

An Overview of Universal Design for Learning

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What is UDL?

- An educational and instructional design framework that aims to increase **access to learning** by reducing physical, cognitive, organizational and other **barriers**.
- Eliminating barriers in the **design** of the learning environment is key.

The Origins of UDL

An extension of an architectural movement called Universal Design (UD)

DIMENSION TO FACE OF FRAME

DOOR DIMENSIONS INDICATED FOR DAMPED
DOORS = DOUBLE HINGED (7'-0" WIDE x 8'-0" HIGH)
WINDOWS = SLIDING (7'-0" WIDE x 8'-0" HIGH)
FOLDING = FOLDED PANELS (2'-0" WIDE x 8'-0" HIGH)
SCREENS - SCREENS (2'-0" WIDE x 8'-0" HIGH)

NOTES: CONTRACTOR SHALL OBTAIN AND VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE AND BE FULLY RESPONSIBLE FOR SAME.

FLOOR PLAN

714 EAST UNION STREET
NOKOMIS, IL 60075
PH: 214-950-7530
www.lipe-architect.com

Hempden House
Hillboro, Illinois

DATE: 08/11

A3

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FLOOR PLAN
SCALE: 1/8" = 1'-0"

LIFE ARCHITECTURE
714 EAST UNION STREET
NORTHBROOK, IL 60062
PH: 312-953-7330
www.life-architect.com

Hempden House
Hillside, Illinois

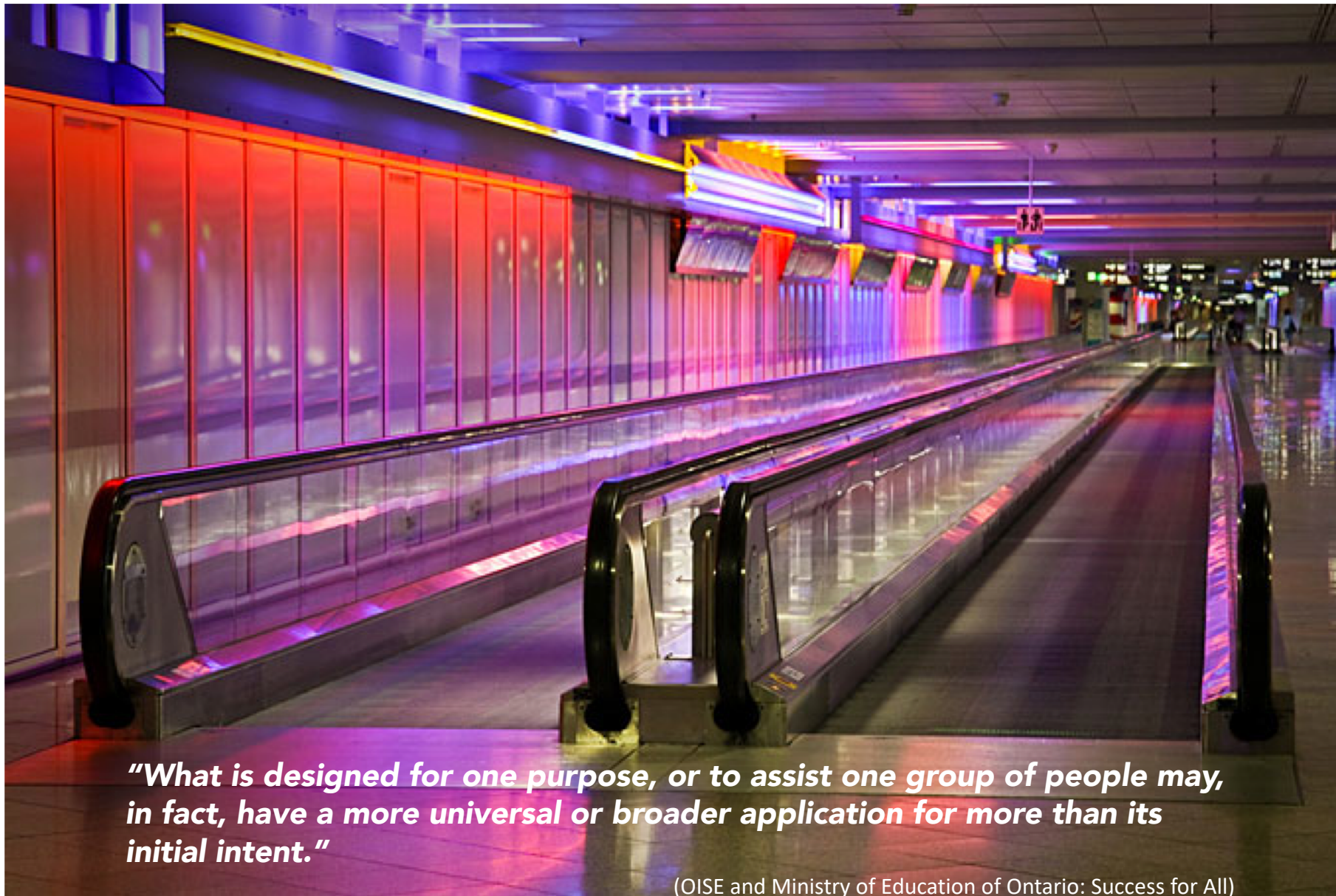
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“Consider the needs of the broadest possible range of users from the beginning.”



