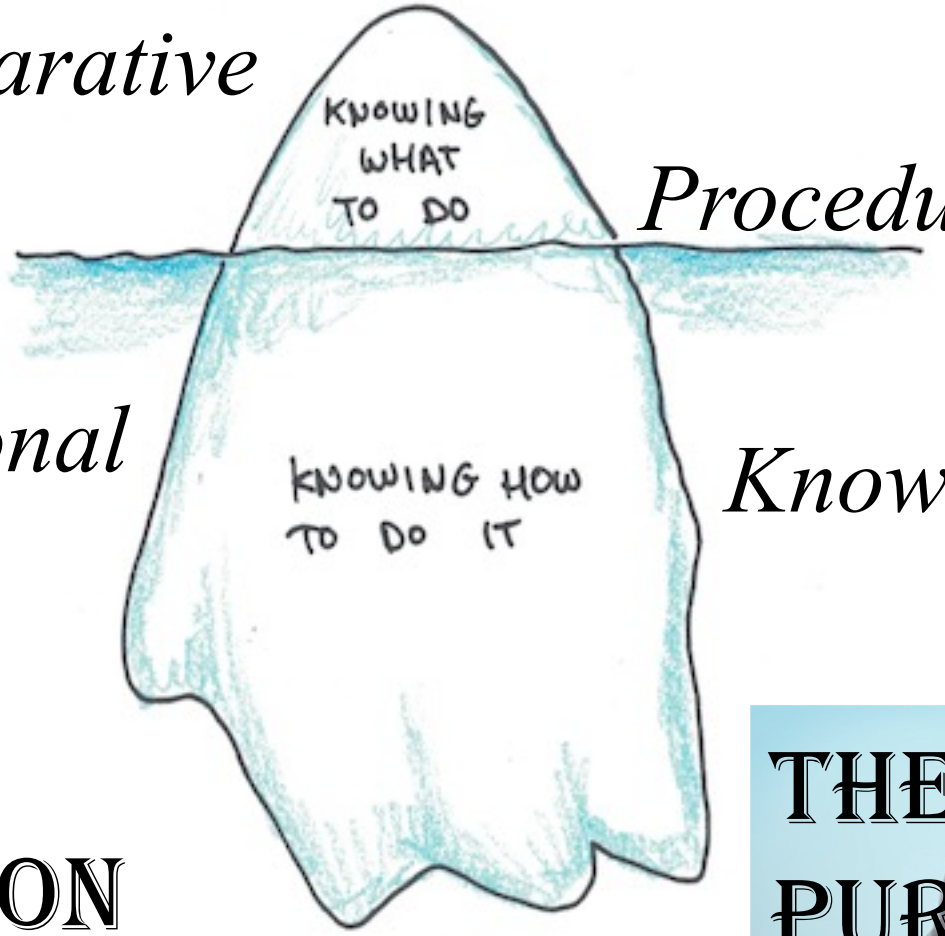
Implementation of High-Leverage Practices: The Need for Nuance and Finesse

High-Leverage Practices for Students with Disabilities

BUILDING

Declarative

Procedural



Conditional

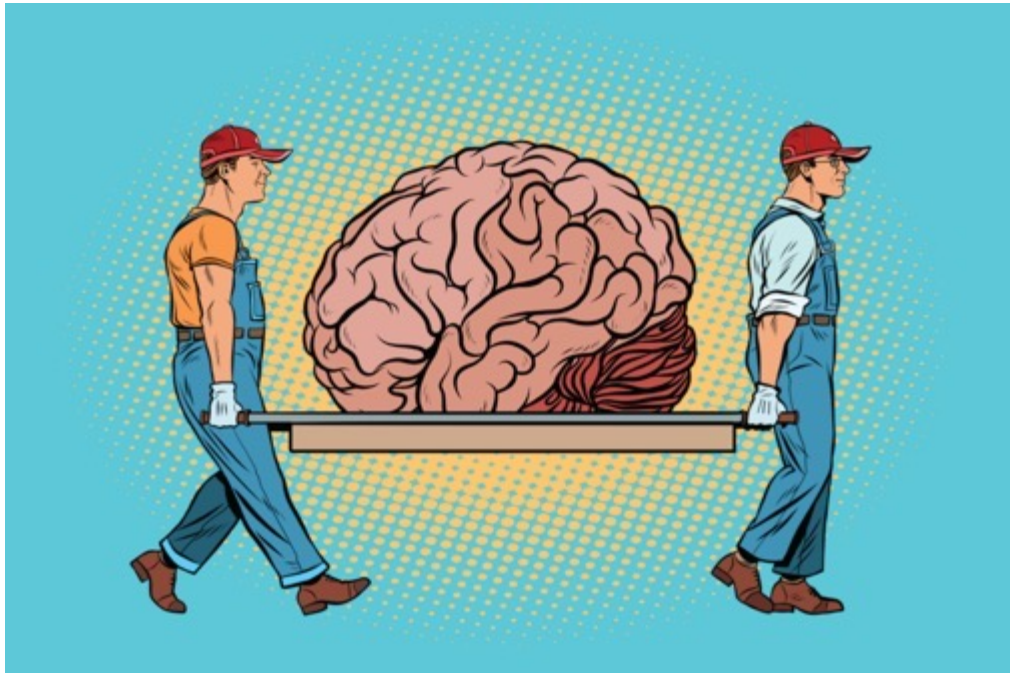
Knowledge

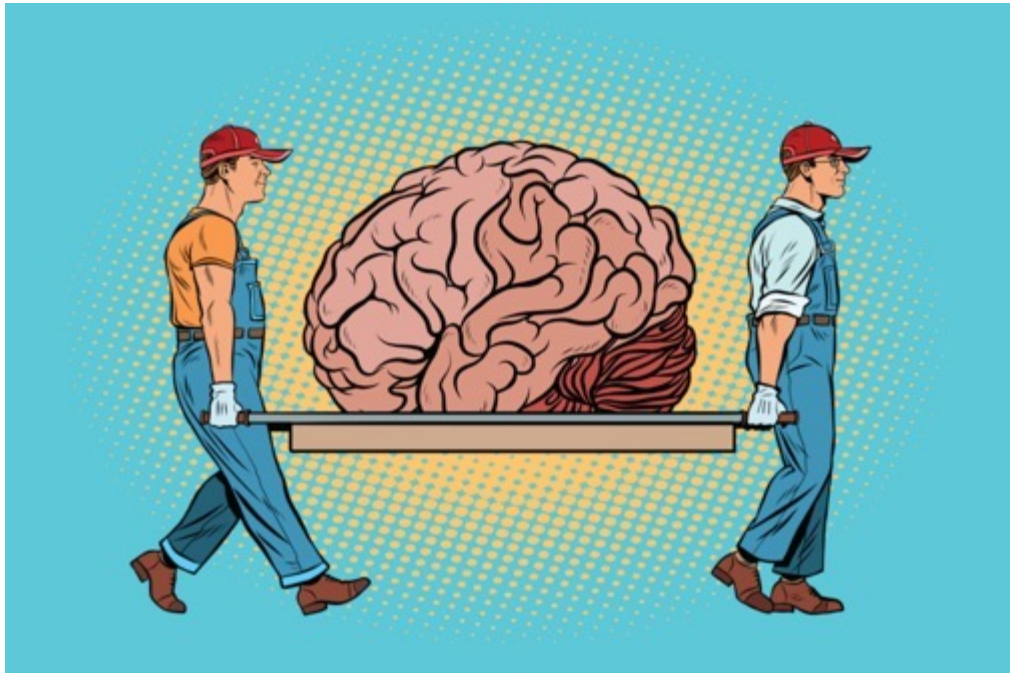
FOR THE IMPLEMENTATION OF HLPS

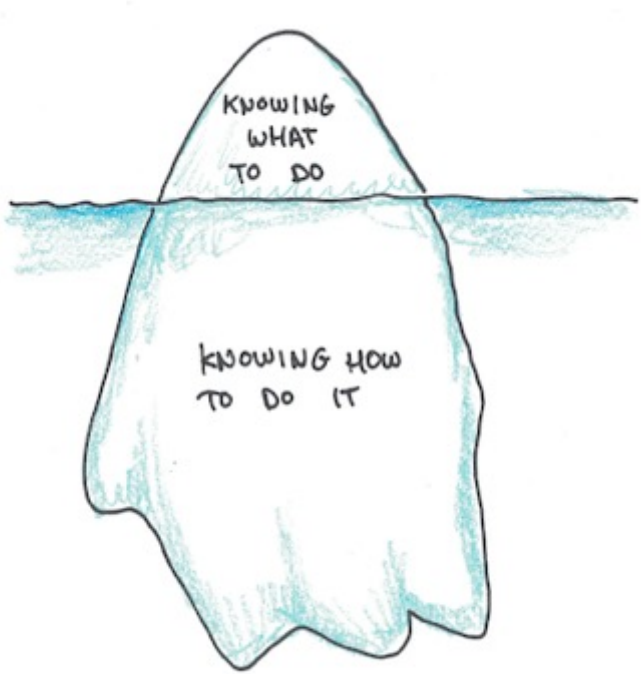
Michael Kennedy, Ph.D.
@MJK_PHD
mjk3p@virginia.edu

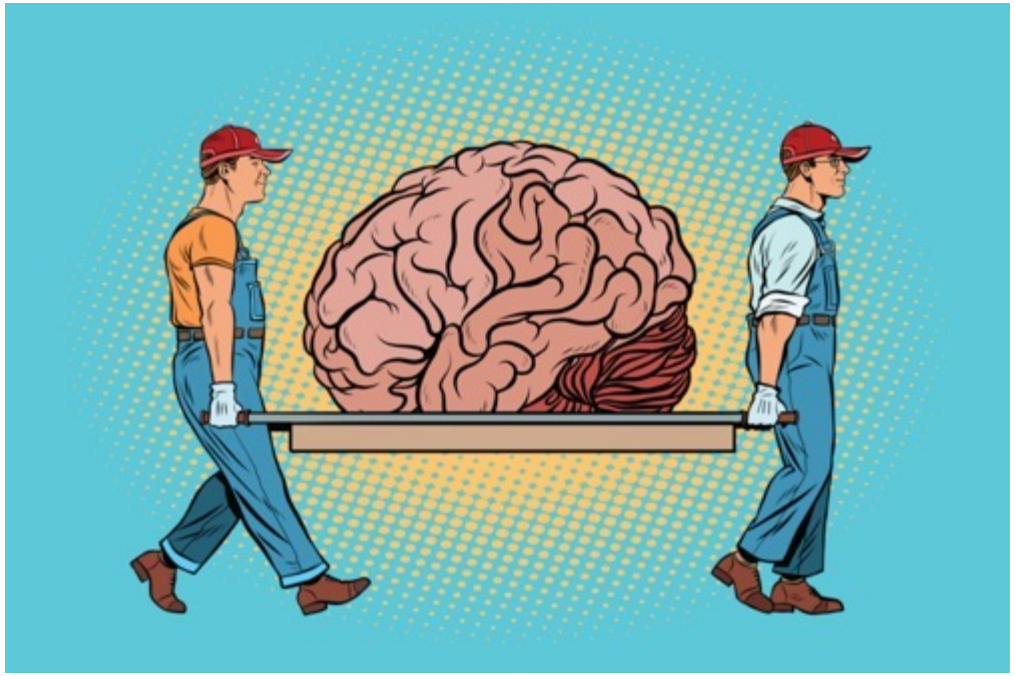
UNIVERSITY of VIRGINIA
SCHOOL of EDUCATION and HUMAN DEVELOPMENT


thank
YOU:-)



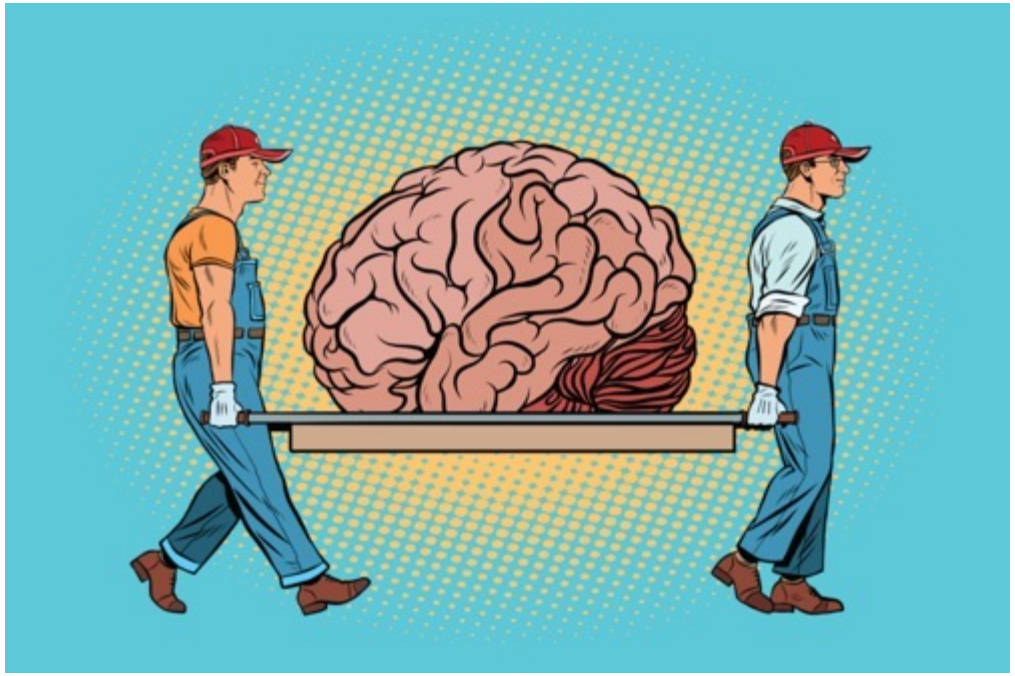


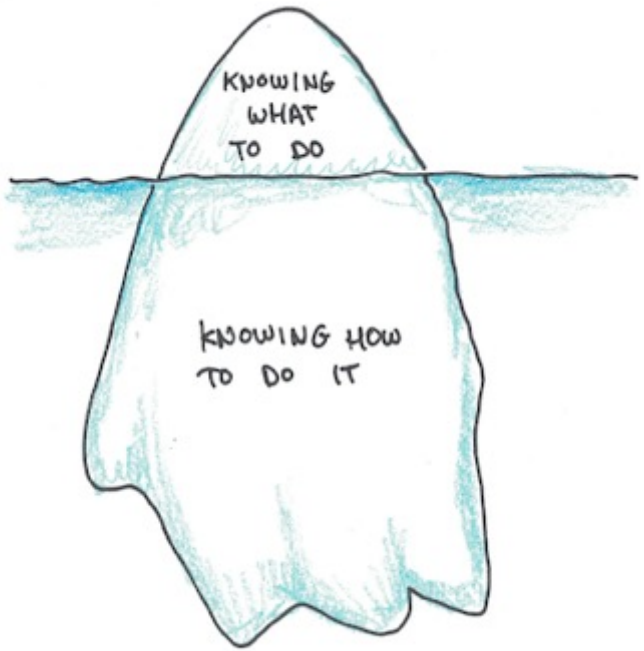

KNOWING
WHAT
TO DO
KNOWING HOW
TO DO IT



CEEDAR CENTER

HIGH-LEVERAGE PRACTICES





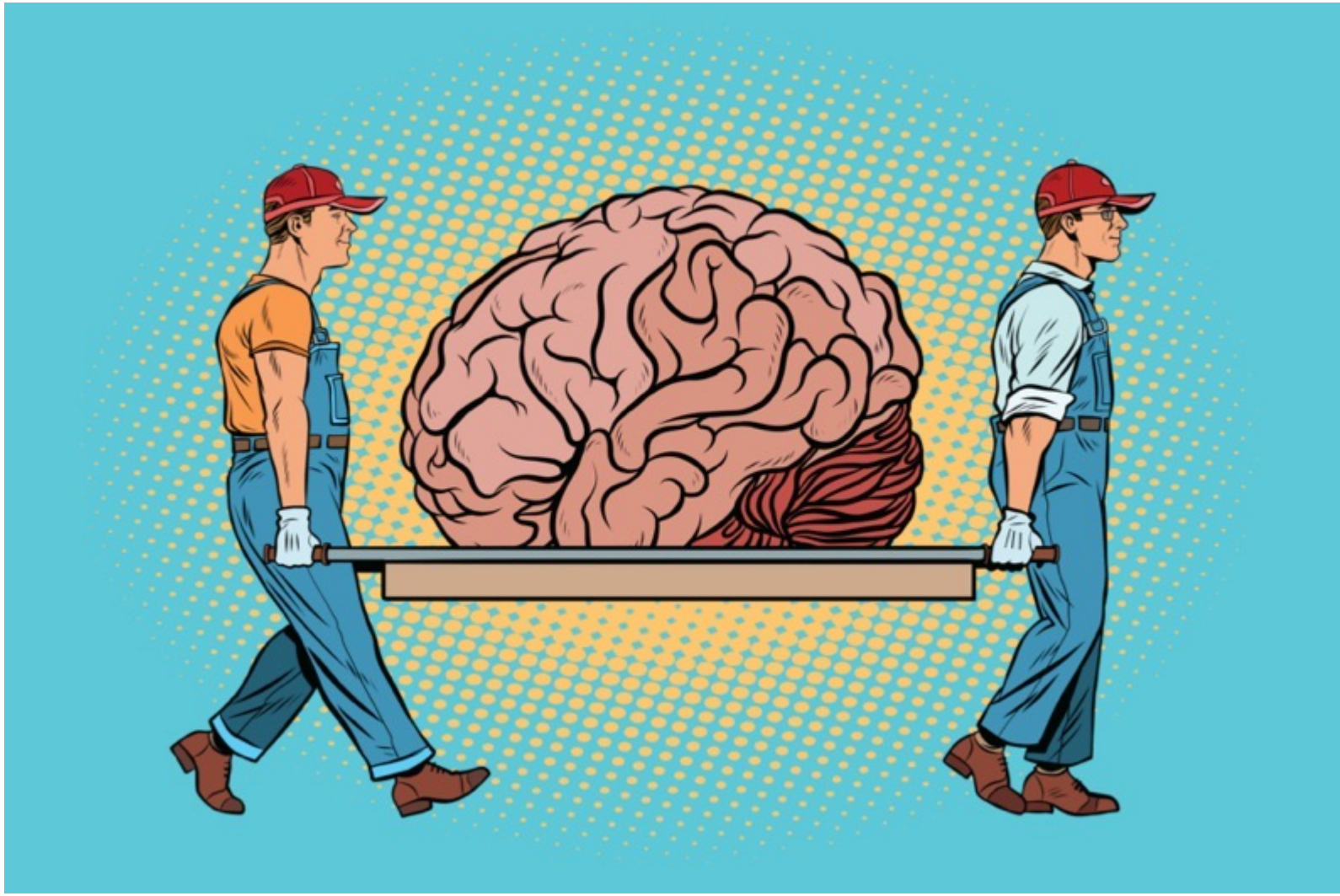
CEEDAR CENTER

HIGH-LEVERAGE PRACTICES

Part One

Are We Paying Enough Attention To Cognitive Load?

