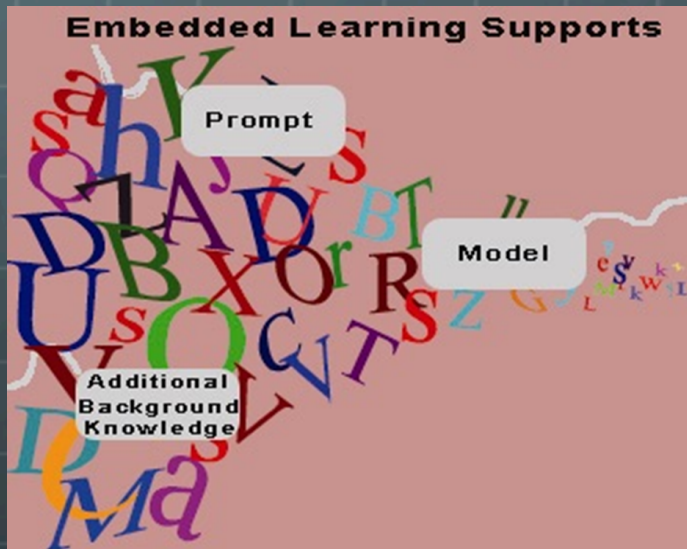
Franklin D. Roosevelt

How?

Digital Media

 Transformable

 Taggable



Print materials-
Inflexible, finite

Backwards design instructional process

- Establish **Clear** Outcomes
- Anticipate Learner **Variability**
- Measurable** Outcomes and Assessment Plan
 - Timely Progress Monitoring
- Flexible** methods, materials
- Instructional Experience
- Reflection and New Understandings





Personalization

- 🌐 Firm goals
- 🌐 Flexible means
- 🌐 Options, Choices






Sir Ken Robinson

Participatory Culture

-  **Affiliations**
-  **Expression**
-  **Circulation**
-  **Collaborative problem solving**

Connecting UDL and Other Initiatives

-  Differentiated Instruction
-  RTI
-  Common Core

Differentiation is...

- 🌐 A teacher's **response** to learner needs
- 🌐 The **recognition** of students' varying background knowledge and preferences
- 🌐 Instruction that appeals to students' difference
- 🌐 Gives students multiple options for taking in information and making sense of ideas

Where does RTI fit?

- 🌐 A curriculum that is effective for one student may **not** be effective for another
- 🌐 Incorporate research-based practices
- 🌐 Poor achievement does not necessarily reflect disability, but rather may also reflect poor instruction.
- 🌐 RTI and UDL treat assessment as something that should inform instruction and intervention

UDL HAS SUPPORTS BUILT IN

Pulling it all together

	UDL	DI	RTI
What	Recognition network- Multiple means of representation	Content	Curriculum
How	Strategic network- Multiple means of expression	Process	Instruction
Why	Affective network- Multiple means of engagement	Product	Learning

Provide Multiple Means of Representation

Guideline 1: Provide options for perception

 **Checkpoint 1.1: Options that customize the display of information**

Guideline 2: Provide options for language and symbols

Guideline 3: Provide options for comprehension

Examples template

Examples of addressing learner variability from *Learner Variability and UDL*

I. Provide Multiple Means of Representation

- Make text available in a variety of formats: e-Text reader, audio, MS PowerPoint
- Offer a variety of media to access information
- Provide multiple visual and physical examples of information using, for example, manipulatives, Smart Boards, iPads
- **Additional examples:**

II. Provide Multiple Means of Action & Expression

- Present learners with choices of tools to demonstrate knowledge. For example, provide a “technology toolkit” on a class wiki with reviews of available tools and resources
- Implement project-based learning to provide opportunities for problem solving and to help guide effective goal-setting
- Other examples: audio recording, dramatic productions, creating charts, graphs and illustrations, and free websites like Blogmeister, Glogster, Toondoo, Animoto, Xtranormal, Voki
- **Additional examples:**








III. Provide Multiple Means of Engagement

- Teach students how to use the available formats, tools and technology
- Implement project-based learning opportunities to provide options for individual choice and enhance the relevance and authenticity of the learning
- Give choices of tools, technology, medium, work environments and topic
- Guide students to understand personal learning needs so they can make good choices and become more autonomous
- Provide opportunity for independent choices of participation, for example, standing during a lesson
- **Additional examples:**

Above & Beyond

Separate Goal from Means

What is possible with technology

-  [Kathy Schrock ipads](#)
-  [Wolfram Alpha](#) – computational knowledge engine
-  [Kid Rex](#)
-  [Kids Wordsmyth](#)
-  [You tube](#) – CC – 60+
-  [Free tech for Teachers](#)
-  [Microsoft Partners in Learning](#) – free tools