-Ron Mace, pioneer and visionary of Universal Design



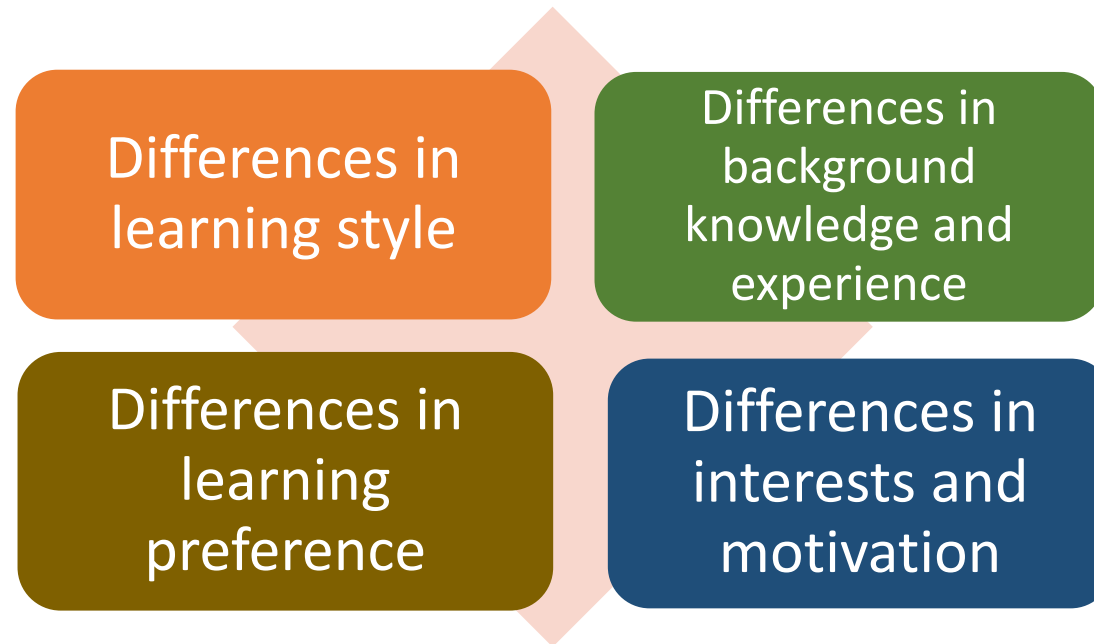
"What is designed for one purpose, or to assist one group of people may, in fact, have a more universal or broader application for more than its initial intent."

(OISE and Ministry of Education of Ontario: Success for All)



We have a diverse student population that needs flexible approaches to teaching and learning.

What does diversity look like?