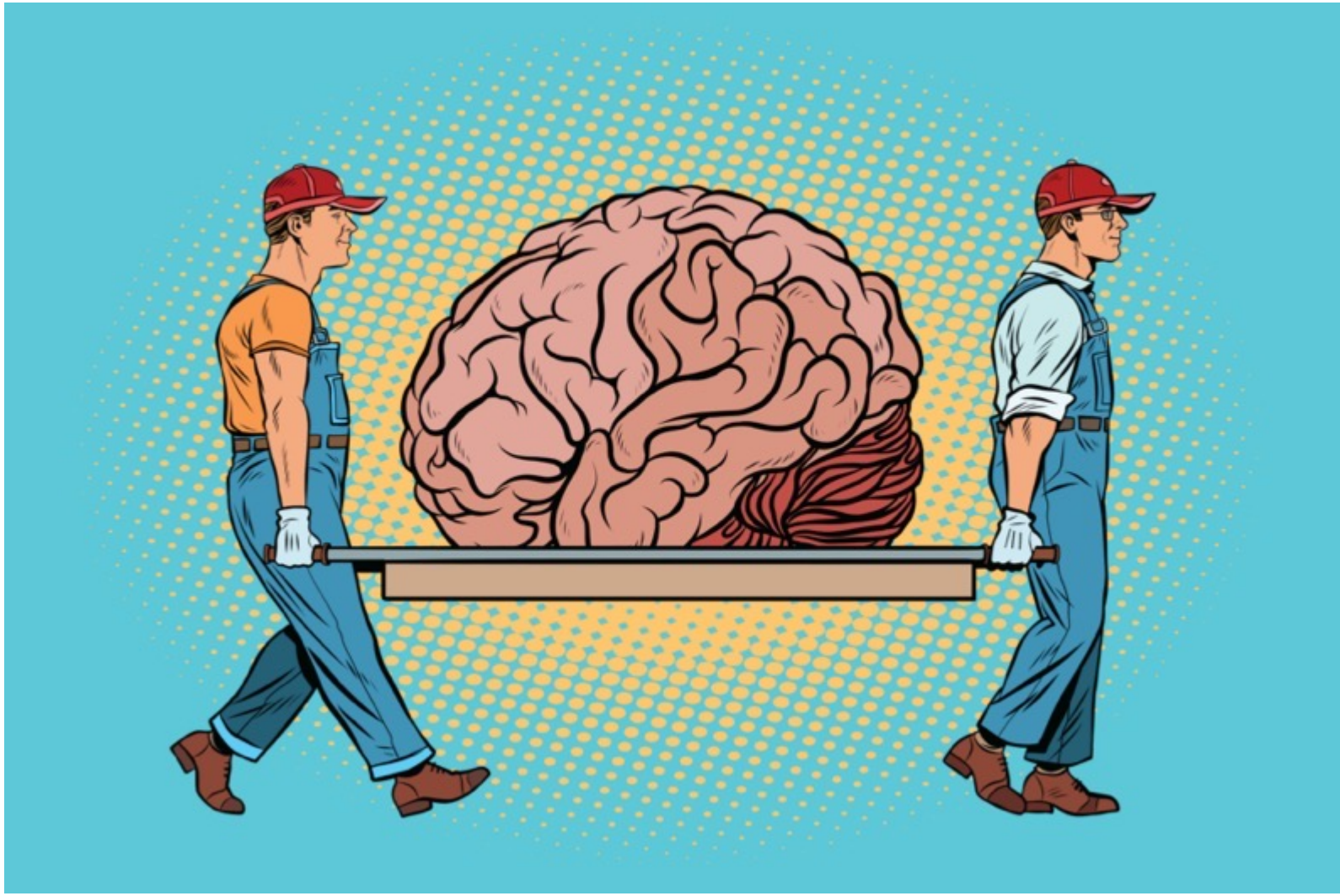
Implications For Teacher Preparation & Classroom Instruction



Are We Paying Enough Attention To Cognitive Load?

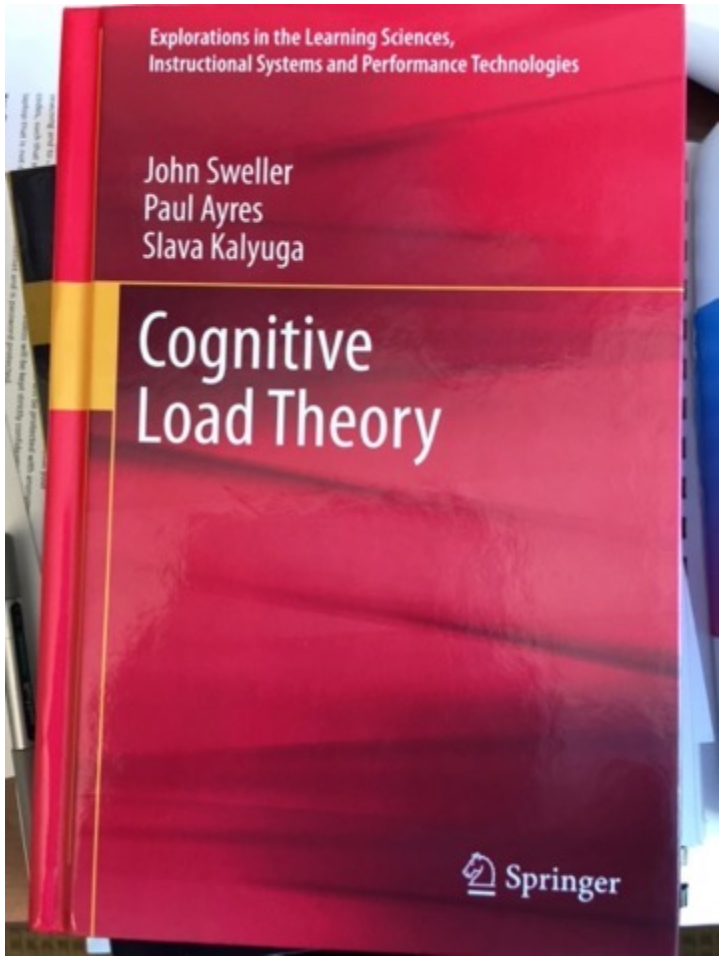
(P.S. No. The answer is no)

Implications For Teacher Preparation & Classroom Instruction



Implications For…

Designing and delivering instruction for teaching adults and students!



I left classroom teaching to become a teacher educator

I left classroom teaching to become a teacher educator

Sadly… The playbook on how to become an effective college instructor is a little thin

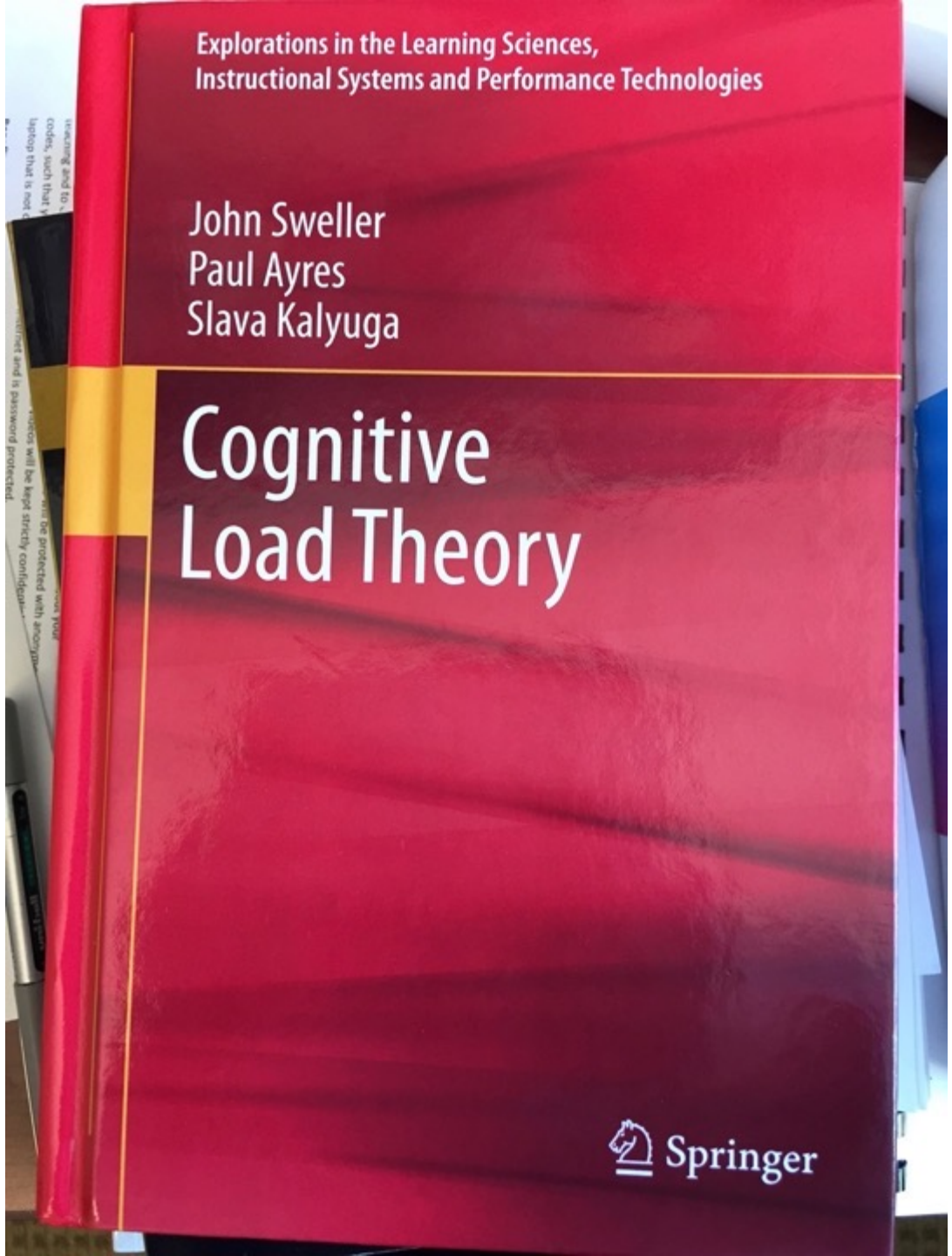
My First Guest Lecture:

Superbly Prepared

rehearsal was flawless

Who wouldn’t enjoy a 100+ slide PowerPoint presentation jam packed with 4-5 thorough bullet points per slide on the finer points of special education law crammed into 75 electric minutes???!!!


I DON'T KNOW


Explorations in the Learning Sciences,
Instructional Systems and Performance Technologies
John Sweller
Paul Ayres
Slava Kalyuga
Cognitive
Load Theory
Springer

3 Types of Cognitive Load

3 Types of Cognitive Load

1. Intrinsic
2. Extraneous
3. Germane

Intrinsic Load

Imposed by the basic structure of information the learner needs to acquire, regardless of how it is taught.

Sweller, Ayers, & Kalyuga, 2011

Intrinsic Load

Imposed by the basic structure of information the learner needs to acquire, regardless of how it is taught.

If content is complex, it imposes more intrinsic load than content that is less/not complex.

Sweller, Ayers, & Kalyuga, 2011

Intrinsic Load

Imposed by the basic structure of information the learner needs to acquire, regardless of how it is taught.

If content is complex, it imposes more intrinsic load than content that is less/not complex.

Even if the material isn't itself complicated, but there is a lot of it, intrinsic load will be taxed.

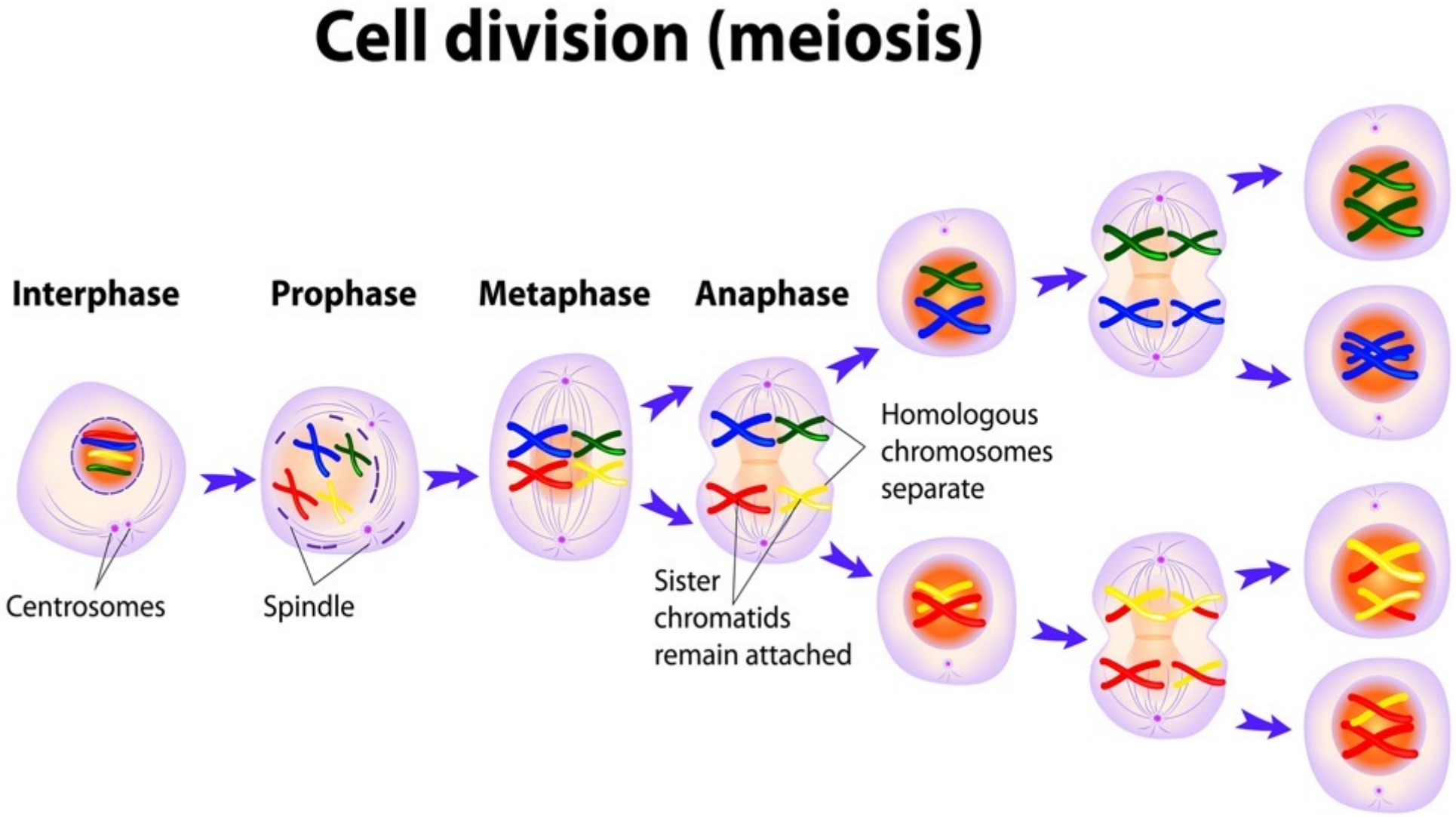
Sweller, Ayers, & Kalyuga, 2011

Interactivity Creates Intrinsic Load

Independent Variable

Dependent Variable

Impacts Students



And Adults When Learning

WHLM: hlm2 MDM File: hsb.mdm

File Basic Settings Other Settings Run Analysis Help

Outcome
Level-1
>> Level-2 <<

INTRCPT2
SIZE
SECTOR
PRACAD
DISCLIM
HIMINTY
MEANSES

LEVEL 1 MODEL

$$MATHACH_{ij} = \beta_{0j} + \beta_{1j}(SES_{ij} - \overline{SES}_{.j}) + r_{ij}$$

LEVEL 2 MODEL

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(SECTOR_j) + \gamma_{02}(MEANSES_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(SECTOR_j) + \gamma_{12}(MEANSES_j) + u_{1j}$$

Mixed

Mixed Model

$$MATHACH_{ij} = \gamma_{00} + \gamma_{01}*SECTOR_j + \gamma_{02}*MEANSES_j + \gamma_{10}*(SES_{ij} - \overline{SES}_{.j}) + \gamma_{11}*SECTOR_j*(SES_{ij} - \overline{SES}_{.j}) + \gamma_{12}*MEANSES_j*(SES_{ij} - \overline{SES}_{.j}) + u_{0j} + u_{1j}*(SES_{ij} - \overline{SES}_{.j}) + r_{ij}$$

