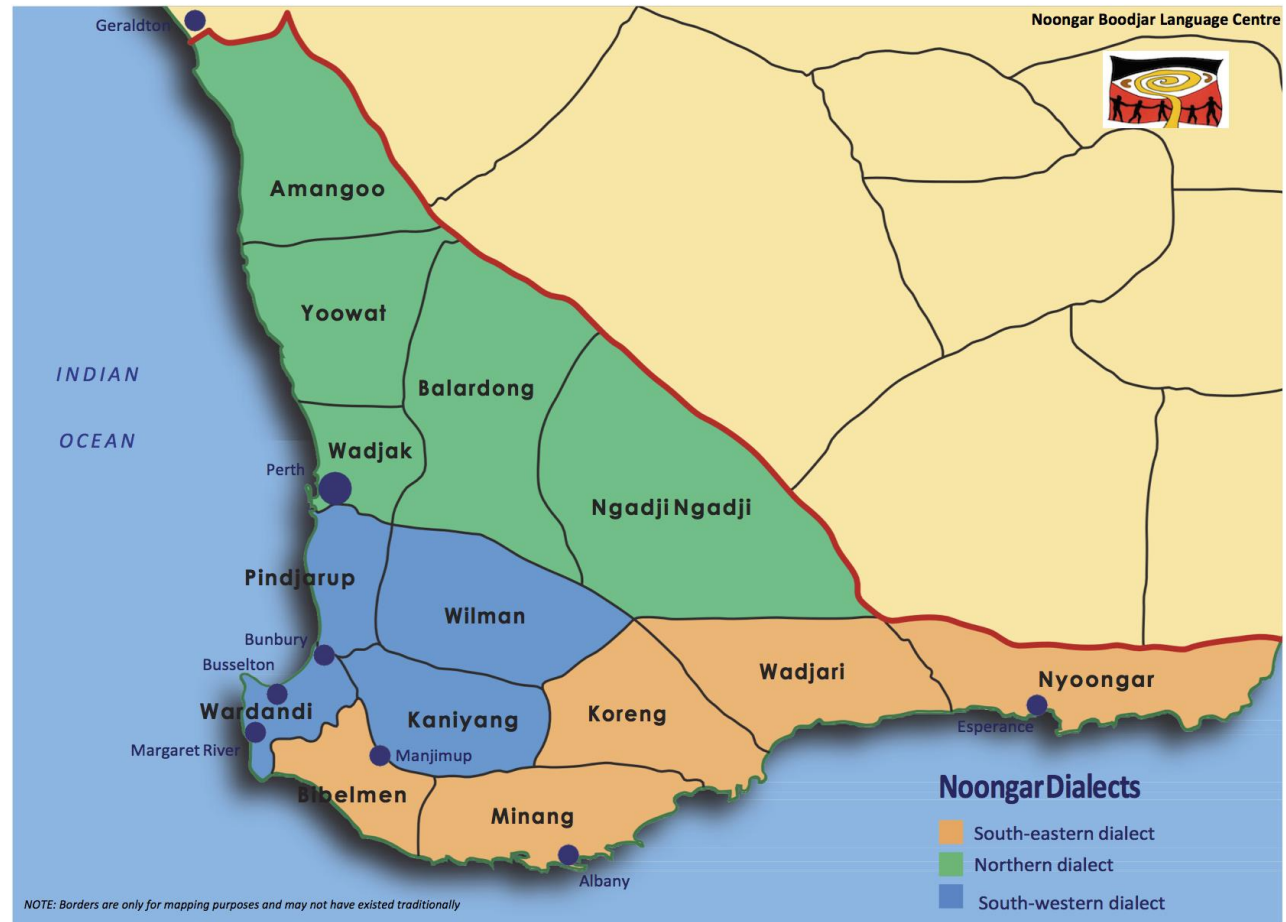