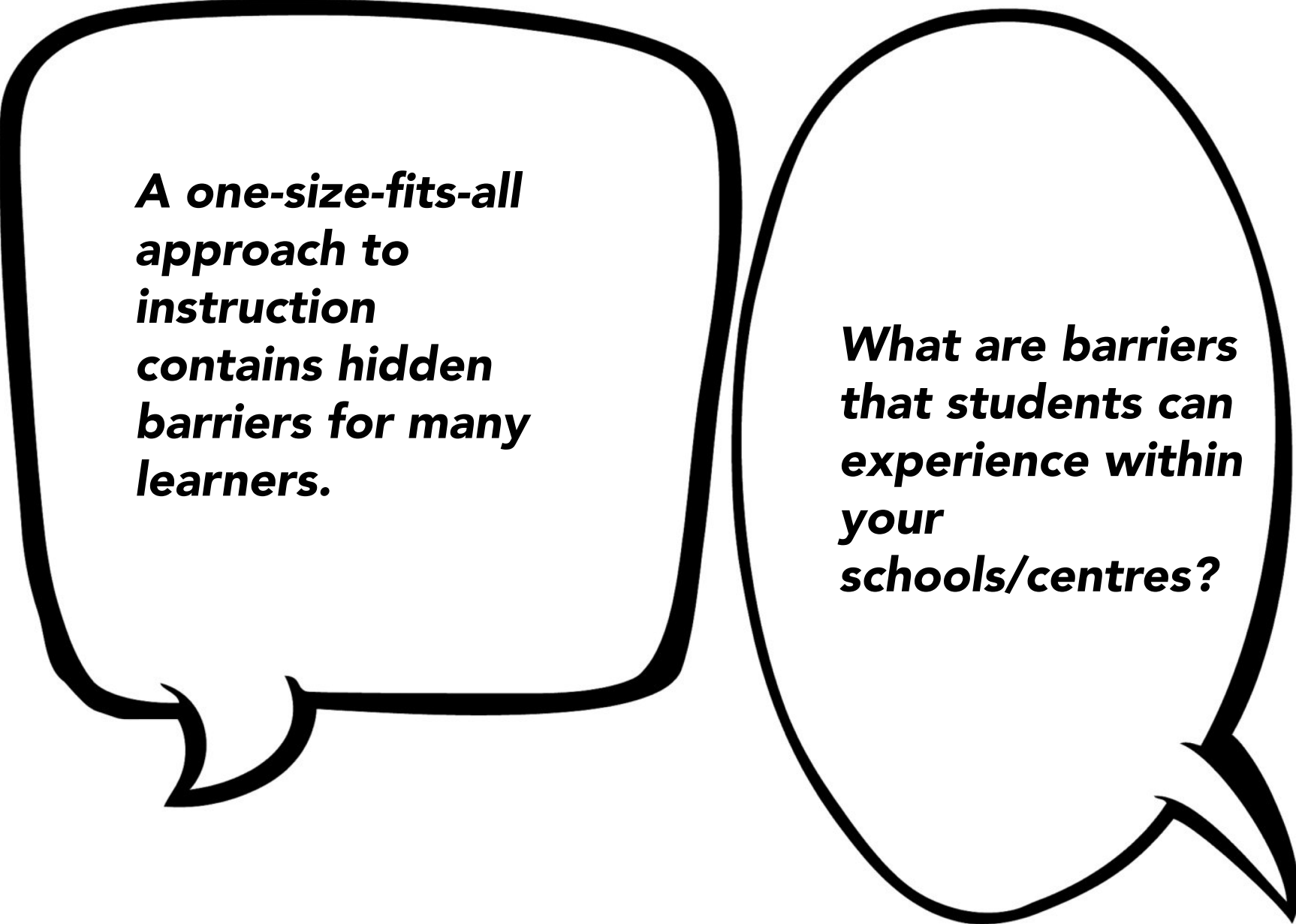


How does UDL address student diversity?

1. By dismantling the notion of the “average student.”
2. By designing curriculum for variability, from the very beginning.
3. By using guidelines based on neuroscience for instructional design.

"If you design learning environments for the average, odds are you've designed them for nobody."