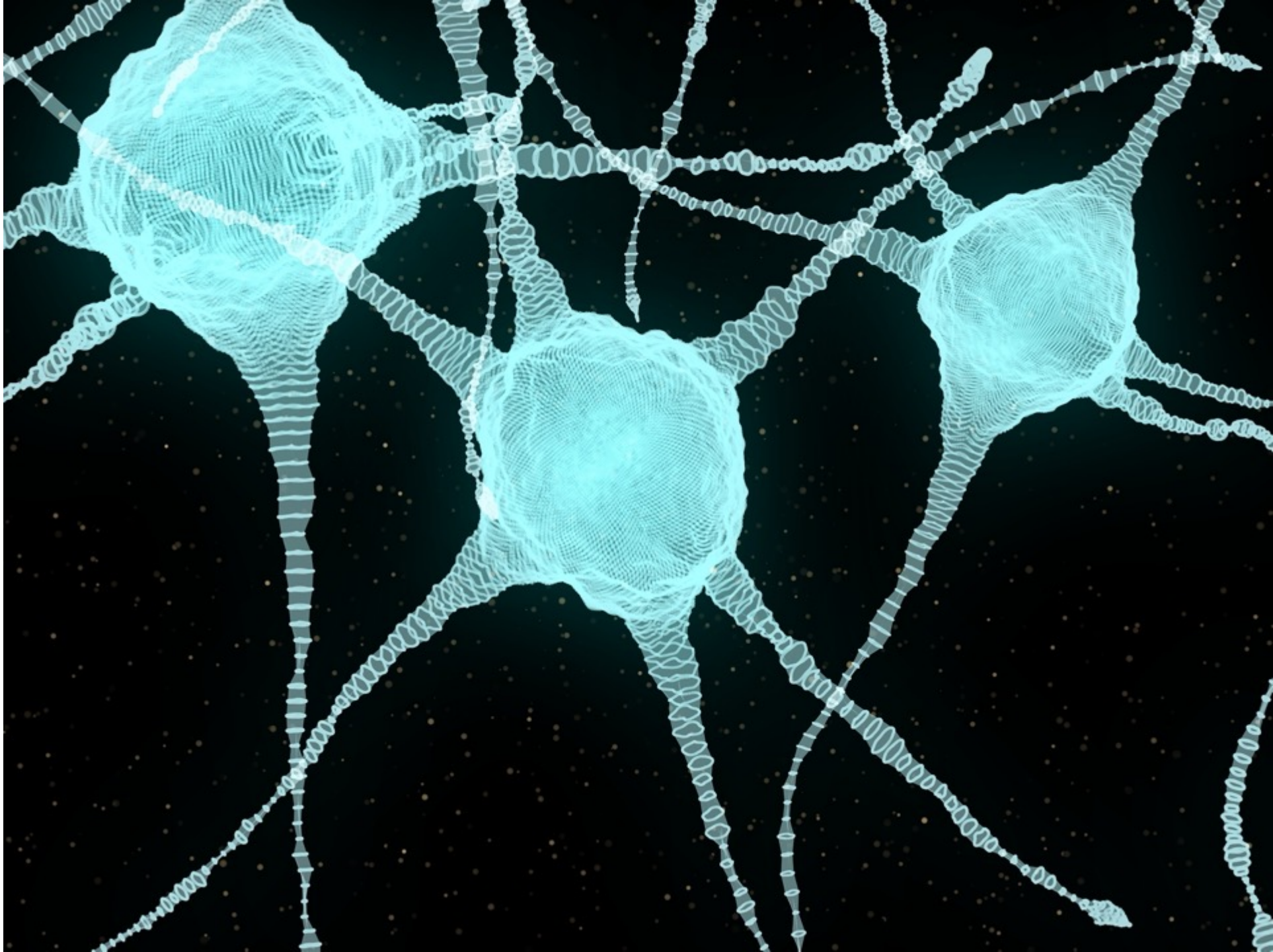
Or Teaching

Prior Knowledge impacts intrinsic load

(if you have some, IL is lower, if not… not)

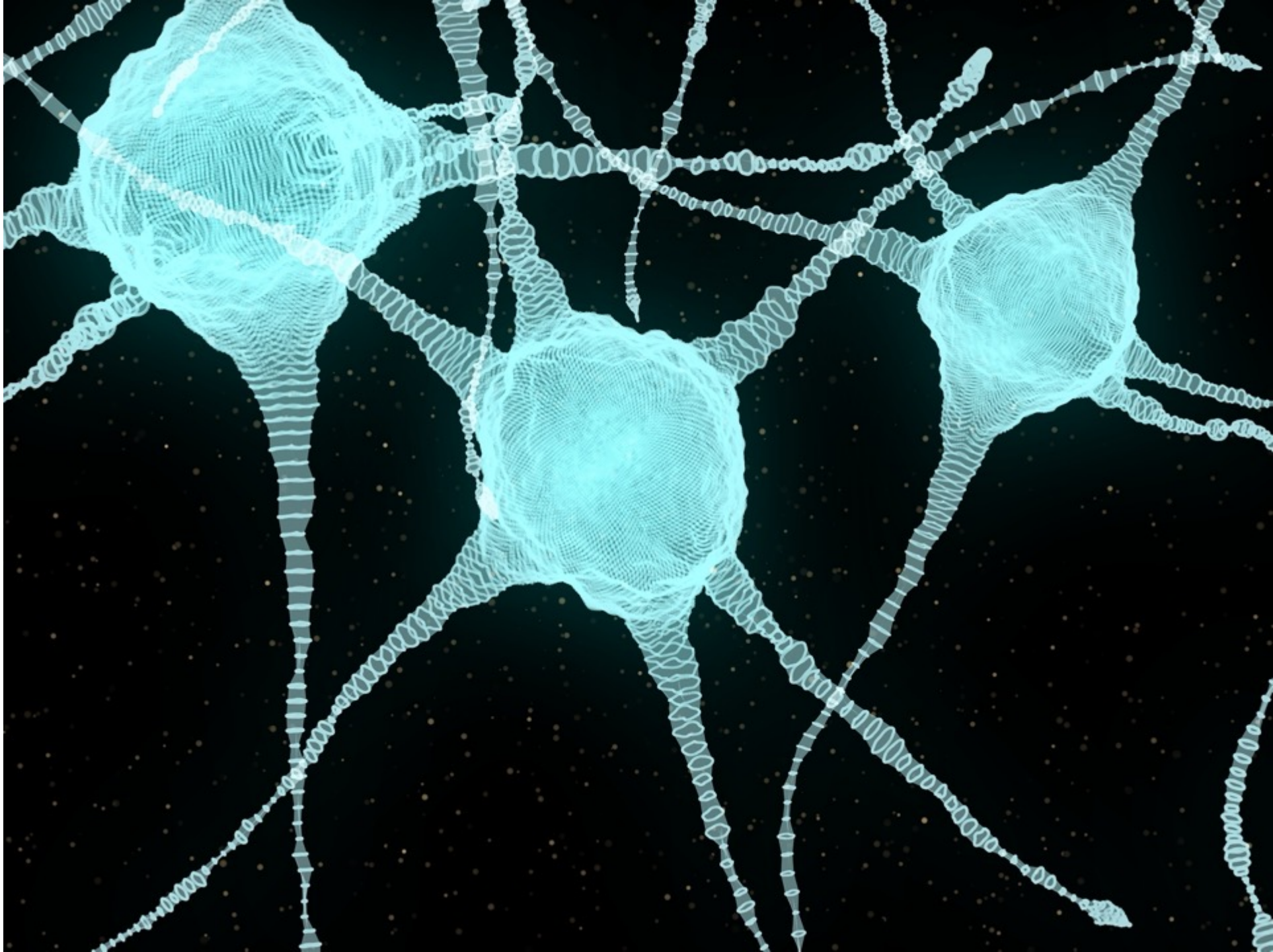

MOTIVATION
DR

Many students with disabilities have some level of dysfunction in terms of cognitive functionality

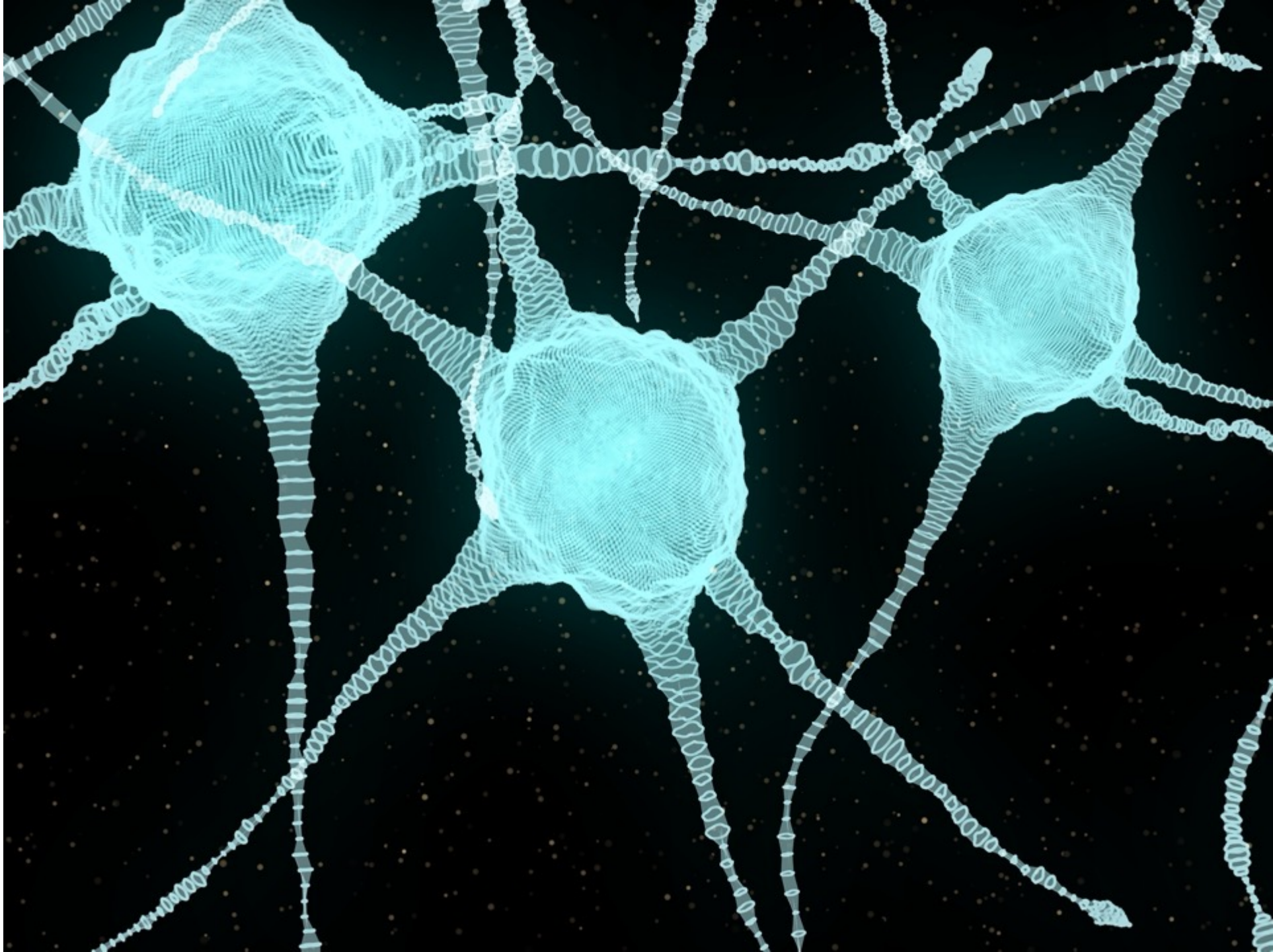


Many students with disabilities have some level of dysfunction in terms of cognitive functionality

IL almost always higher for these kids



New teachers also can struggle with high amounts of intrinsic load because they're literally doing things for the first time…



Extraneous Load

Imposed by the method(s) selected to deliver instruction.

Sweller, Ayers, & Kalyuga, 2011

Extraneous Load

Imposed by the method(s) selected to deliver instruction.

Some instruction can cause extremely high amounts of extraneous load, which interferes with learning.

Other instructional approaches
keep extraneous load to a minimum. It just depends…

Sweller, Ayers, & Kalyuga, 2011

Boring, generic title (4)

- **I am writing down everything I could possibly say about this slide**
- **Resulting in me reading all the text out loud**
  - But hey, that also means I do not have to make any contact whatsoever with my audience.
    - Yippeee!
    - Shit, is my fly open? I feel a breeze
  - Why is that guy yawning over there?
  - I just love the Arial font, don't you?
  - I'm glad my secretary found this standard background, it is just so pretty to look at.
- **Could this possible get more lame?**
  - No, probably not
  - I should insert a joke, but I wouldn't know where to find one on the internet
  - If I bore everyone long enough, there will be no room for questions
    - The idea of interaction just made me pee in my pants
- **I hope no one notices I actually wish I was dead**
- **I've just forgotten my name…**
- **Oh well, only 50 more minutes of this**

Paradox:

High extraneous load for students…

But can be low for teachers

Boring, generic title (4)

- **I am writing down everything I could possibly say about this slide**
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Using EBPs with fidelity, collecting data, monitoring behavior, implementing IEPs, collaborating, being observed, etc…

Extraneous Load

Imposed by the method(s) selected to deliver instruction.

Intrinsic load and extraneous load are additive. The sum is the total cognitive load imposed by content that needs to be learned.

IL + EL = Total Load

Sweller, Ayers, & Kalyuga, 2011

Extraneous Load

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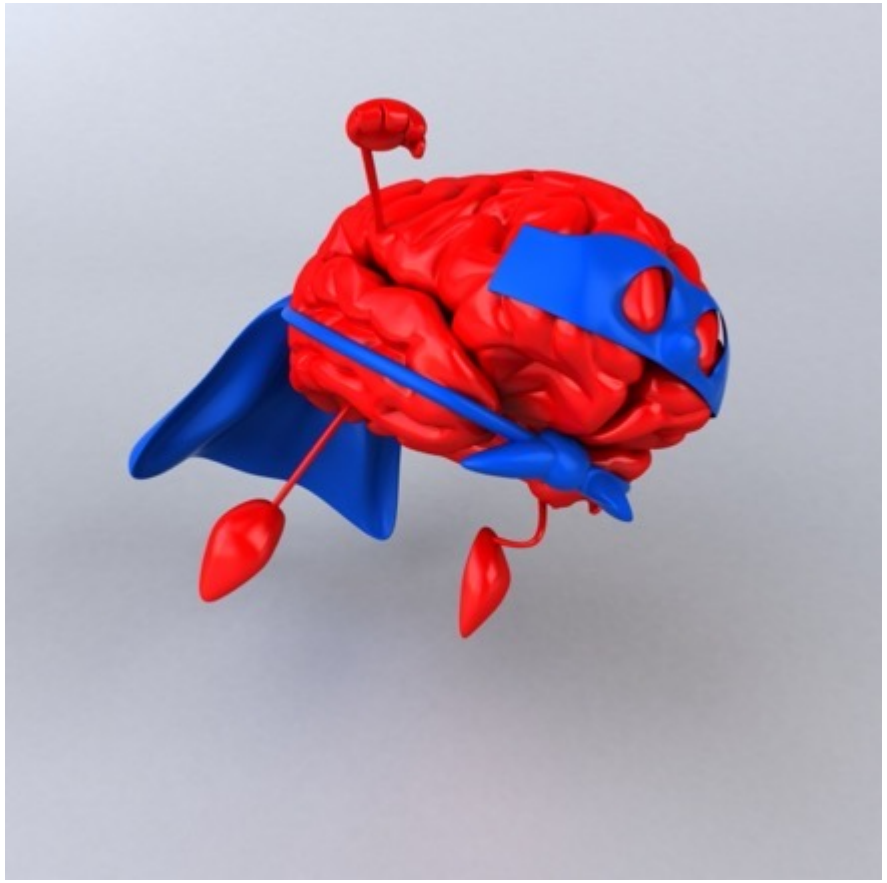
Intrinsic load and extraneous load are additive. The sum is the total cognitive load imposed by content that needs to be learned.

The total cognitive load determines the required working memory resources needed to process information.

Sweller, Ayers, & Kalyuga, 2011

Germane Load

Remaining cognitive resources within working memory devoted to addressing intrinsic and extraneous load.



Sweller, Ayers, & Kalyuga, 2011

Germane Load

Cognitive resources within working memory devoted to addressing intrinsic and extraneous load.

If working memory resources required to deal with the combined intrinsic and extraneous load are exhausted or overwhelmed, learning is unlikely to occur (no germane load left).

Sweller, Ayers, & Kalyuga, 2011

For teachers:

No germane load left?

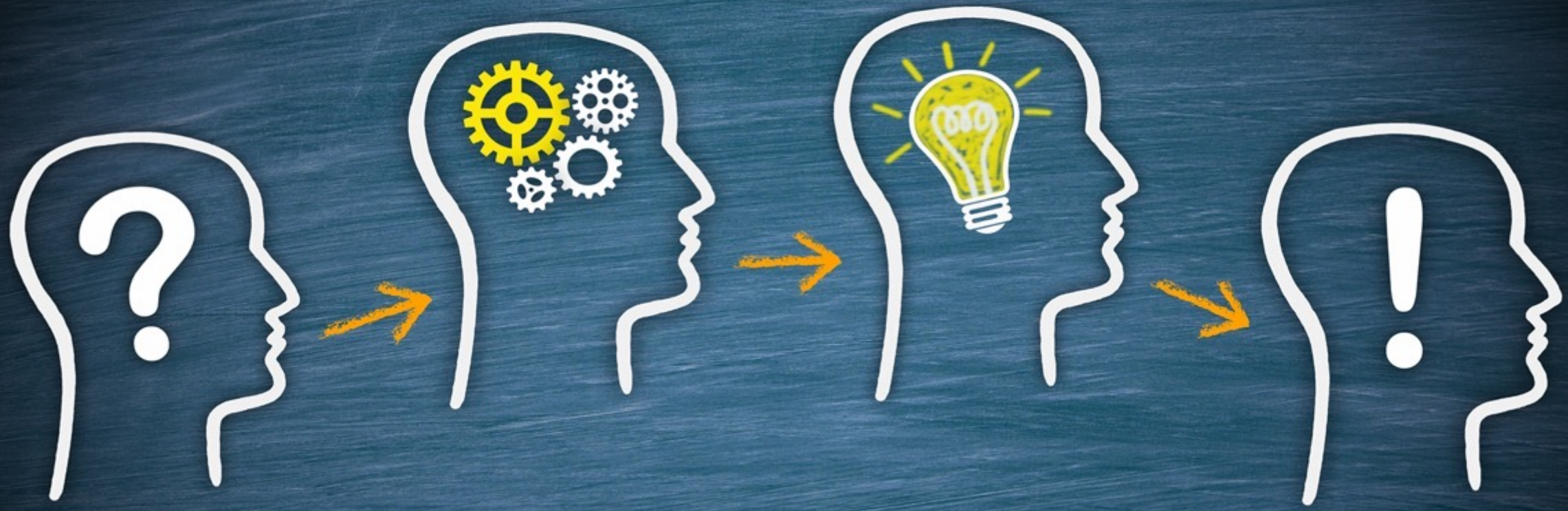
Probably no EBPs…

EDUCATIONAL PSYCHOLOGIST, *42*(3), 123–137

Cognitive Load and Classroom Teaching: The Double-Edged Sword of Automaticity

David F. Feldon

Department of Educational Studies
University of South Carolina



Implications for Teachers???

For Many Students
There is a Mismatch
Between Student's
Learning Needs &
The Demands of the
Curriculum –
Especially in Content
Area Courses

Harbort et al., 2007; King-Sears et al., 2014;
Moin et al., 2009; Mutch-Jones et al., 2012

Demands of Content Courses

Student's Learning Needs

Vannest et al., 2009; Wei et al., 2010; Robinson, 2002

Prevailing Pedagogy

Student's Learning Needs

Vannest et al., 2009; Wei et al., 2010; Robinson, 2002

Whoops…

It’s apparently very easy to overload learner’s limited cognitive capacity – This goes for teachers in PD, or students with and without disabilities.

Whoops…

It’s apparently very easy to overload learner’s limited cognitive capacity.

And when that happens… learning doesn’t.

Also, teachers (at all levels) are subject to experiencing cognitive overload. When a teacher is overwhelmed, they are likely to stop using practices they find to be difficult to implement, and revert to whatever approach comes easiest to them (usually talking/lecturing).