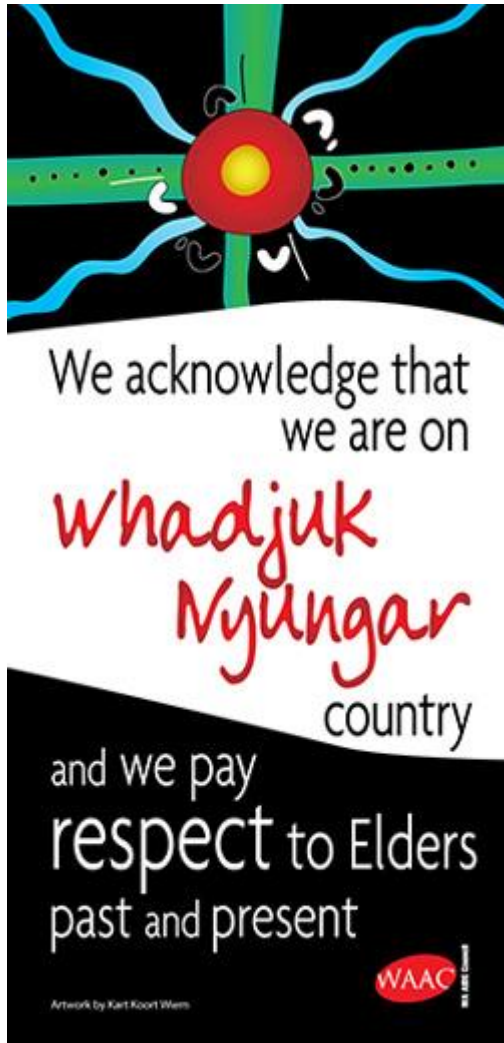