-  [UDL Toolkit](#)
-  [UDL Resource](#)
-  [Strategy Gallery](#)
-  [Sample UDL Book](#)

Engagement

Redefinition

Expression and creativity

The technology unleashes creative potential and disrupts perceptions of disability

Modification

Leveraging multimedia

The technology provides multiple means of expression

Amplification

Built-in supports and scaffolds

The technology includes supports that account for learner variability

Substitution

Access to content and tools

The technology eliminates barriers that prevent access to information and communication

needs assessment and resource mapping

Identify potential barriers and supports in learning environment

Transformation
(student)
Action and Expression

Enhancement
(teacher)
Representation

SAMR Model

Redefinition: New tasks previously inconceivable

Substitution: Substitute and no functional change

Modification: Significant task redesign

Augmentation: Substitute with functional improvement

Graduate attributes and capabilities

- good communicator
- energy, passion & enthusiasm
- true to values & ethics
- understands strengths & limitations
- listens, learns from errors & experience
- empathizing, time management skills
- remains calm, thinks strategically
- transparent & honest, gives credit
- persevering

Create

Remember Understand

Analyse

Apply

Cognitive

Domains

Evaluate

Activities

Action Verbs

Activities

Activities

Action Verbs

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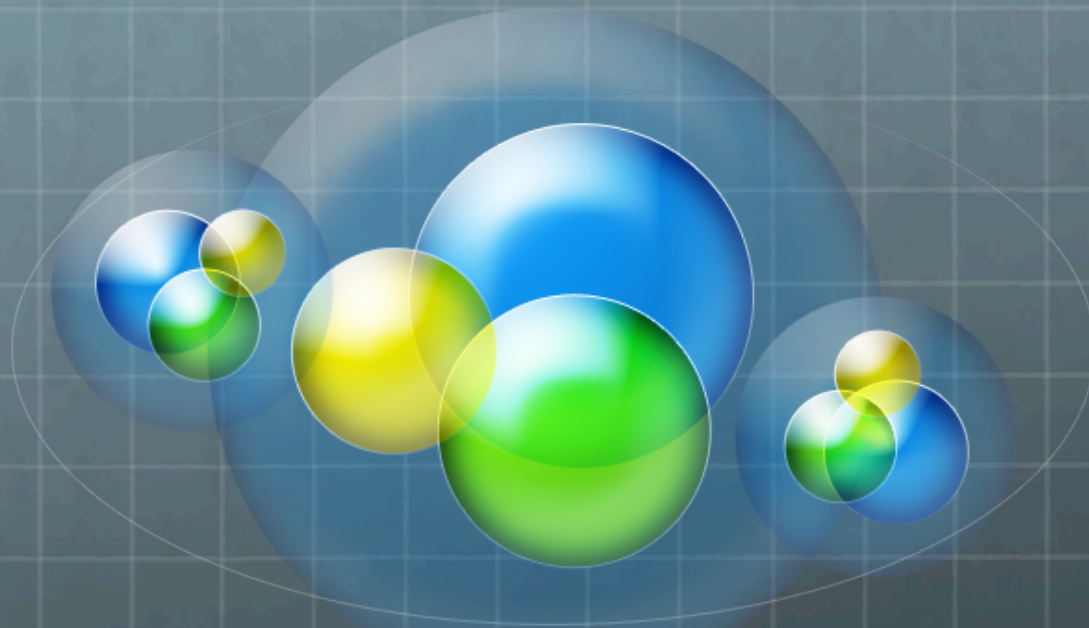
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Alternative representation

<http://www.youtube.com/watch?v=A8QWLrI-G78>

Implementation

- 🌐 Support teacher development
- 🌐 Support teacher to teacher learning
- 🌐 Plan for Scale
- 🌐 Publicly acknowledge successes
- 🌐 Assess progress





Tech Integration

-  Tech integration - easy to lose track of fundamentals through technical issues
-  Digital citizenship
-  Develop a culture that supports technology





Possible Barriers

- Funding Sources
 - Many resources are free or extremely reasonable
 - Cost Comparison
- Deficits in instructor knowledge
- Lack of instructor time for training, teamwork
- Develop instructor tech teams, website, mentoring
- Availability of workshops and training
- Adjustment of culture regarding technology and overall concept

Administrators can...

-  **Adopt principles**
-  **Provide access to PD**
-  **Provide time for collaboration**
-  **Walk the walk**

In Summary

-  Framework
-  Plans for diversity
-  Emphasis on digital technology
-  Flexibility

Teaching and Learning Today

- 🌐 Designers of learning environments
- 🌐 Facilitators of learning
 - 🌐 Instruction to discovery
 - 🌐 Individual to collaborative learning
 - 🌐 Broadcast to interactive learning
 - 🌐 Teacher-centric to student-centric

Imagine



Thank you!

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