Give thought to how we structure our approach for teaching from a design perspective…

Give thought to how we structure our approach for teaching from a design perspective…

If we know intrinsic load is going to be high, that's a signal to bring our A Game and manage extraneous load.

Do the same for designing and delivering instruction for students with disabilities

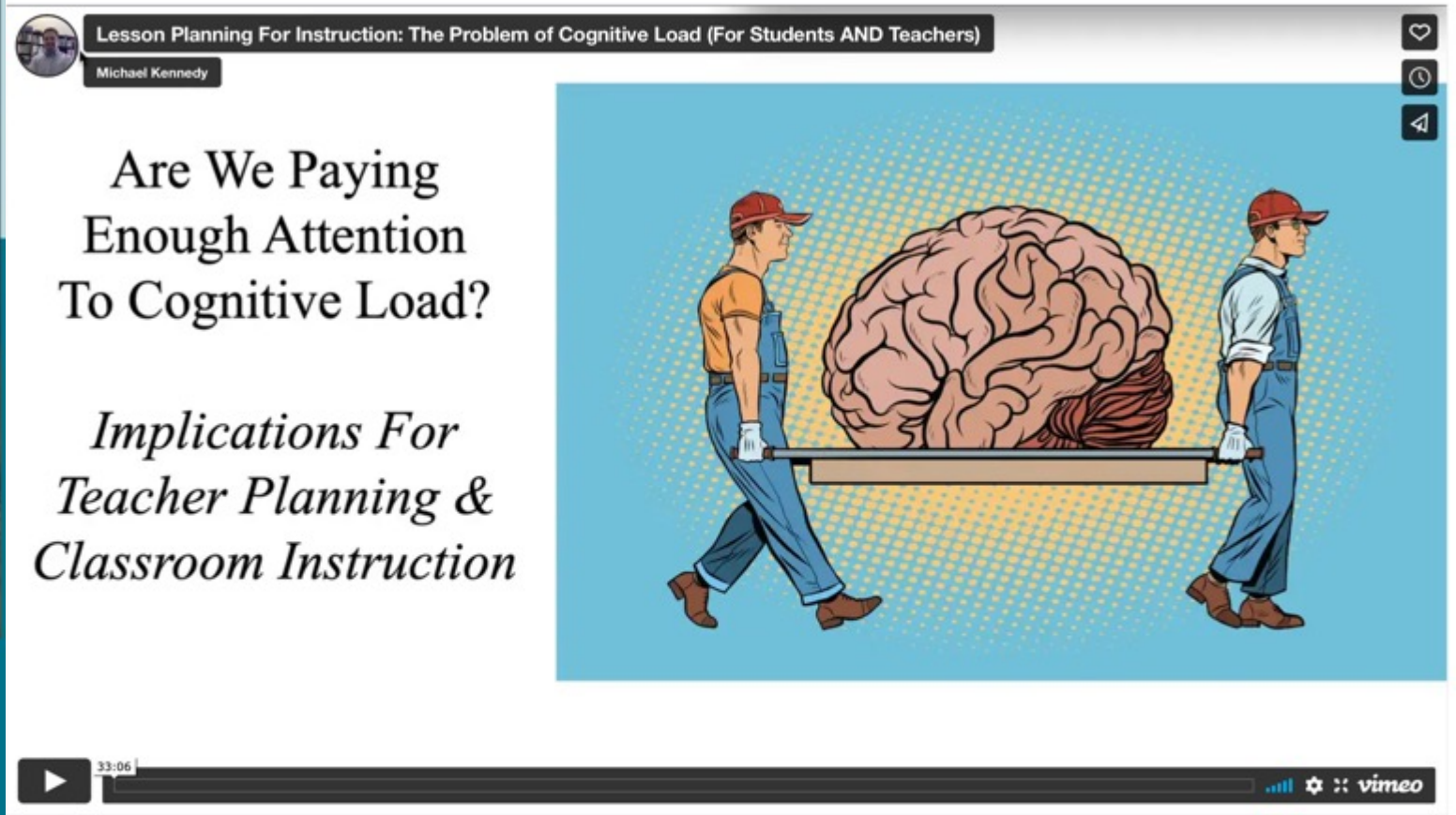
If we know intrinsic load is going to be high, that's a signal to bring our A Game and manage extraneous load.

https://vimeo.com/450156820

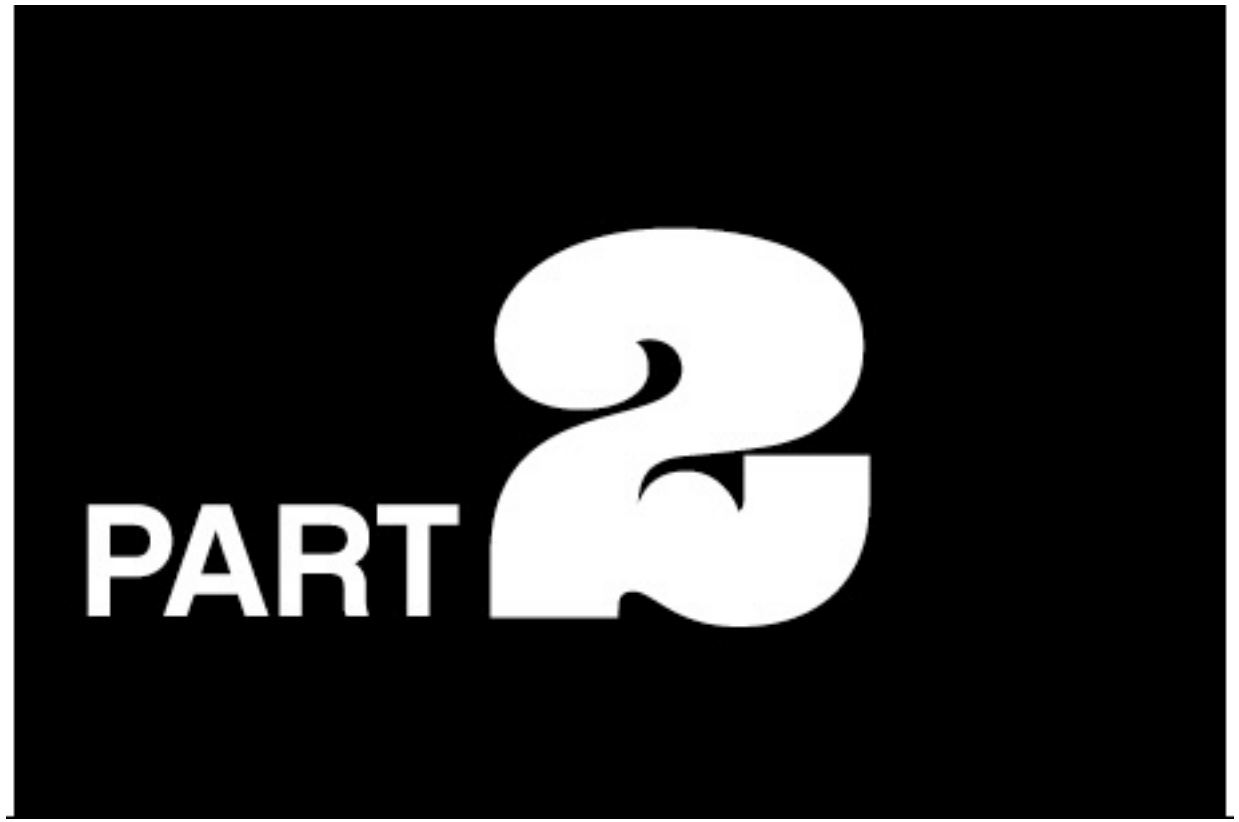
Cognitive Load Theory

An Applied Reintroduction for Special and General Educators

Michael J. Kennedy, University of Virginia,
and John Elwood Romig, University of Texas at Arlington



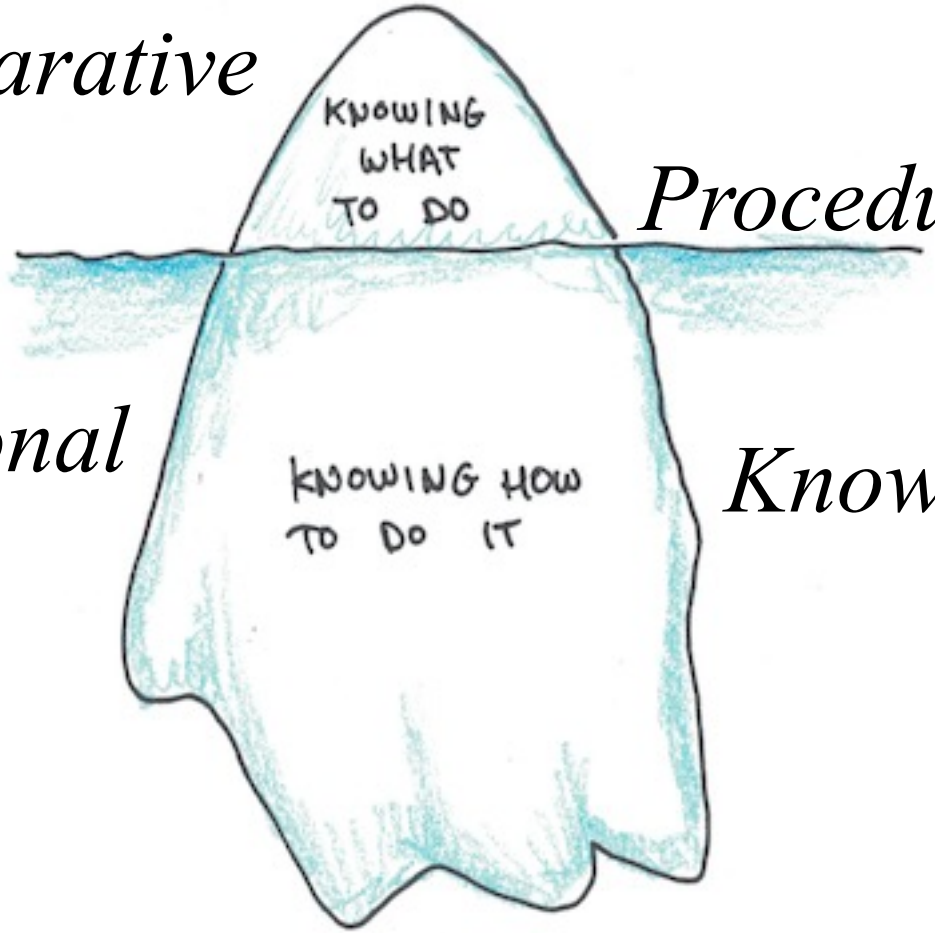
Lesson Planning For Instruction: The Problem of Cognitive Load (For Students AND Teachers)


PART 2

BUILDING

Declarative

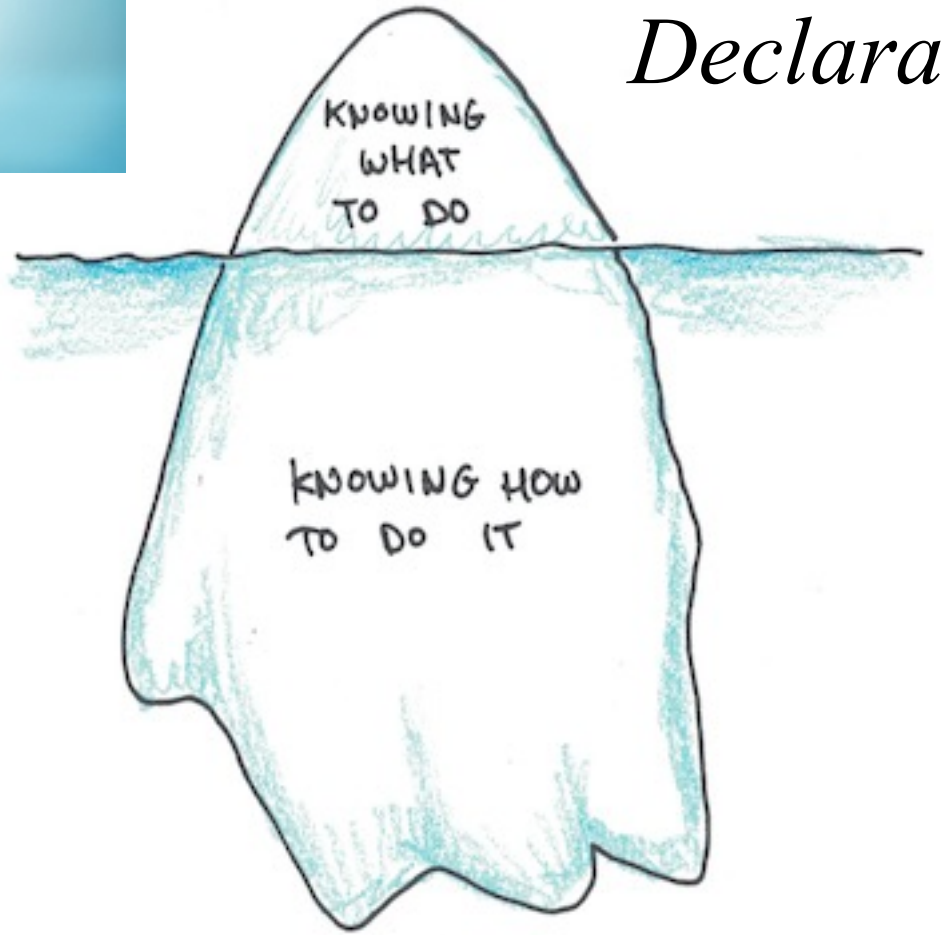
Procedural



Conditional

Knowledge

Declarative Knowledge




YOU
GOOD JOB

CAPs

Content

Acquisition

Podcasts

CAPs

- The CAP approach is based on Mayer's CTML and instructional design principles.

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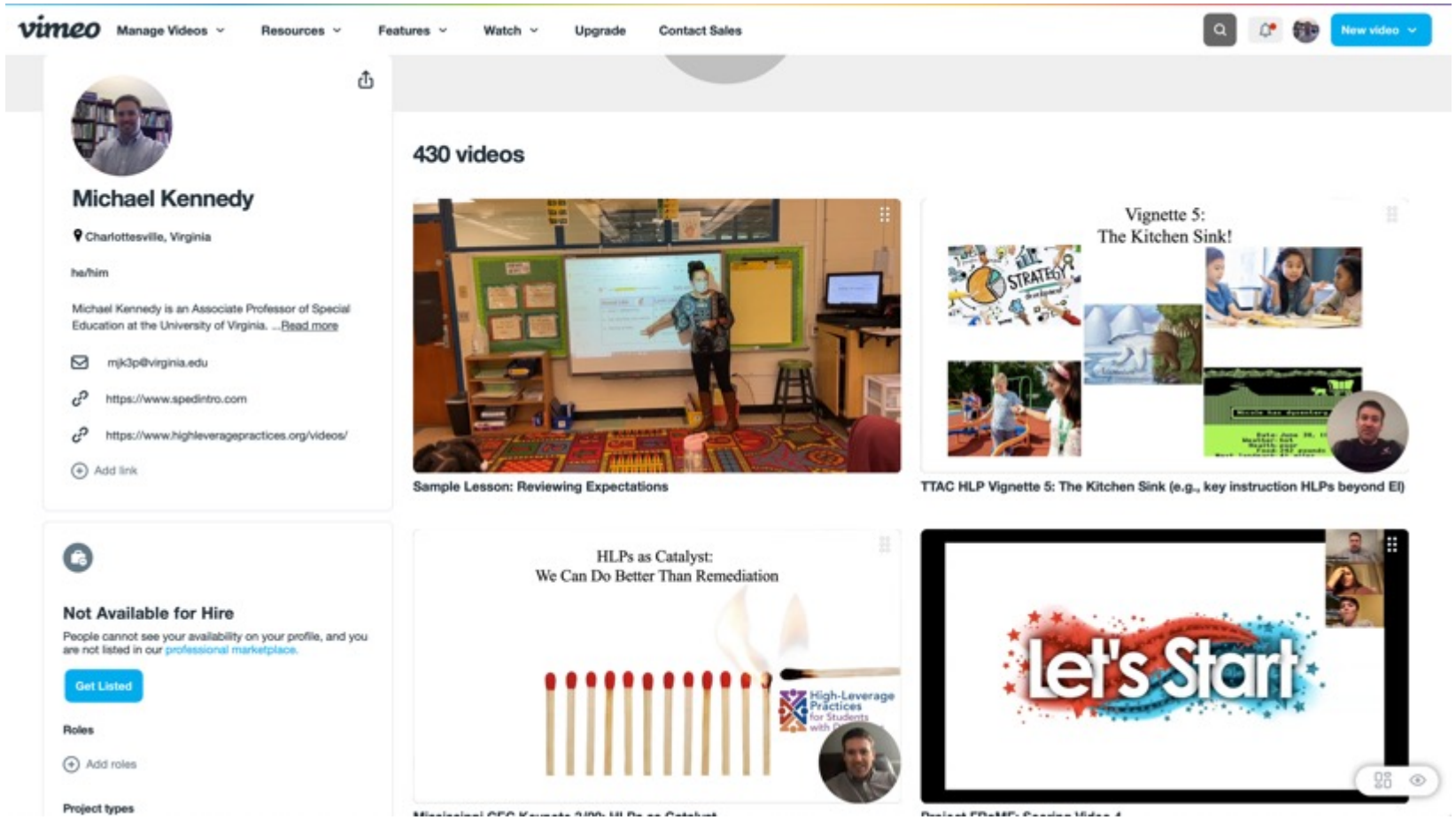
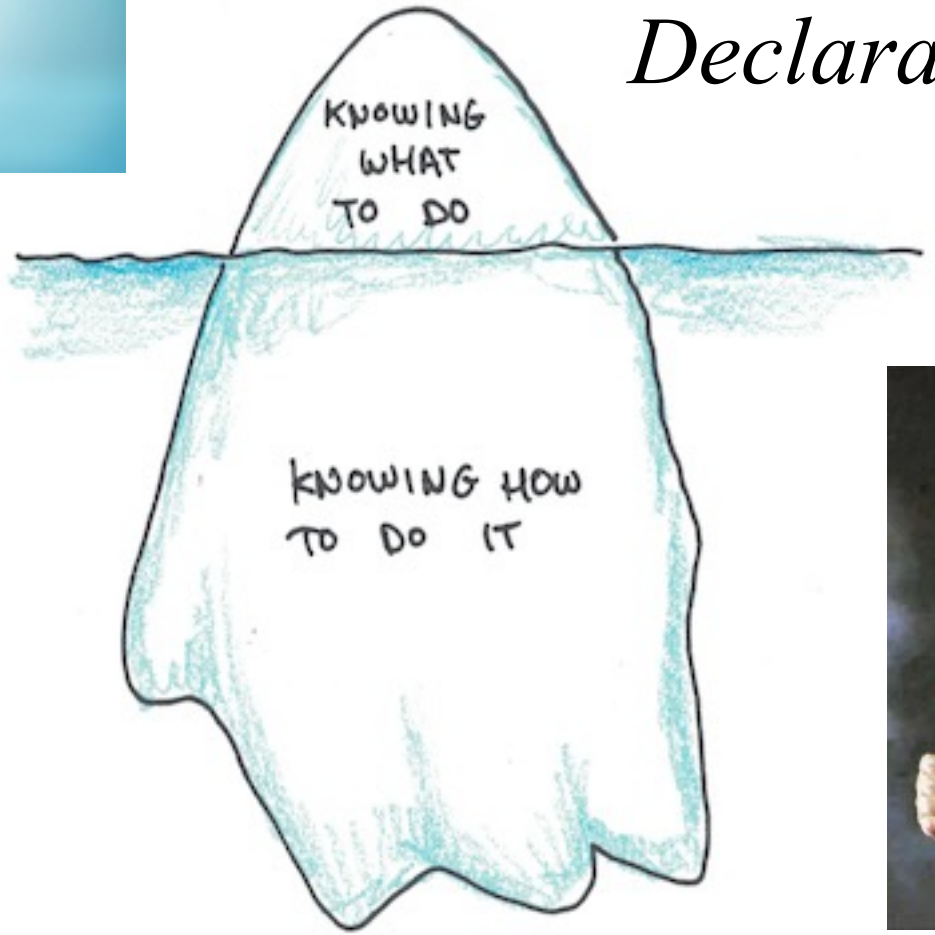
- CAPs can be recorded for asynchronous use (teacher or student)
- Or, the unrecorded versions of CAPs can be used as part of a teachers' instructional repertoire.
- Basically, CAPs look and sound like this presentation (*not this slide though – do as I say, not as I do*)