Secondary Teacher Leaders Program Workshop 2: Friday 24th June 2022



1. Explain **two** of Dempster's domains to a partner (what are the key points)



2. How does engaging students and implementing a behaviour framework with fidelity establish a calm and orderly learning environment? How do we do this work?

	STAGE 1 Underperforming to Fair	STAGE 2 Fair to Good	STAGE 3 Good to Great	STAGE 4 Great to Excellent
	Key evidence – based interventions that schools pursue to progress to the next level of student outcomes (at each stage of improvement journey)			
Leadership & Management	1.1.1. Develop and implement a shared vision for the school with all staff 1.1.2. Build a strong leadership team and a culture of high expectations and positive learning 1.1.3. Build a strong leadership team and a culture of high expectations and positive learning 1.1.4. Build a strong leadership team and a culture of high expectations and positive learning 1.1.5. Build a strong leadership team and a culture of high expectations and positive learning 1.1.6. Build a strong leadership team and a culture of high expectations and positive learning 1.1.7. Build a strong leadership team and a culture of high expectations and positive learning	2.1.1. Develop and implement a shared vision for the school with all staff 2.1.2. Build a strong leadership team and a culture of high expectations and positive learning 2.1.3. Build a strong leadership team and a culture of high expectations and positive learning 2.1.4. Build a strong leadership team and a culture of high expectations and positive learning 2.1.5. Build a strong leadership team and a culture of high expectations and positive learning 2.1.6. Build a strong leadership team and a culture of high expectations and positive learning 2.1.7. Build a strong leadership team and a culture of high expectations and positive learning	3.1.1. Develop and implement a shared vision for the school with all staff 3.1.2. Build a strong leadership team and a culture of high expectations and positive learning 3.1.3. Build a strong leadership team and a culture of high expectations and positive learning 3.1.4. Build a strong leadership team and a culture of high expectations and positive learning 3.1.5. Build a strong leadership team and a culture of high expectations and positive learning 3.1.6. Build a strong leadership team and a culture of high expectations and positive learning 3.1.7. Build a strong leadership team and a culture of high expectations and positive learning	4.1.1. Develop and implement a shared vision for the school with all staff 4.1.2. Build a strong leadership team and a culture of high expectations and positive learning 4.1.3. Build a strong leadership team and a culture of high expectations and positive learning 4.1.4. Build a strong leadership team and a culture of high expectations and positive learning 4.1.5. Build a strong leadership team and a culture of high expectations and positive learning 4.1.6. Build a strong leadership team and a culture of high expectations and positive learning 4.1.7. Build a strong leadership team and a culture of high expectations and positive learning
Disciplined Data, Creativity with Evidence Base	1.2.1. Use data to inform school improvement plans and to monitor progress 1.2.2. Use data to inform school improvement plans and to monitor progress 1.2.3. Use data to inform school improvement plans and to monitor progress 1.2.4. Use data to inform school improvement plans and to monitor progress 1.2.5. Use data to inform school improvement plans and to monitor progress 1.2.6. Use data to inform school improvement plans and to monitor progress 1.2.7. Use data to inform school improvement plans and to monitor progress	2.2.1. Use data to inform school improvement plans and to monitor progress 2.2.2. Use data to inform school improvement plans and to monitor progress 2.2.3. Use data to inform school improvement plans and to monitor progress 2.2.4. Use data to inform school improvement plans and to monitor progress 2.2.5. Use data to inform school improvement plans and to monitor progress 2.2.6. Use data to inform school improvement plans and to monitor progress 2.2.7. Use data to inform school improvement plans and to monitor progress	3.2.1. Use data to inform school improvement plans and to monitor progress 3.2.2. Use data to inform school improvement plans and to monitor progress 3.2.3. Use data to inform school improvement plans and to monitor progress 3.2.4. Use data to inform school improvement plans and to monitor progress 3.2.5. Use data to inform school improvement plans and to monitor progress 3.2.6. Use data to inform school improvement plans and to monitor progress 3.2.7. Use data to inform school improvement plans and to monitor progress	4.2.1. Use data to inform school improvement plans and to monitor progress 4.2.2. Use data to inform school improvement plans and to monitor progress 4.2.3. Use data to inform school improvement plans and to monitor progress 4.2.4. Use data to inform school improvement plans and to monitor progress 4.2.5. Use data to inform school improvement plans and to monitor progress 4.2.6. Use data to inform school improvement plans and to monitor progress 4.2.7. Use data to inform school improvement plans and to monitor progress