-Todd Rose



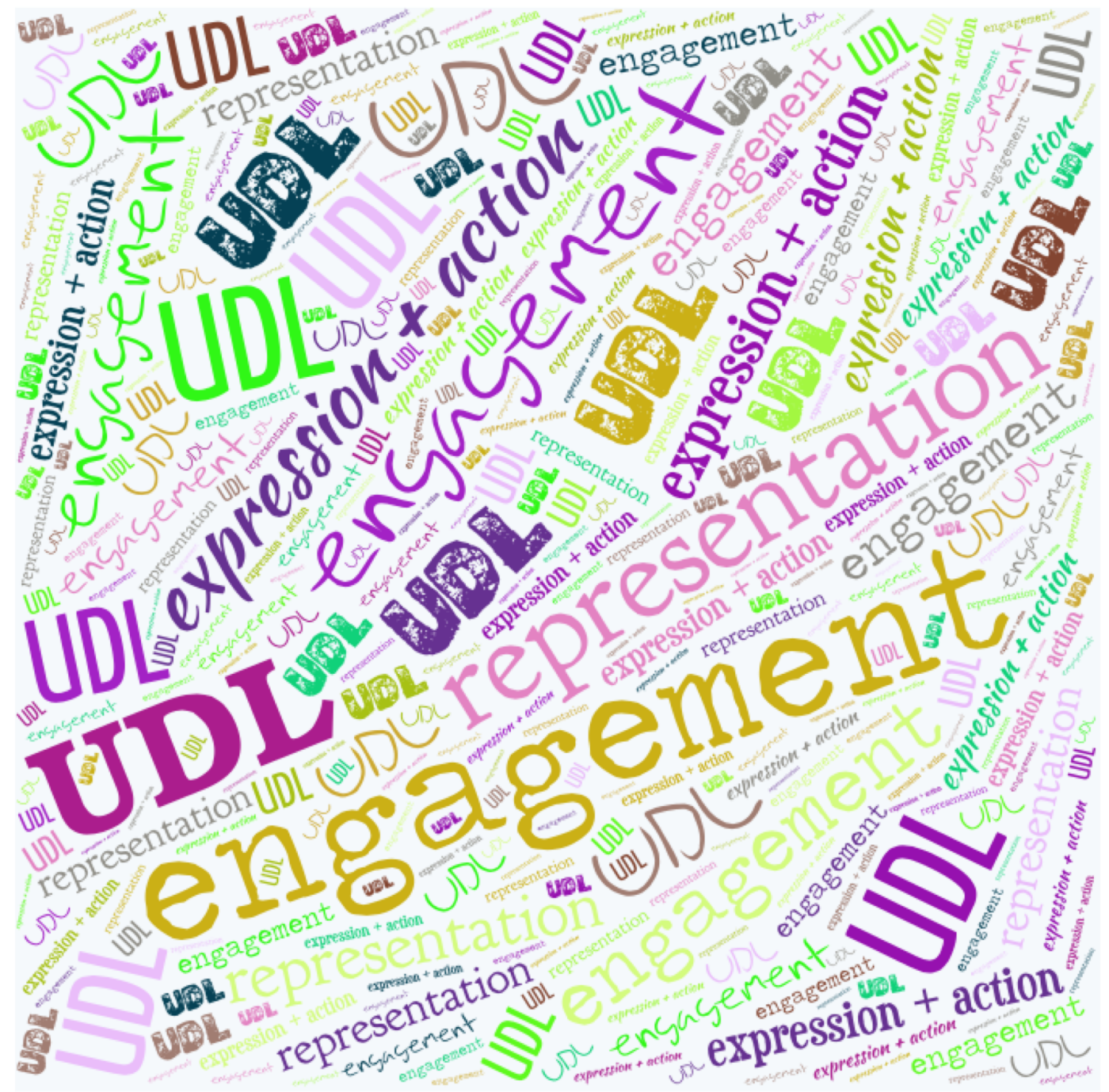
***A one-size-fits-all
approach to
instruction
contains hidden
barriers for many
learners.***

***What are barriers
that students can
experience within
your
schools/centres?***

Designing for student variability

- Means designing learning **experiences** and learning **environments** from the **very beginning** to meet the needs of the greatest number of students.
- Sees the environment as a potential barrier, not the student.
- Designing for variability from the start can reduce ***after-the-fact*** ***“retrofits.”***

Principles of UDL



Principle #1-Engagement

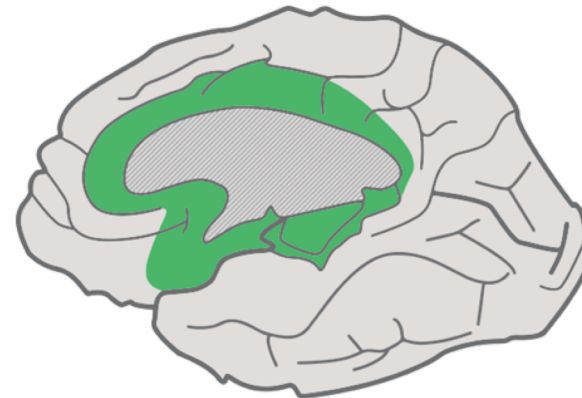


“Affect represents a crucial element to learning, and learners differ markedly in the ways in which they can be engaged or motivated to learn.” (CAST, 2012)

Affective networks (Engagement)

- Affective networks control our emotional involvement with learning such as our motivation and our ability to focus and remain engaged with a task.

AFFECTIVE NETWORKS:
THE **WHY** OF LEARNING



Principle #2 Representation

“Learners differ in the ways that they perceive and comprehend information that is presented to them.”