www.spedintro.com

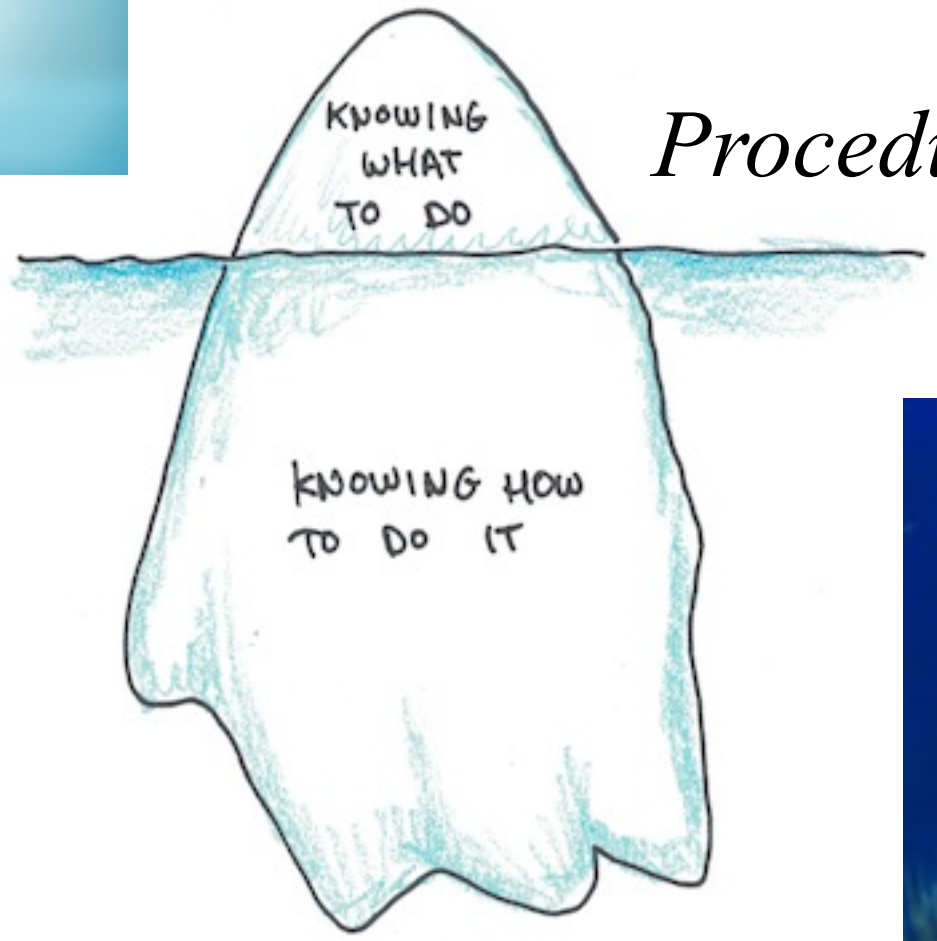
www.vimeo.com/mjk



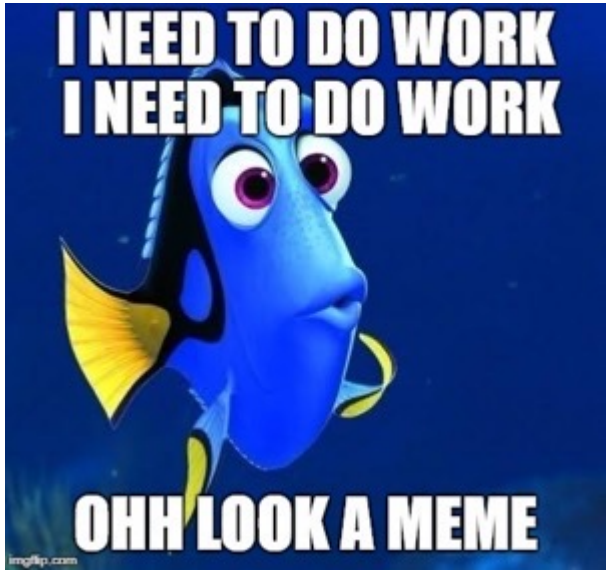
Declarative Knowledge



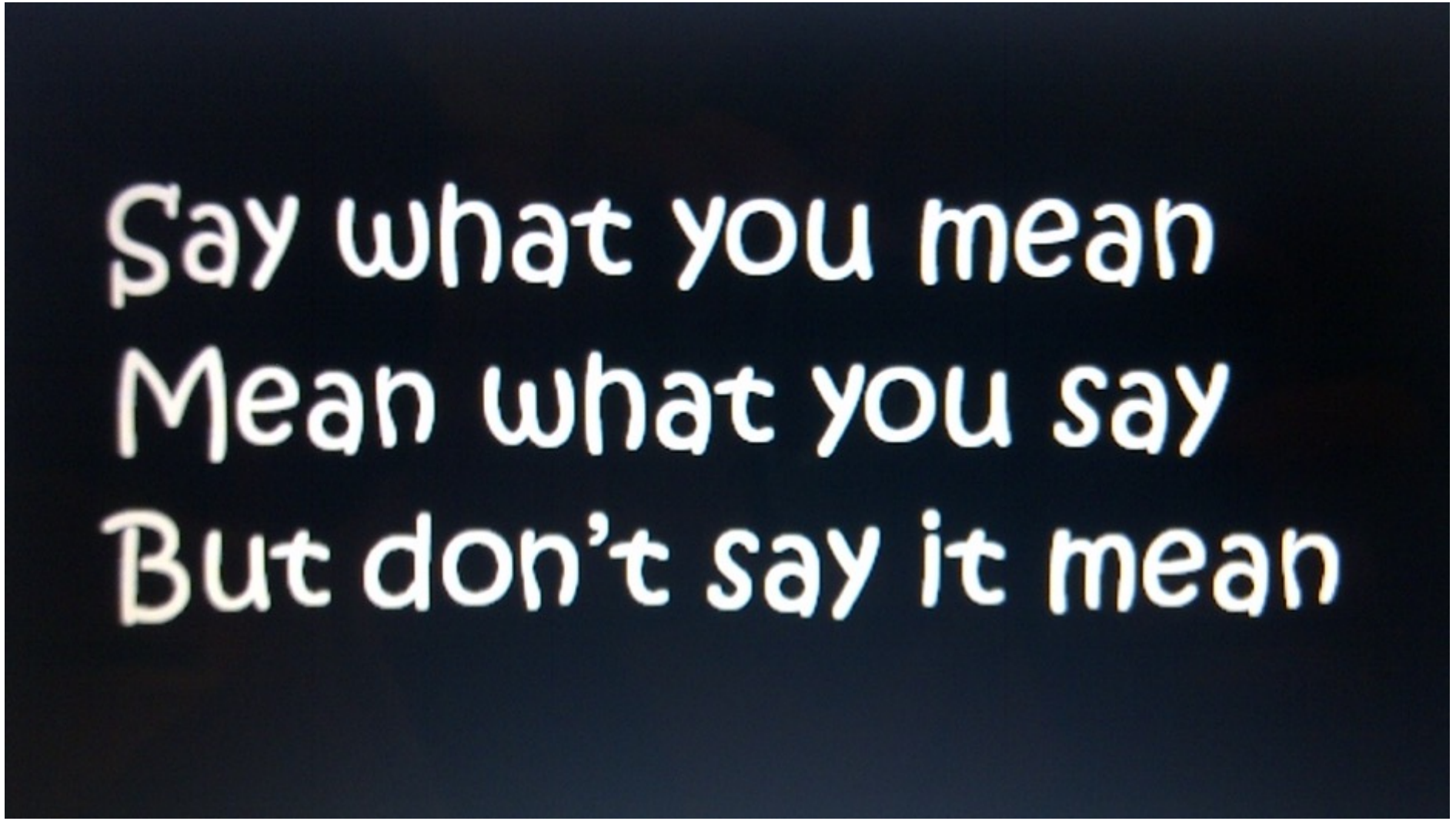
Declarative Knowledge



Procedural Knowledge

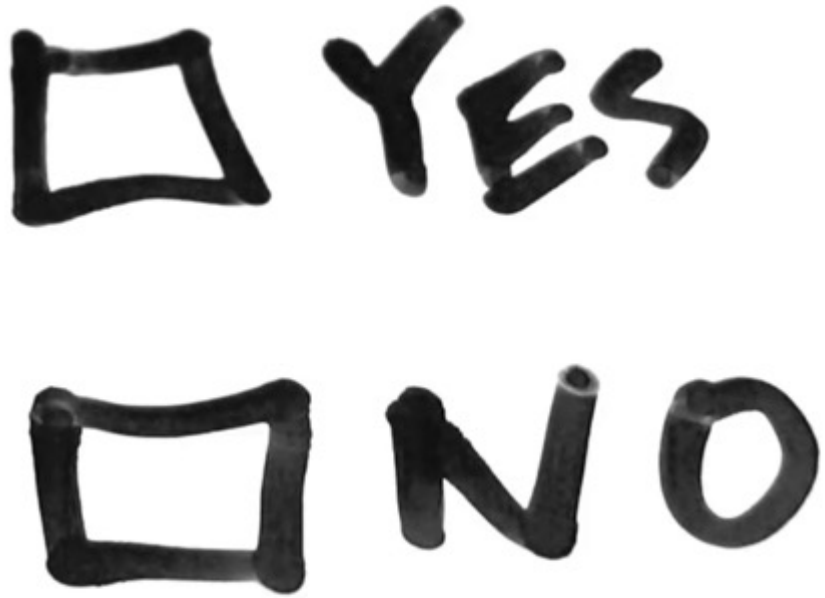


HLP 16: Use Explicit Instruction



“I use explicit instruction every day”

Did the teacher use explicit instruction?



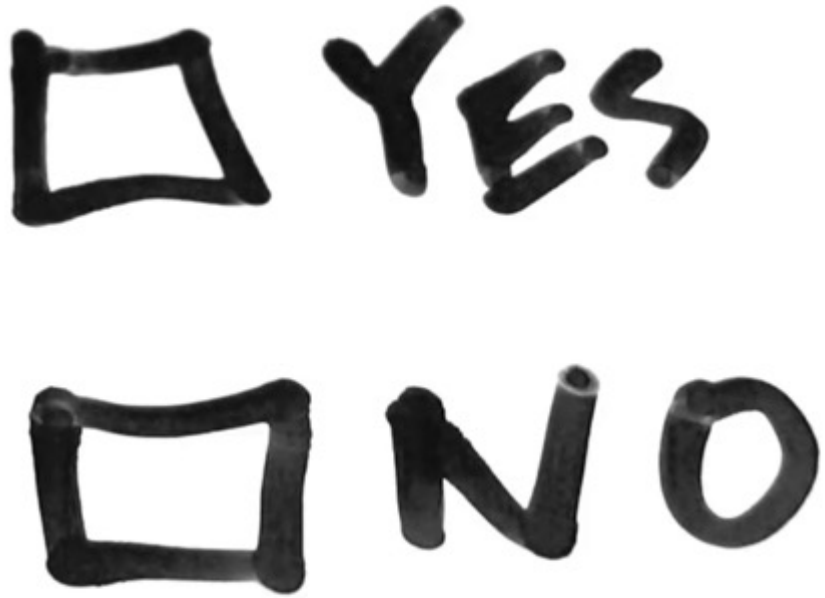
Did the teacher use explicit instruction?

☐ YES

Provide feedback?

☐ NO

Simply answering yes or no for any HLP the teacher attempted is an OK starting place, but is very limited in terms of determining if the practice was implemented with fidelity/quality needed to support student needs.



(Some) Components of EI…

- Clear language
- Explicit cues
- Review of background info
- Deliberate pace
- Modeling
- Guided practice
- Independent practice
- Use of examples
- Repetition
- Use of feedback

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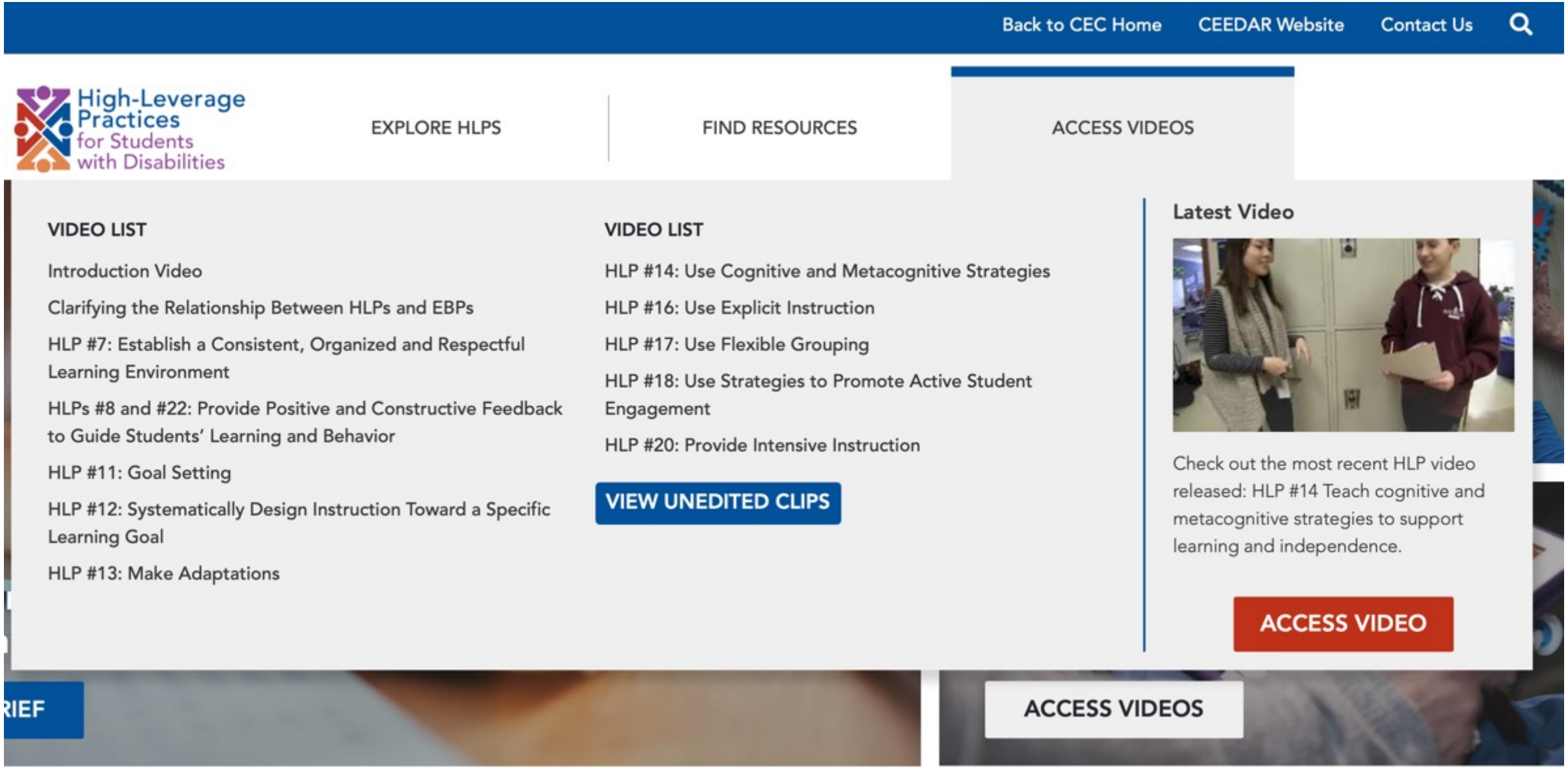
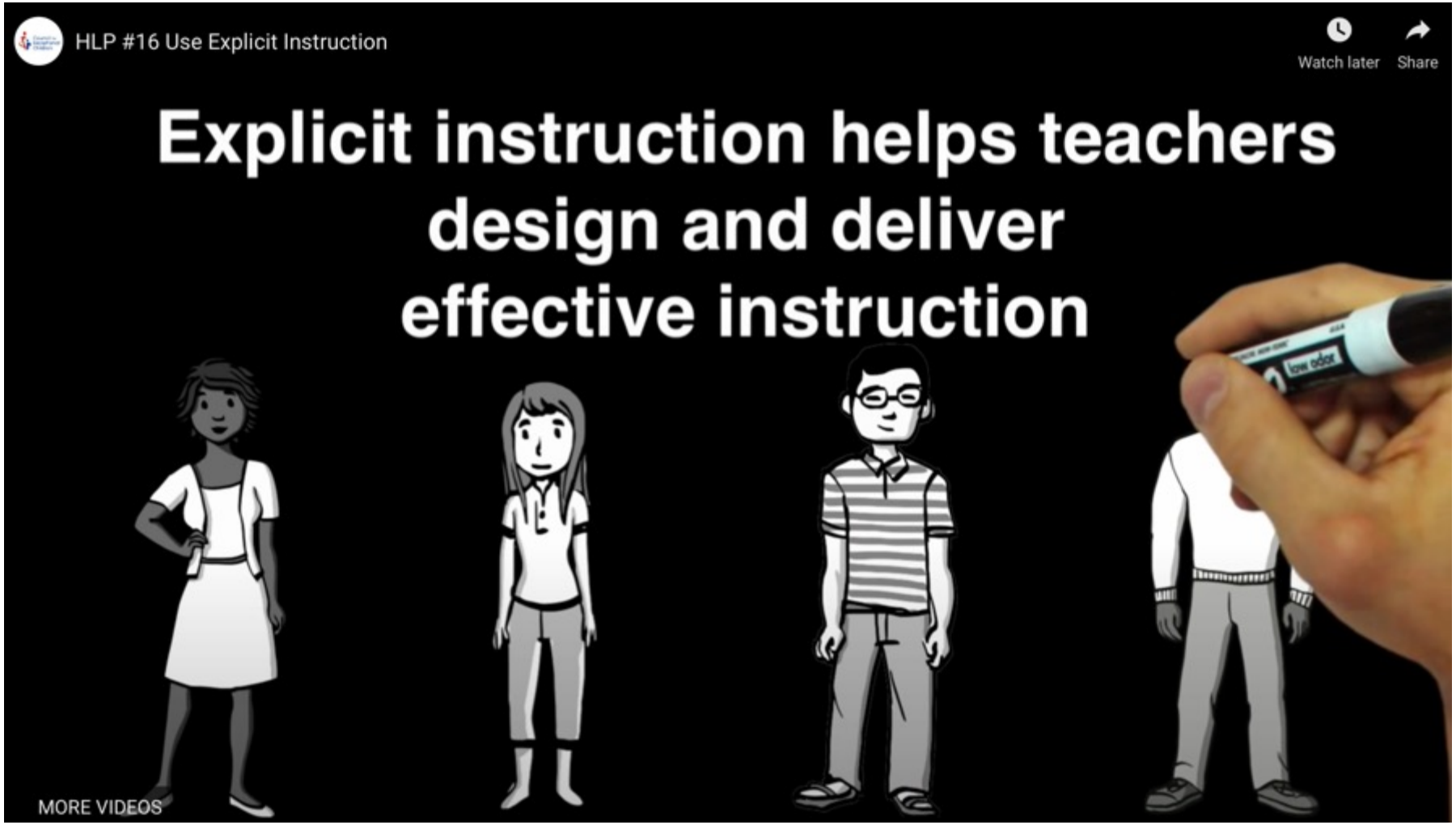
- Clear language
- Explicit cues
- Review of background info
- Deliberate pace
- Modeling
- Guided practice
- Independent practice
- Use of examples
- Repetition
- Use of feedback

