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

Declarative

Procedural

Conditional

Knowledge

FOR THE IMPLEMENTATION OF HLPS

THE ELUSIVE PURSUIT OF ALL THREE
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thank you: -)
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
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

Least Water

Most Water

Dependent Variable
Impacts Students

Cell division (meiosis)

- **Interphase**
  - Centrosomes

- **Prophase**
  - Spindle

- **Metaphase**
  - Sister chromatids remain attached

- **Anaphase**
  - Homologous chromosomes separate

- **Gametes**
And Adults When Learning
Or Teaching
Prior Knowledge impacts intrinsic load

(if you have some, IL is lower, if not... not)
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)**

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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.

\[ IL + EL = \text{Total Load} \]

Sweller, Ayers, & Kalyuga, 2011
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.

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…
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.
Are We Paying Enough Attention To Cognitive Load?

Implications For Teacher Planning & Classroom Instruction

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

https://vimeo.com/450156820
BUILDING

Declarative

Procedural

Conditional

Knowledge

Knowing what to do

Knowing how to do it
Declarative Knowledge
YOU
GOOD JOB
CAPs
Content Acquisition Podcasts
CAPs

• The CAP approach is based on Mayer’s CTML and instructional design principles.
CAPs

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• Goal is to keep extraneous load low, which reserves germane load to handle whatever intrinsic load is being imposed by the content.
The CAP approach is based on Mayer’s CTML and instructional design principles. Goal is to keep extraneous load low, which reserves germane load to handle whatever intrinsic load is being imposed by the content. We package vivid images with tight narration and occasional on-screen text to deliver instruction for one topic at a time.
CAPs

- The CAP approach is based on Mayer’s CTML and instructional design principles.
- Goal is to keep extraneous load low, which reserves germane load to handle whatever intrinsic load is being imposed by the content.
- We package vivid images with tight narration and occasional on-screen text to deliver instruction for one topic at a time.
- CAPs can be recorded for asynchronous use (teacher or student)
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• Or, the unrecorded versions of CAPs can be used as part of a teachers’ instructional repertoire.
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- We package vivid images with tight narration and occasional on-screen text to deliver instruction for one topic at a time.
- 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*)
Michael Kennedy
Charlottesville, Virginia

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mjk@virginia.edu
https://www.education.virginia.edu
https://www.spedintro.com
Add link

430 videos
Sample Lesson: Reviewing Expectations

Not Available for Hire
People cannot see your availability on your profile, and you are not listed on our professional marketplaces.
Get Listed

Roles
Aced, 10883

Projects
Declarative Knowledge
Declarative Knowledge

Procedural Knowledge
HLP 16: Use Explicit Instruction

Say what you mean
Mean what you say
But don’t say it mean
“I use explicit instruction every day”
Did the teacher use explicit instruction?

☐ YES
☐ NO
Did the teacher use explicit instruction?

Provide feedback?

☐ YES

☐ 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
(Some) Components of EI...

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And each of these components have nuance to them... They’re not dichotomous
In each video we note key definitions/components of each HLP

Explicit instruction helps teachers design and deliver effective instruction
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
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.

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...!
Declarative Knowledge

Procedural Knowledge

Conditional Knowledge
"I think you should be more explicit here in step two."

THEN A MIRACLE OCCURS...
There is sadly no simple button
SEEMS LEGIT
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.
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Welcome to COACHED

Capturing Observations and Collaboratively Sharing Educational Data

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Guest User: COACHED@test.com
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• 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
Implementation of High-Leverage Practices: The Need for Nuance and Finesse
Need a strong foundation of practice
Foundation for
Four Domains: Big Implications for Practice
https://highleveragepractices.org/hlp-leadership-guides
Four Domains; Big Implications for Practice

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Collaboration  Assessment  Social/Behavioral  Instruction
Declarative Knowledge
HLP 16: Use Explicit Instruction

Say what you mean
Mean what you say
But don’t say it mean
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
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 Strategies
Explicit Instruction
Teach Generalization
Teach Social Behaviors
Use Explicit Instruction To...

- Systematically Design Instruction
- Implement adaptations and scaffolds
- Teach within groupings of various sizes
- Teach within DBI process
- Function within organized & respectful environment
- Teach S's replacement behaviors
- Teach S's how to use AT and IT
Part 4
Putting it All Together
Knowing what to do

Knowing how to do it
Synonyms for Not enough

- insufficient
- inadequate
- lack
- not sufficient
- too little
Welcome to COACHED

Capturing Observations and Collaboratively Sharing Educational Data

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