Curriculum & Teaching	1.3.1. Develop and implement a curriculum framework for the school 1.3.2. Develop and implement a curriculum framework for the school 1.3.3. Develop and implement a curriculum framework for the school 1.3.4. Develop and implement a curriculum framework for the school 1.3.5. Develop and implement a curriculum framework for the school 1.3.6. Develop and implement a curriculum framework for the school 1.3.7. Develop and implement a curriculum framework for the school	2.3.1. Develop and implement a curriculum framework for the school 2.3.2. Develop and implement a curriculum framework for the school 2.3.3. Develop and implement a curriculum framework for the school 2.3.4. Develop and implement a curriculum framework for the school 2.3.5. Develop and implement a curriculum framework for the school 2.3.6. Develop and implement a curriculum framework for the school 2.3.7. Develop and implement a curriculum framework for the school	3.3.1. Develop and implement a curriculum framework for the school 3.3.2. Develop and implement a curriculum framework for the school 3.3.3. Develop and implement a curriculum framework for the school 3.3.4. Develop and implement a curriculum framework for the school 3.3.5. Develop and implement a curriculum framework for the school 3.3.6. Develop and implement a curriculum framework for the school 3.3.7. Develop and implement a curriculum framework for the school	4.3.1. Develop and implement a curriculum framework for the school 4.3.2. Develop and implement a curriculum framework for the school 4.3.3. Develop and implement a curriculum framework for the school 4.3.4. Develop and implement a curriculum framework for the school 4.3.5. Develop and implement a curriculum framework for the school 4.3.6. Develop and implement a curriculum framework for the school 4.3.7. Develop and implement a curriculum framework for the school
Conditions for Learning & Student Voice	1.4.1. Develop and implement a curriculum framework for the school 1.4.2. Develop and implement a curriculum framework for the school 1.4.3. Develop and implement a curriculum framework for the school 1.4.4. Develop and implement a curriculum framework for the school 1.4.5. Develop and implement a curriculum framework for the school 1.4.6. Develop and implement a curriculum framework for the school 1.4.7. Develop and implement a curriculum framework for the school	2.4.1. Develop and implement a curriculum framework for the school 2.4.2. Develop and implement a curriculum framework for the school 2.4.3. Develop and implement a curriculum framework for the school 2.4.4. Develop and implement a curriculum framework for the school 2.4.5. Develop and implement a curriculum framework for the school 2.4.6. Develop and implement a curriculum framework for the school 2.4.7. Develop and implement a curriculum framework for the school	3.4.1. Develop and implement a curriculum framework for the school 3.4.2. Develop and implement a curriculum framework for the school 3.4.3. Develop and implement a curriculum framework for the school 3.4.4. Develop and implement a curriculum framework for the school 3.4.5. Develop and implement a curriculum framework for the school 3.4.6. Develop and implement a curriculum framework for the school 3.4.7. Develop and implement a curriculum framework for the school	4.4.1. Develop and implement a curriculum framework for the school 4.4.2. Develop and implement a curriculum framework for the school 4.4.3. Develop and implement a curriculum framework for the school 4.4.4. Develop and implement a curriculum framework for the school 4.4.5. Develop and implement a curriculum framework for the school 4.4.6. Develop and implement a curriculum framework for the school 4.4.7. Develop and implement a curriculum framework for the school
Professional Learning	1.5.1. Develop and implement a curriculum framework for the school 1.5.2. Develop and implement a curriculum framework for the school 1.5.3. Develop and implement a curriculum framework for the school 1.5.4. Develop and implement a curriculum framework for the school 1.5.5. Develop and implement a curriculum framework for the school 1.5.6. Develop and implement a curriculum framework for the school 1.5.7. Develop and implement a curriculum framework for the school	2.5.1. Develop and implement a curriculum framework for the school 2.5.2. Develop and implement a curriculum framework for the school 2.5.3. Develop and implement a curriculum framework for the school 2.5.4. Develop and implement a curriculum framework for the school 2.5.5. Develop and implement a curriculum framework for the school 2.5.6. Develop and implement a curriculum framework for the school 2.5.7. Develop and implement a curriculum framework for the school	3.5.1. Develop and implement a curriculum framework for the school 3.5.2. Develop and implement a curriculum framework for the school 3.5.3. Develop and implement a curriculum framework for the school 3.5.4. Develop and implement a curriculum framework for the school 3.5.5. Develop and implement a curriculum framework for the school 3.5.6. Develop and implement a curriculum framework for the school 3.5.7. Develop and implement a curriculum framework for the school	4.5.1. Develop and implement a curriculum framework for the school 4.5.2. Develop and implement a curriculum framework for the school 4.5.3. Develop and implement a curriculum framework for the school 4.5.4. Develop and implement a curriculum framework for the school 4.5.5. Develop and implement a curriculum framework for the school 4.5.6. Develop and implement a curriculum framework for the school 4.5.7. Develop and implement a curriculum framework for the school