And each of these components have nuance to them… They're not dichotomous

www.highleveragepractices.org



In each video we note key definitions/components of each HLP



And model implementation across various settings

Unedited Clips of Teachers Implementing HLPs

Looking for virtual content for your courses? These unedited clips feature video exemplars of teachers implementing high-leverage practices (HLPs) in a variety of instructional settings. The settings include elementary-level, secondary-level, one-on-one, small-group, whole-group, and virtual instruction.

The clips can be used in your educator preparation program courses as supplemental content to observe teacher practice and prompt discussion around the HLPs.

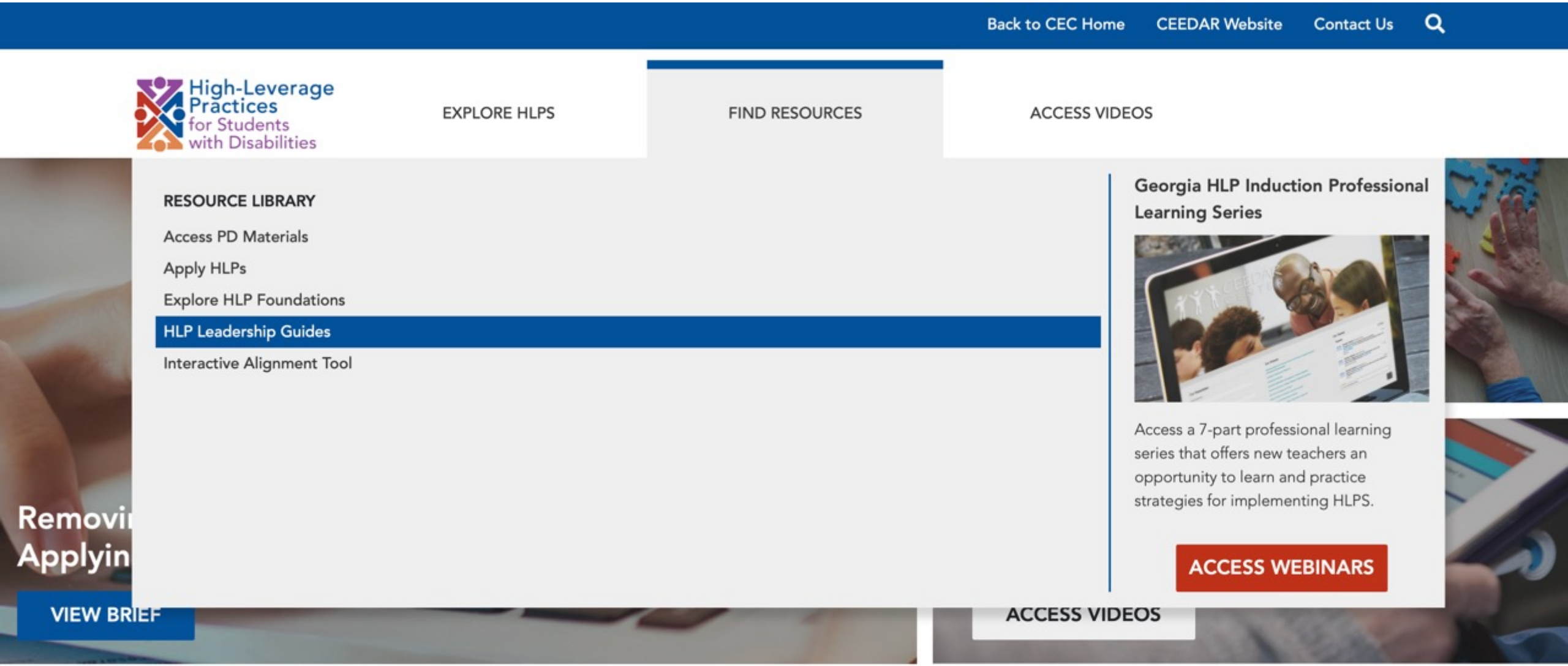
View the Clips

UNEDITED VIDEO CLIP #1: UPPER ELEMENTARY SMALL-GROUP MATH LESSON

UNEDITED VIDEO CLIP #2: EARLY ELEMENTARY FULL-GROUP READING LESSON

UNEDITED VIDEO CLIP #3: UPPER ELEMENTARY FULL-GROUP MATH LESSON

www.highleveragepractices.org



HLP 1: Collaborate with Professionals to Increase Student Success

High-Leverage Practices for Students with Disabilities

It is very easy for professionals working in schools to take collaboration for granted. Obviously, teachers and other staff see and speak to one another on a regular basis, which can give the illusion that collaboration is happening. However, as noted by Friend and Barron (2019), interaction alone does not constitute collaboration. True collaboration requires intention, effort, and skill on the part of professionals, and results in positive outcomes for all parties – especially students with disabilities and others who struggle. HLP 1 is one of the most essential practices to master because it is one of the HLPs used every single day regardless of grade level, content area, or disability status of students. The effective special educator who collaborates well with their colleagues will then be in a strong position to also collaborate with families (HLP 3) and run effective meetings so quality programming can be decided upon and then implemented (HLP 2). In addition, collaboration is essential to implementing essentially all of the social/ behavioral and instruction HLPs as well. In sum, this is HLP 1 for a very good reason.

This resource is intended to support school leaders looking to embed the HLPs in professional development, implementation, teacher observation and feedback efforts at their school site.

The major source for content within this resource is the chapter by Marilyn Friend and Tammy Barron in *High-Leverage Practices in the Inclusive Classroom;* the book *High-Leverage Practices in Special Education: The Final Report of the HLP Writing Team*, and content on www.highleveragepractices.org.

Teachers Who Effectively Collaborate with Other Professionals

Demonstrate Communication Skills

- Demonstrate verbal active listening skills (e.g., paraphrasing).
- Demonstrate nonverbal active listening skills (e.g., facial expressions).
- Use open-ended questioning to encourage active participation and sharing of information from other professionals.
- Use statements that are accurate and descriptive rather than vague and evaluative.
- Carefully blend the above communication skills to foster partnership among professionals.

Co-Teaching & Working with Paraprofessionals

- Co-teaching partners have a strong commitment to their shared work.
- Co-teaching partners communicate and plan with each other regularly.
- Co-teaching partners share resources, decision-making, and accountability.
- Co-teaching partners (and in some cases, paraprofessionals) plan for and use a variety of co-teaching approaches to meet students' needs.
- Clearly establish and agree upon roles and responsibilities between co-teaching partners and paraprofessionals.

Follow Interaction Processes

- Follow the steps to shared problem solving to manage conflicts or disagreements.

Tips for School Leaders to Support Teachers

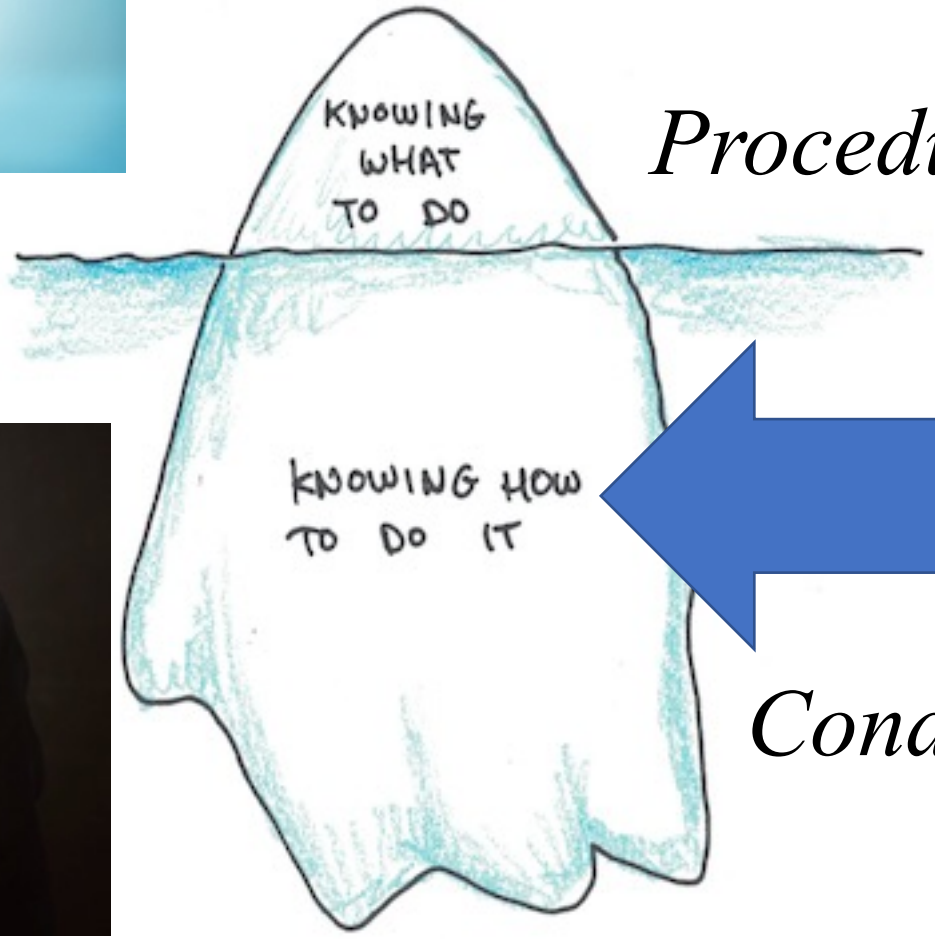
- Ensure sufficient, common time is provided for team planning and co-planning.
- Communicate that co-teachers (and other collaborators) are of equal value and are expected to make equal contributions to planning and instruction.
- Take co-teaching needs into account when creating the school master schedule.
- Support all professionals in implementation of specially designed instruction and supports noted in IEPs.
- Set up data systems to guide teachers' work and communicate shared accountability in using/maintaining these data systems.
- Be proactive in monitoring collaborators' communication and planning – provide guidance to individuals as needed, to help move their communication and planning in a positive direction.

Questions to Prompt Discussion, Self-Reflection, and Observer Feedback

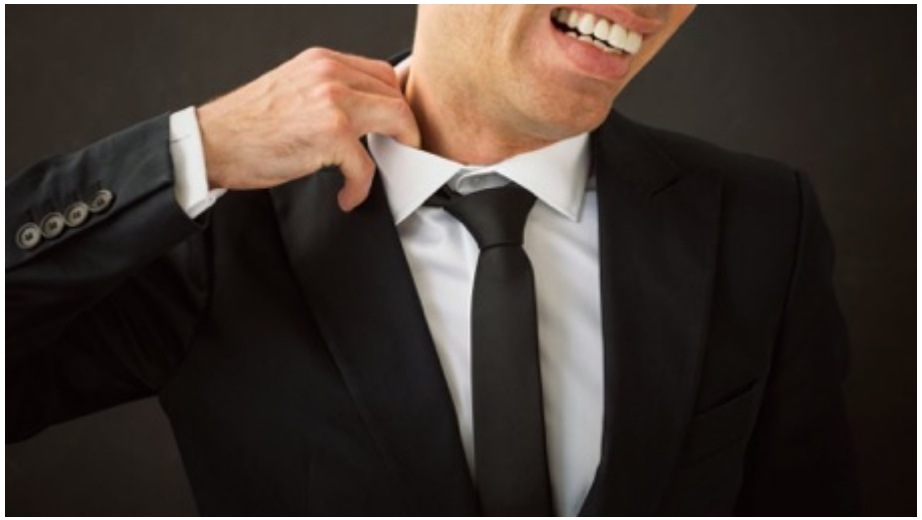
- How can you show individuals with whom you collaborate with that you are actively listening to them?
- What role does collaboration play in establishing a partnership and avoiding conflict when co-teaching?
- How can you rephrase questions to encourage thoughtful and informative responses from collaborators?
- In what ways can you try to ensure that your communicative messages are received as intended?
- If conflict/disagreement arises, what strategies can you use to mend the situation?
- How can you ensure that the interactions and goals are focused on


GOOD....GOOD.....!
EVERYTHING IS PROCEEDING AS I HAVE FORSEEN...!
imgflip.com

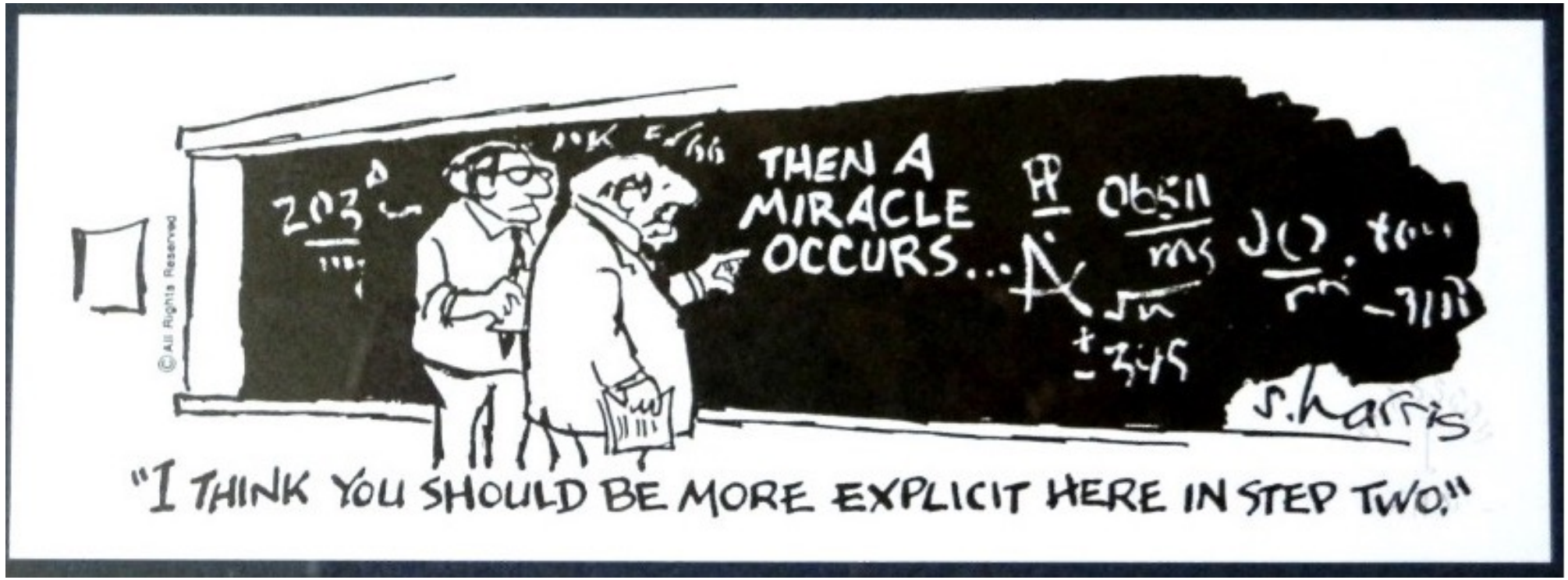
Declarative Knowledge



Procedural Knowledge



Conditional Knowledge


THEN A MIRACLE OCCURS...
S. Harris
"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