CAST, 2012

Recognition networks (representation)

- *Recognition networks* are specialized to sense and assign meaning to patterns we see.
- Enables us to identify and understand information, ideas, and concepts.

RECOGNITION NETWORKS:
THE **WHAT** OF LEARNING



Principle #3 Expression

“Students differ in the ways that they can navigate a learning environment and express what they know.”

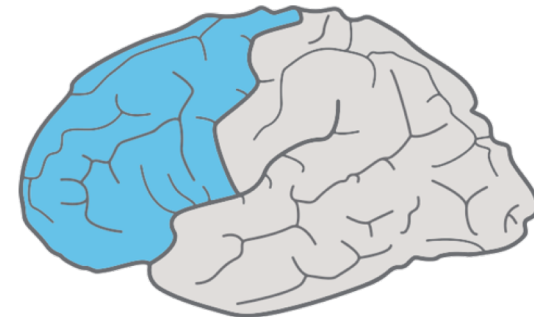
(CAST, 2012)



Strategic networks (action and expression)

- *Strategic networks* are specialized to generate and oversee mental and motor patterns.
- They enable us to plan, execute, and monitor actions and skills.

STRATEGIC NETWORKS:
THE **HOW** OF LEARNING



Engagement

Stimulate
motivation
and sustained
enthusiasm
for learning.

Representation

Present
information
and content in
different ways
to support
understanding.

Action and expression

Offer options
and support
so everyone
can create,
learn and
share.

Universal Design for Learning: Know the learners. Identify and remove barriers to learning. Provide multiple learning pathways. Offer a range of universal tools and supports to everyone at the outset.

(Katie Novak, UDL Now! 2016)

“UDL is not about causing large-scale change. It’s about looking for natural connections to what one is already doing that can help diversify instruction. It’s about raising our own awareness and turning up our reflective skills so we become accustomed to thinking about how our lessons align with the needs of diverse learners.”

(UDLresource.ca, BC Ministry of Education)

Reflection: UDL guidelines

- Reflect upon strategies and instructional practices that you already use in your classroom that align with the UDL guidelines.
- Why are these strategies and instructional practices effective in reaching your diverse learners?
- Identify a guideline that resonates with you and discuss your design possibilities with a colleague.
- For administrators/directors: what types of systems and structures are needed in order to support Universal Design for Learning at your centre/board? What groundwork needs to be laid? How do you create a shared vision?

UDL & Accessible Technologies



A young man with light brown hair and green eyes is shown in profile, looking upwards and to the right with a distressed expression. His right hand is pressed against his forehead. He is wearing a black long-sleeved shirt over a white turtleneck. To his right is a tall, thick stack of books with various colored spines. The background is a blurred bookshelf filled with many books.