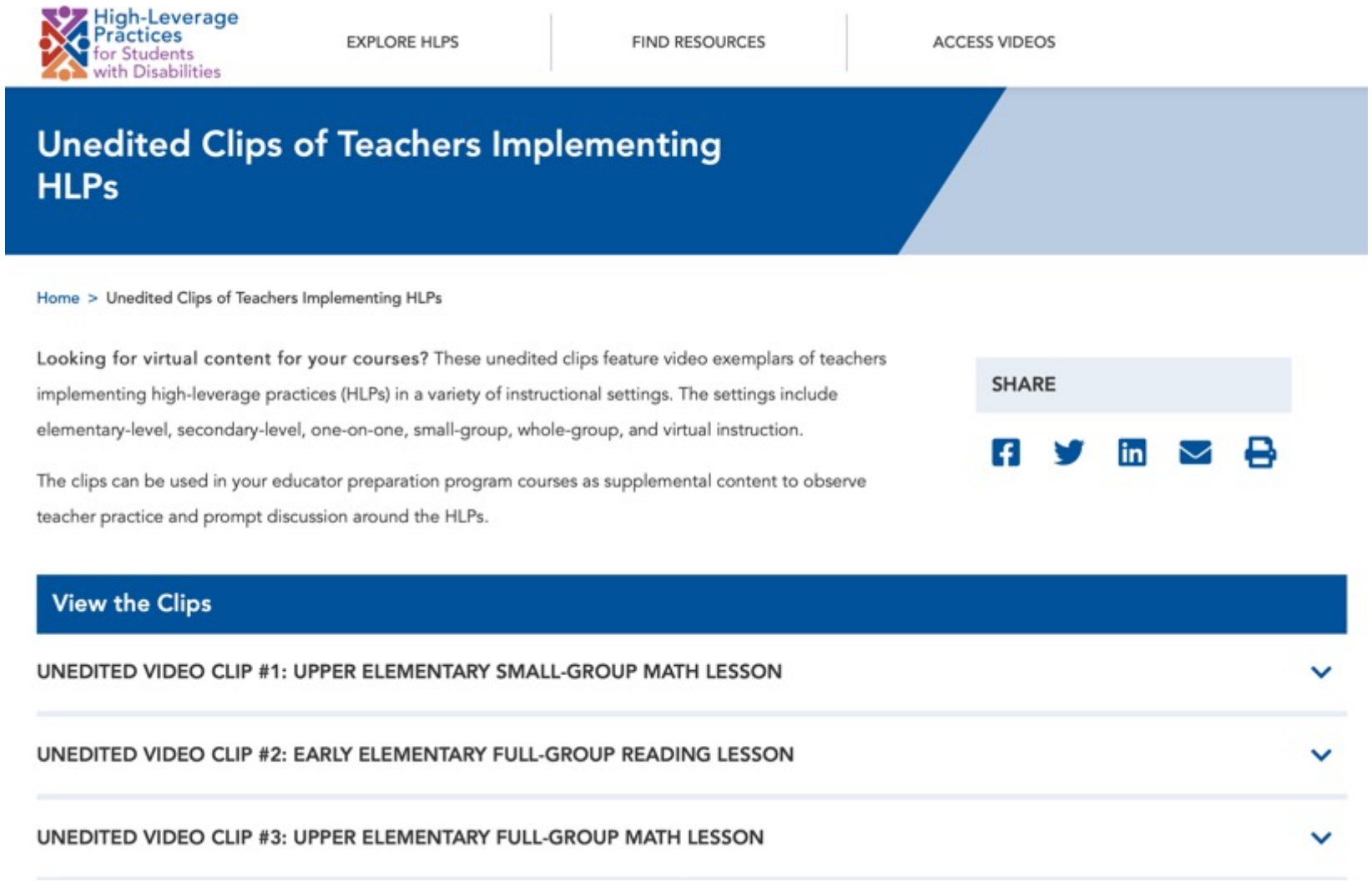
There is sadly no simple button

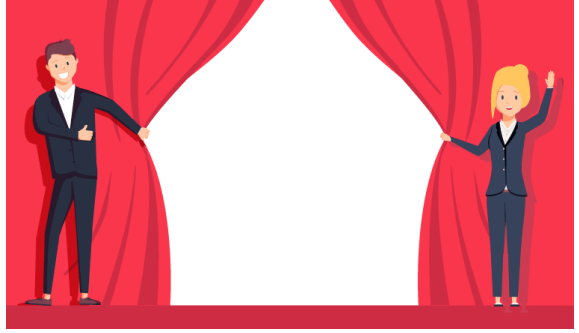

SEEMS LEGIT
SHORT CUT


EXPERIENCE
loading . . .

Give our candidates (and ourselves) a chance to look at solid (and sometimes not so solid) examples of use of practice, and then have rich opportunity for discussion. Think about how the HLPs operate in layers, and how EBPs are supported by implementation of these practices.

https://highleveragepractices.org/unedited-clips-teachers-implementing-hlps





UVA

SCHOOL of EDUCATION and HUMAN DEVELOPMENT

Welcome to COACHED

Capturing Observations and Collaboratively sHaring Educational Data

Created By

Michael Kennedy - mjk3p@virginia.edu

Rachel Kunemund - rk8vm@virginia.edu

ies INSTITUTE OF EDUCATION SCIENCES

IDEAs that Work

Office of Special Education Programs
U.S. Department of Education

COACHED

https://www.coached.education.virginia.edu/

Guest User: COACHED@test.com
Password: COACHEDtest

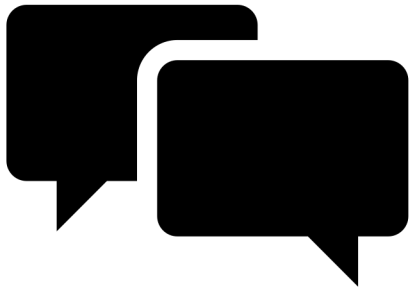
- COACHED is available at **no cost** to individual users and institutions

- We are always looking for **new partners**

  - Pre-K-12
  - Universities/ Teacher Educators

COACHED

•Coaching Tools



- CT Scan Observational Instrument
- CAP-TVs Multimedia Vignettes
- Interactive Feedback Form
- Self-Reflection Matrices

Flexible Use

Tomorrow at 10 In This Room


PART
3

Implementation of High-Leverage Practices: The Need for Nuance and Finesse

High-Leverage Practices for Students with Disabilities

Need a strong foundation of practice

www.highleveragepractices.org

High-Leverage Practices for Students with Disabilities


CoolClips.com

High-Leverage Practices for Students with Disabilities

Foundation for

Four Domains; Big Implications for Practice

https://highleveragepractices.org/hlp-leadership-guides

High-Leverage Practices for Students with Disabilities

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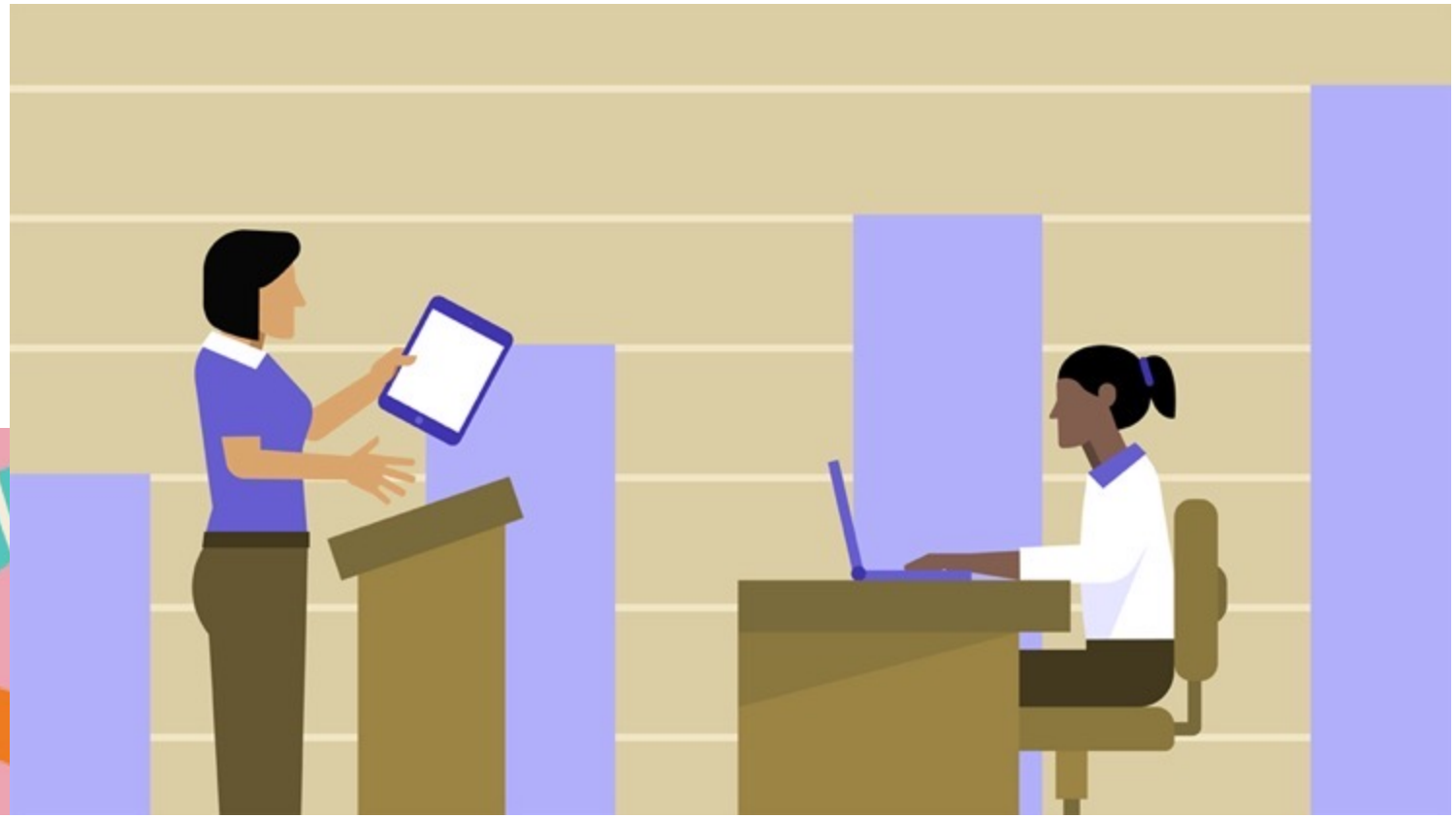
High-Leverage Practices for Students with Disabilities



High-Leverage Practices for Students with Disabilities

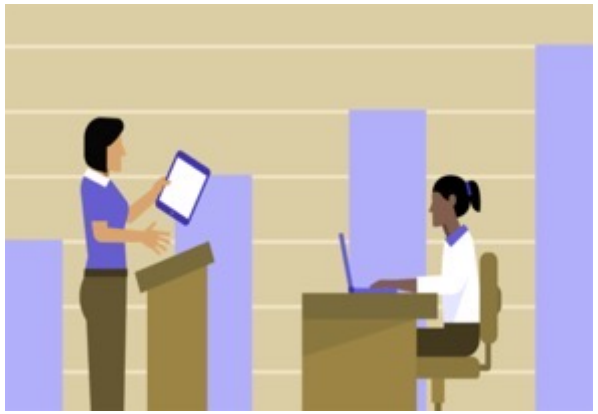
Four Domains; Big Implications for Practice
https://highleveragepractices.org/hlp-leadership-guides

Collaboration

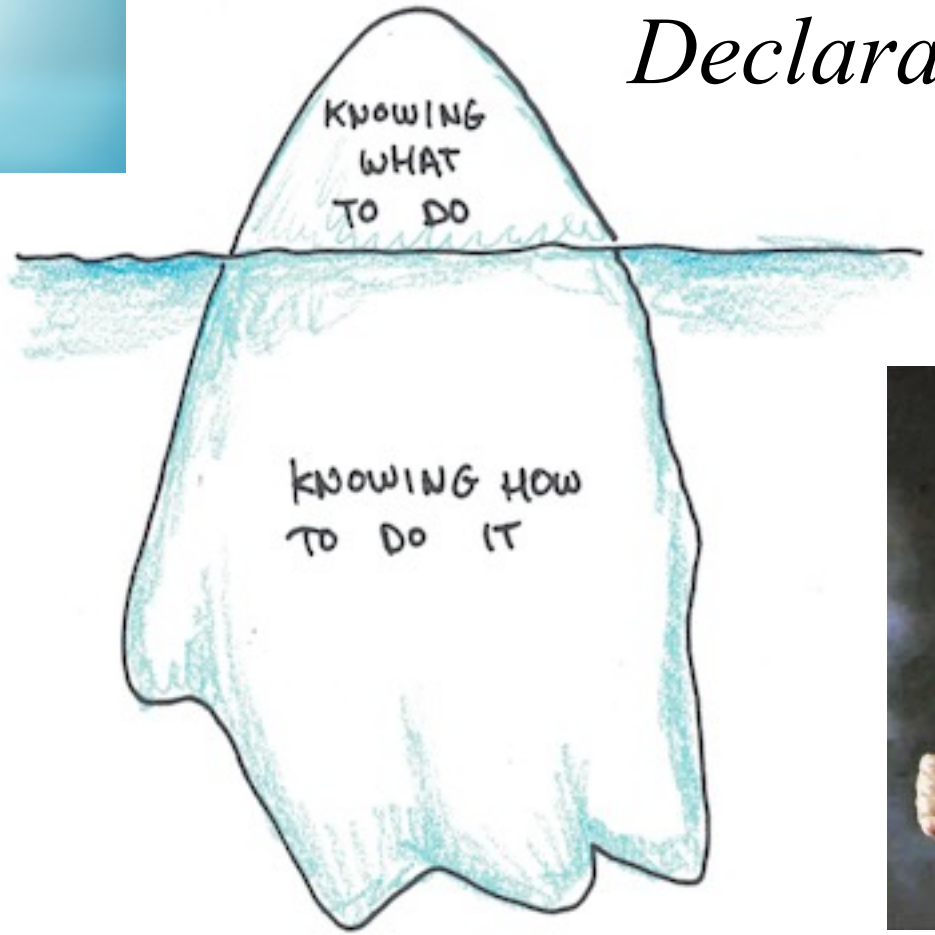
Assessment

Social/Behavioral

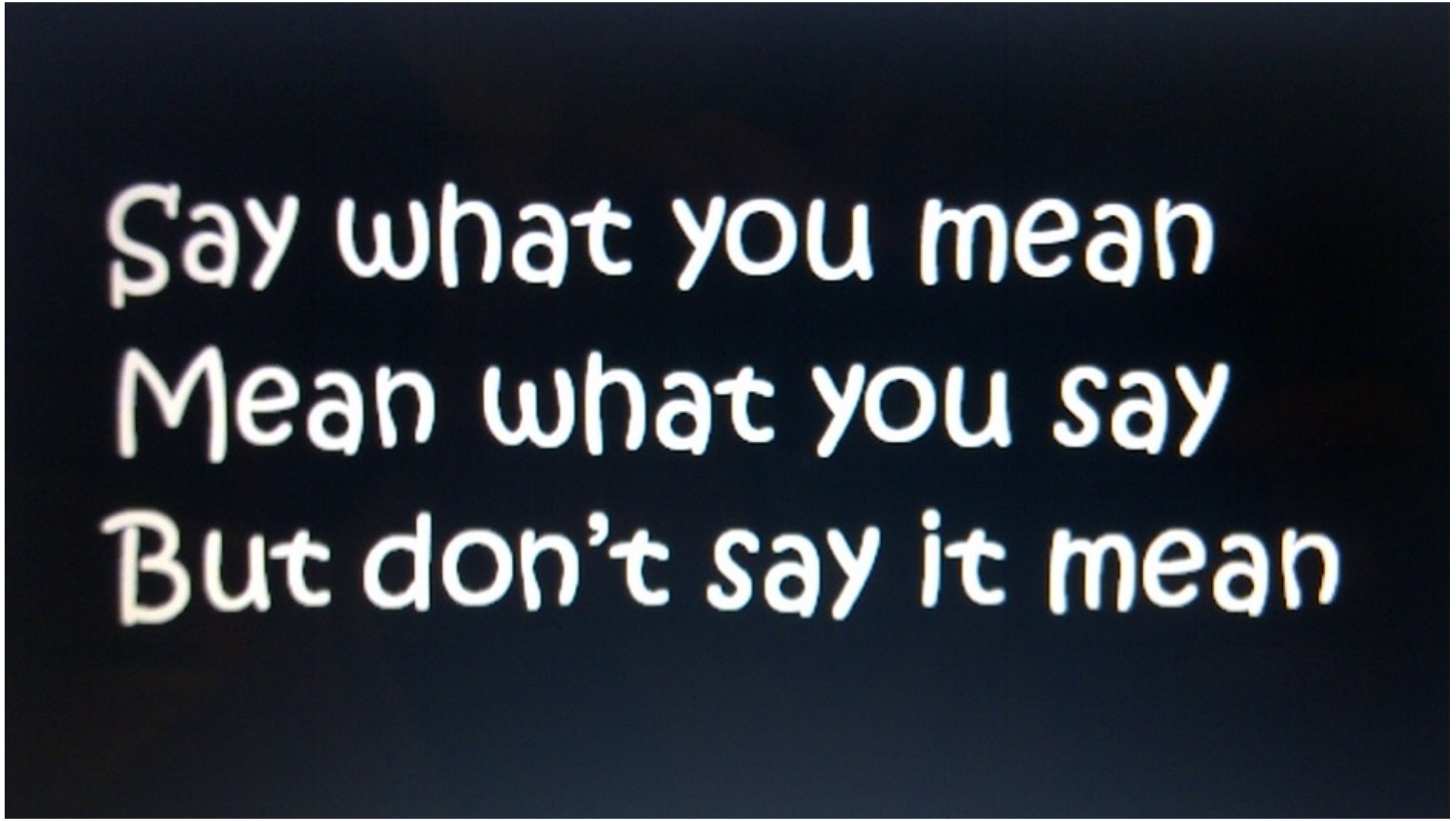
Instruction



Declarative Knowledge



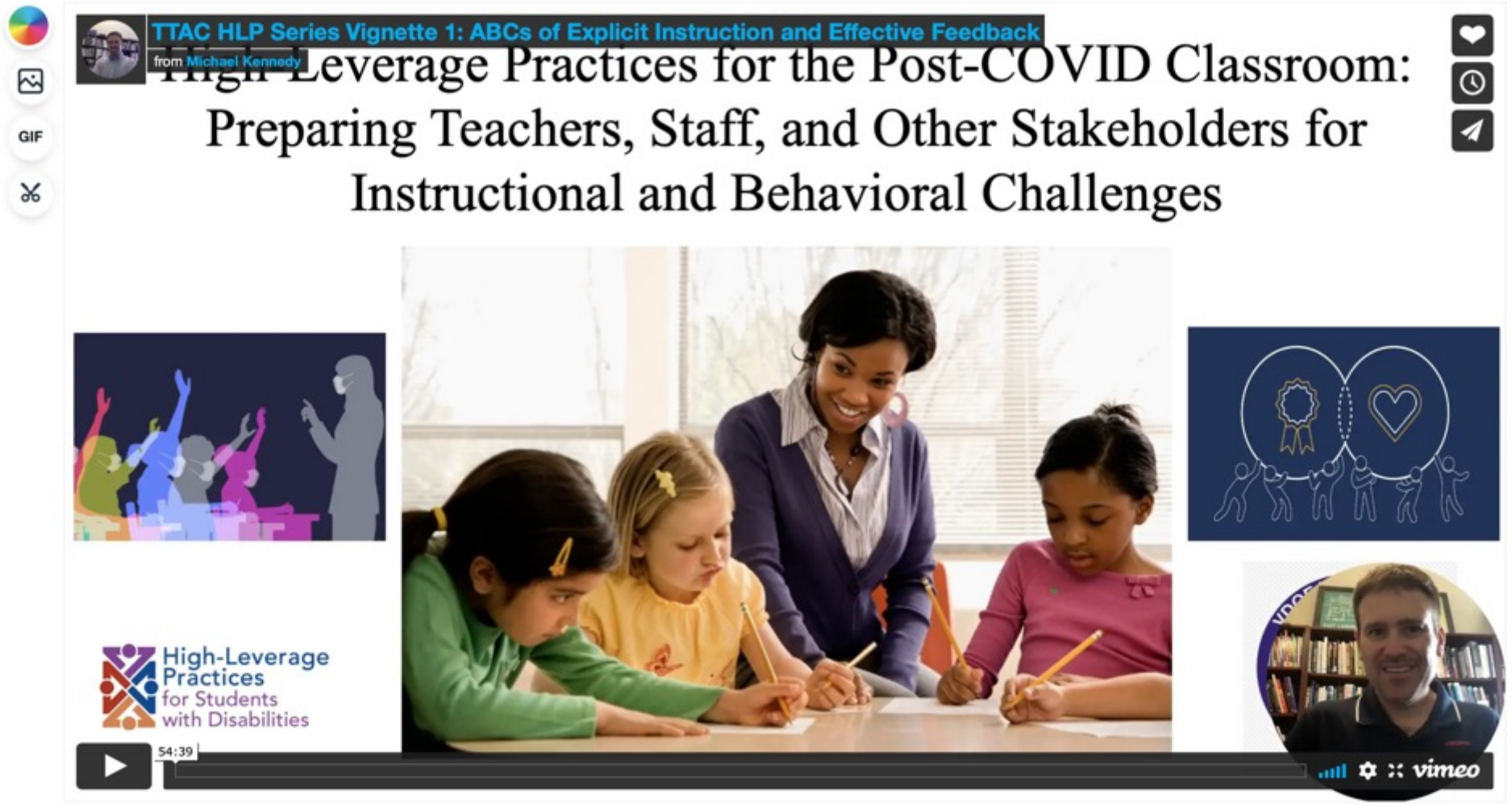
HLP 16: Use Explicit Instruction



Key Elements of Explicit Instruction

- Use clear language
- Use cues
- Break complicated content into chunks
- Make connections to prior learning
- Highlight relevant and varied examples (and non-examples)
- Use an engaging, deliberate, and predictable pace
- Provide lots of (varied) opportunities to respond (OTRs)
- Deliver high-quality feedback
- Model (I do) regularly
- Provide guided practice (we do) regularly
- Utilize independent practice (you do) when students are ready

https://vimeo.com/623713073



TTAC HLP Series Vignette 1: ABCs of Explicit Instruction and Effective Feedback

The Importance of Clear Language & Being Deliberate

The Importance of OTRs

The Importance of Feedback

The Importance of Modeling

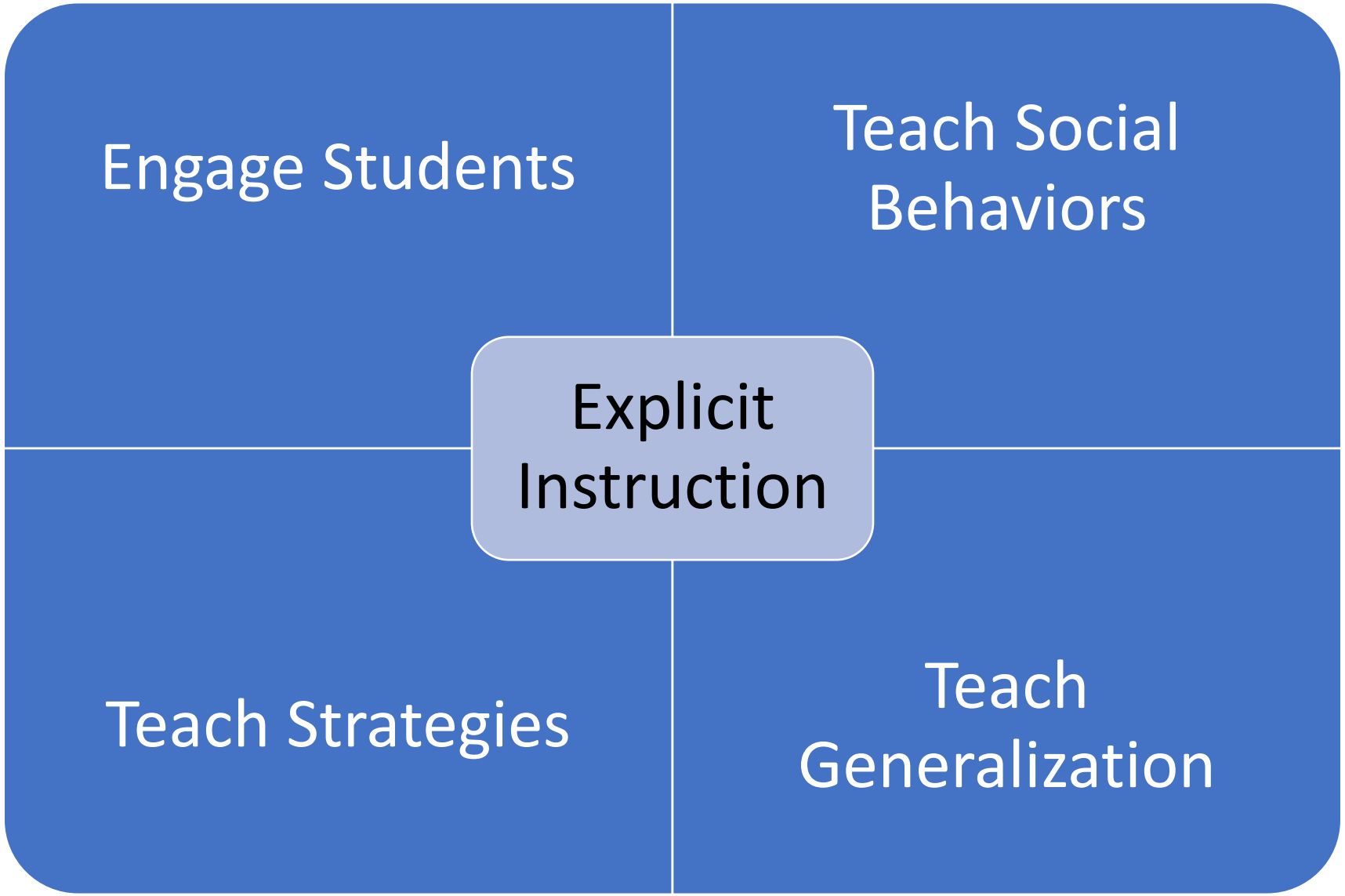
The Importance of Guided Practice

The Importance of Clear Language

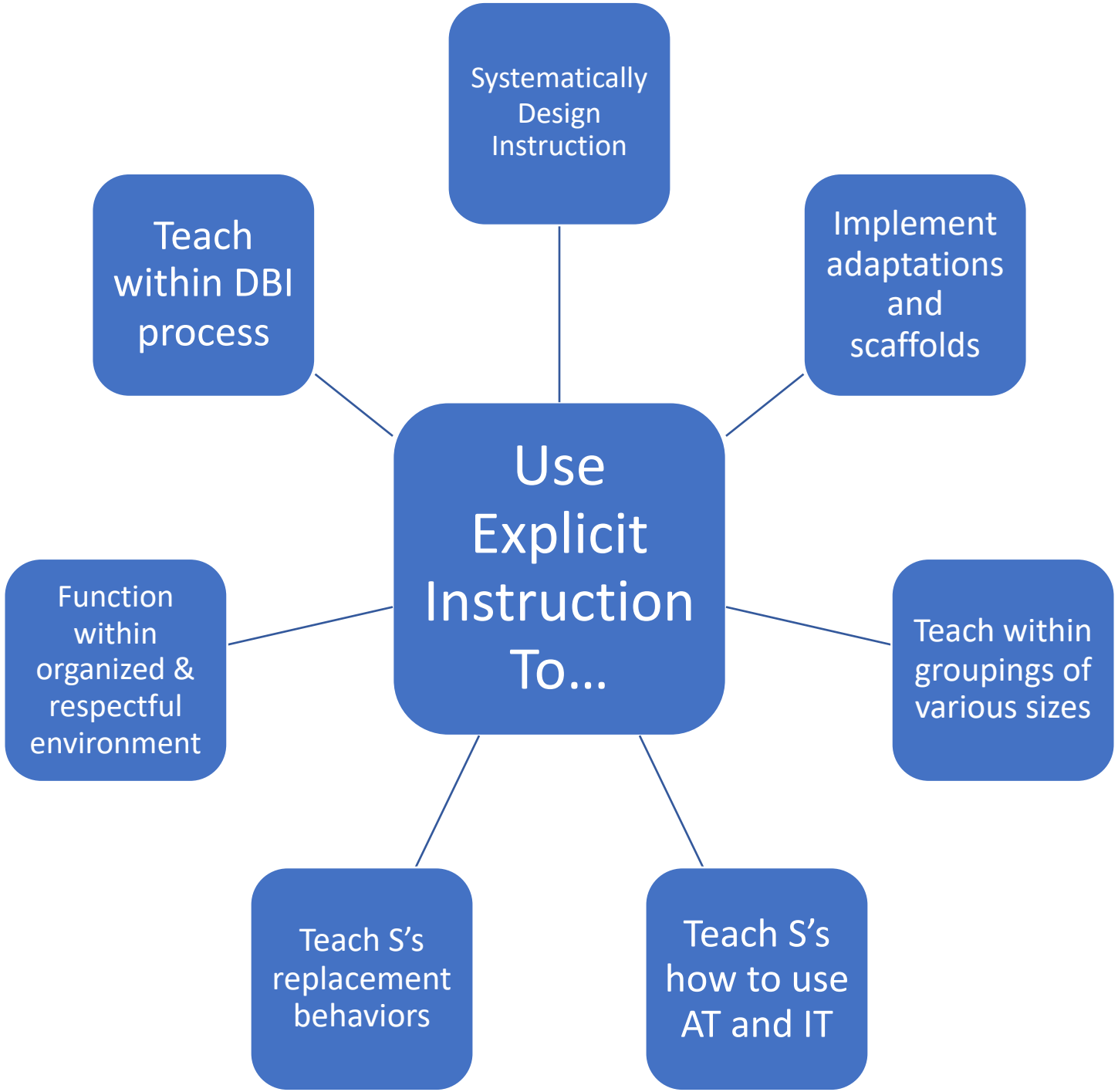
The Importance of Examples

The Importance of Independent Practice

The importance of providing demonstrations and getting students to dig their hands in and do some deep thinking

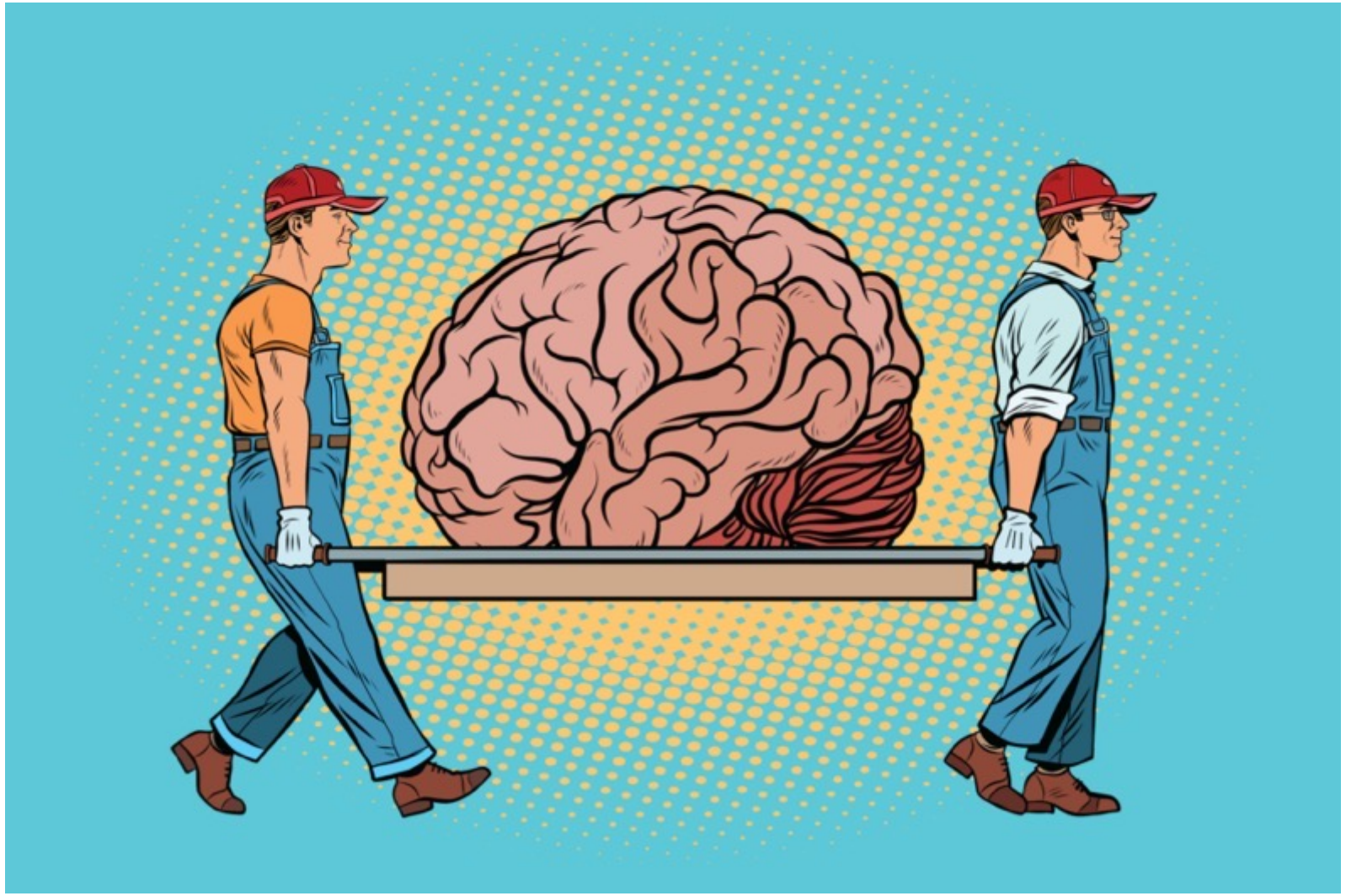

Engage Students
Teach Social Behaviors
Explicit Instruction
Teach Strategies
Teach Generalization

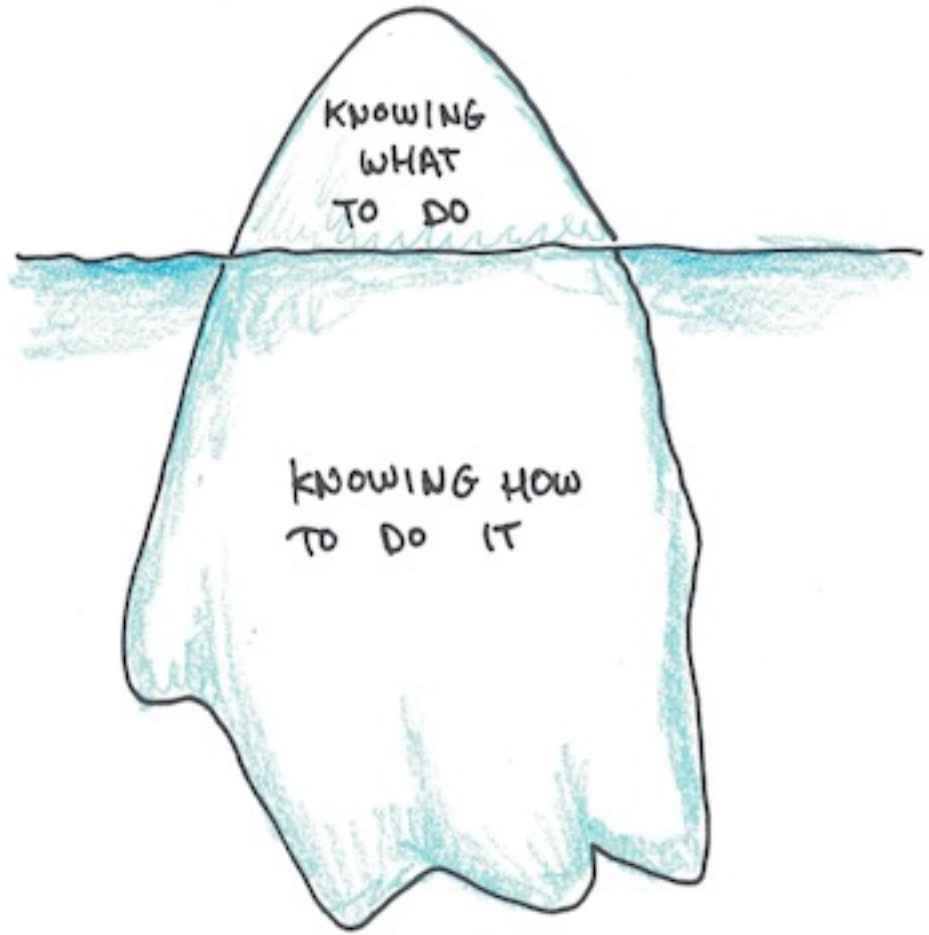

MORE


Use Explicit Instruction To…
Systematically Design Instruction
Implement adaptations and scaffolds
Teach within groupings of various sizes
Teach S's how to use AT and IT
Teach S's replacement behaviors
Function within organized & respectful environment
Teach within DBI process


Part 4

Putting it All Together




KNOWING
WHAT
TO DO
KNOWING HOW
TO DO IT

power thesaurus

Synonyms for Not enough

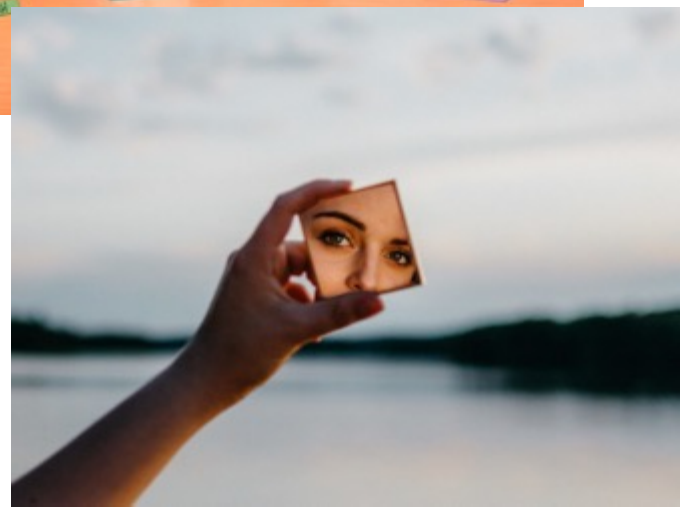
insufficient

inadequate

lack

not sufficient

too little



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