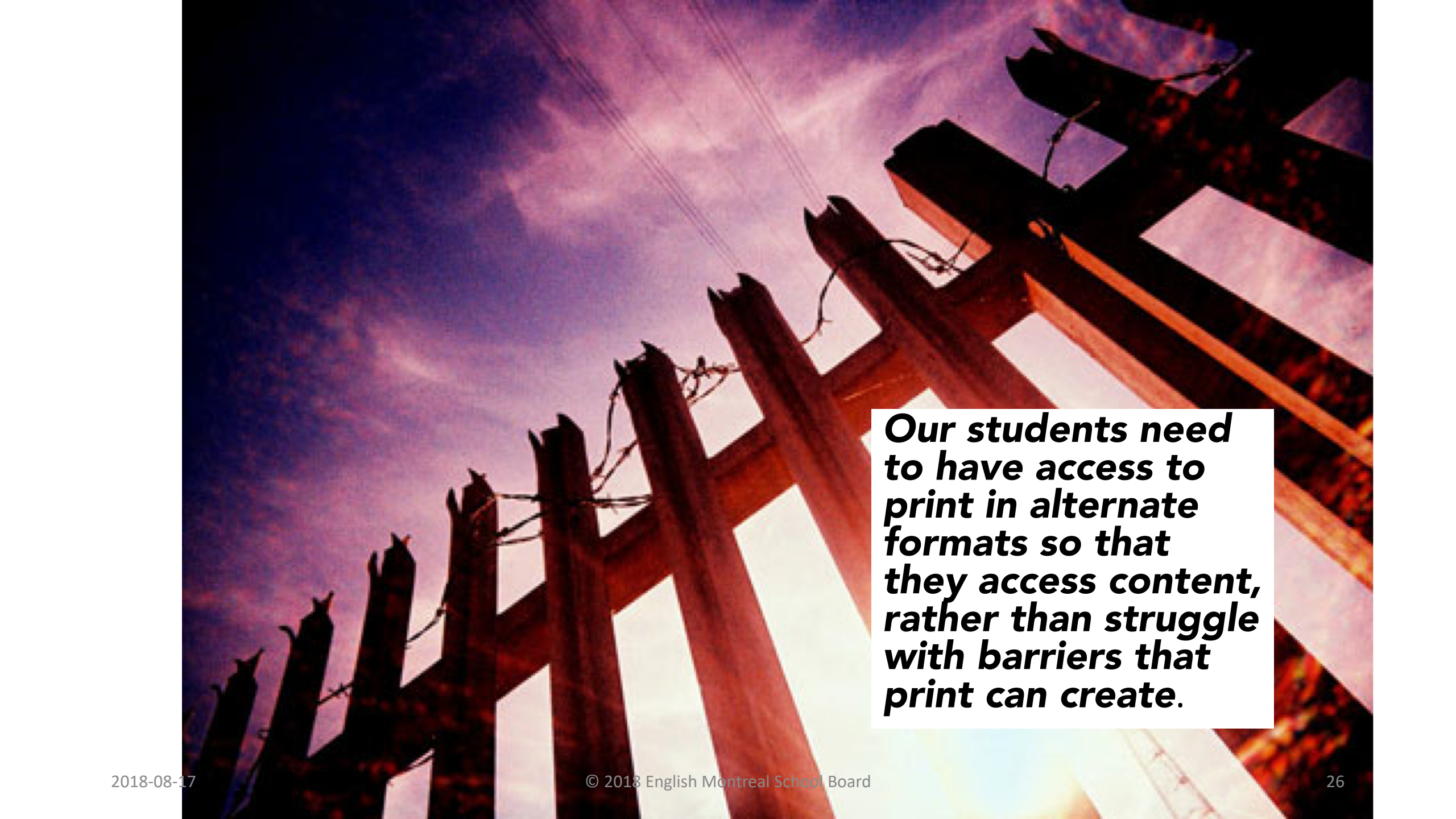
***Print can be
inaccessible***

"As learning technologies, books have disabilities."

(David Rose, CAST)

What impact has print had on mathematics instruction?





Our students need to have access to print in alternate formats so that they access content, rather than struggle with barriers that print can create.

Print disability

“A learning, physical or visual disability that prevents a person from reading conventional print.”

(Canadian Copyright Act, section 32)

Learning disability: An impairment relating to comprehension

Physical disability: The inability to hold or manipulate a book

Visual disability: Severe or total impairment of sight or the inability to focus or move one's eyes.

(Centre for Equitable Library Access, 2015)



***Technology
supports print accessibility***

Technologies that improve accessibility for ALL students

- ***Text to speech***
- ***Word prediction***
- ***Speech recognition***

“Start to finish” AT solutions

- Your student needs to read text through listening? Try TTS
- Your student needs support for writing? Try word prediction with TTS
- Your student has strong oral language and needs to bypass writing? Try speech recognition

Text to speech (TTS)

Text to speech technology means that the text on the screen is read to the student using a synthesized voice.



Research on TTS

*“The problem is one of **information processing**. By the time the word is successfully decoded, the student may have neither the energy nor the capacity left to understand and utilize the content. As a result, many of these students enter into a **vicious cycle of withdrawal from text**. Frustrated, they often **stop reading**, losing the text exposure necessary for reading development and, ultimately, for the acquisition of knowledge and understanding in all subjects.”*

(Parr, 2013)

Accessible digital reading formats

- Means e-books can be used with text to speech or narration options.
- Specialized digital formats requires text to speech technology to deliver the content to the student.
- ****Our readers with reading difficulties (decoding disabilities) are often limited to low-level reading.***

Word prediction

- Supports the student in determining and choosing the intended word by offering a list of words.
- Can be customized for student.

Speech Recognition

Speech recognition technology converts spoken word into text.



To learn more....

<http://www.threeblockmodel.com>

<https://sites.google.com/a/lbpearson.ca/udl-classroom>
accessiblereading.com (QC)

<http://www.udlresource.ca> (SET-BC, Ministry of Education, British Columbia)

http://www.ocali.org/project/learn_about_udl (Ohio Center for Autism and Low Incidence)

<http://www.cast.org> (Center for Applied Special Technology)

Contact

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English-Montréal**

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School Board**