The numbering of interventions is to provide a reference list only, and does not denote any particular order or hierarchy of interventions.

GRA



Engaging students
Creating classrooms that improve learning
By Peter Goss and Julie Sonnenmann

Patterns of Implementation Strengths and Needs

Jessica Swain-Bradway, Midwest PBIS Network
Jan Freeman, University of Connecticut
Angela Zimmerman, University of Oregon
Ronda Noss, University of Oregon

School-wide Positive Behavioral Interventions and Supports (SW-PBIS) is an evidence-based, multi-tiered framework designed to support all students across all school settings (Boggs, Sugai, & Anderson, 2010). The implementation of SW-PBIS is associated with improved student outcomes across elementary, middle, and high schools. For high schools especially, the implementation of SW-PBIS is associated with reductions in student discipline referrals, the numbers of students needing more intensive supports, as well as increased student attendance (Boggs et al., 2010; Fairman, Fennell, & McIntosh, 2014; Freeman, Simonson, et al., 2016).

Although the number of schools adopting SW-PBIS continues to increase in the U.S., the rate of high school adoption is slower than in lower secondary or elementary schools. High schools represent approximately 10% of all schools in the U.S., but only 7% of those implement SW-PBIS. One of all schools implementing SW-PBIS, only 1% of those are high schools (Freeman, Zimmerman, & Noss, 2016). Recent research suggests that the barriers to high school implementation of SW-PBIS are more complex than those in elementary and middle schools (Freeman, Simonson, et al., 2016).

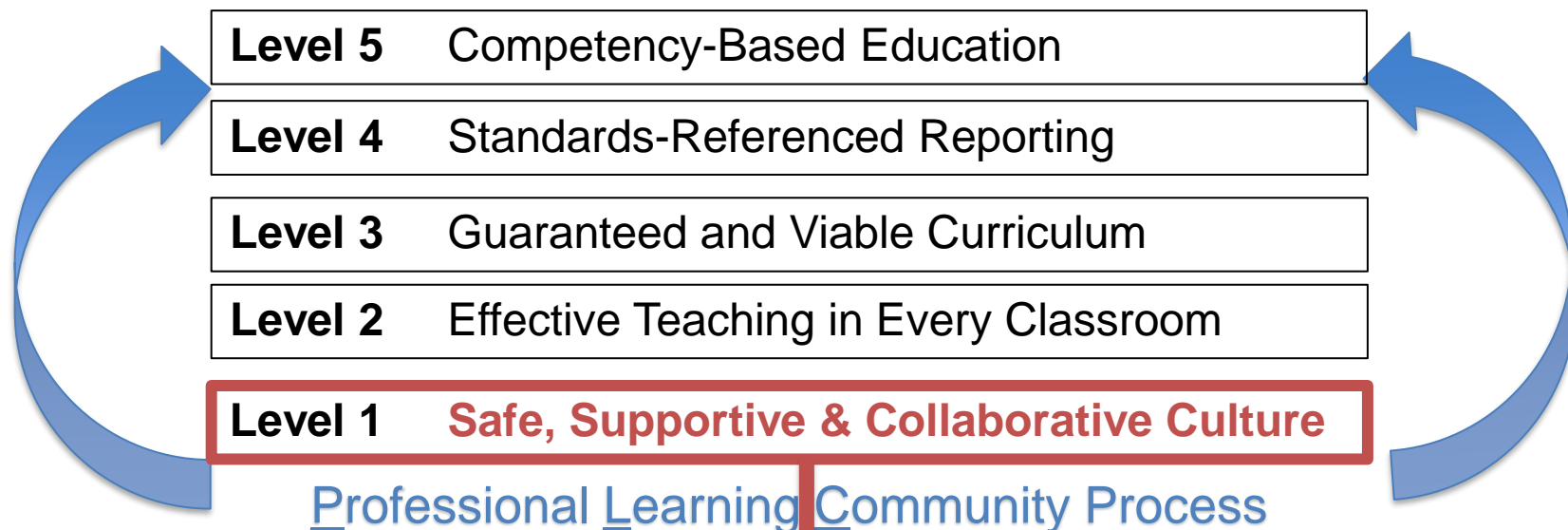
Barriers to implementation of SW-PBIS in high schools, compared to both elementary and middle schools (New, New, McIntosh, Simonson, & Freeman, 2016).

To increase the number of high schools adopting SW-PBIS and implementing it fully, more research is needed to identify specific implementation components that are likely to be challenging for high school implementation. Therefore, the purpose of this study is to investigate patterns of SW-PBIS implementation fidelity in high schools.

Fogarty EDvance School					
Initiative or Moral Purpose:	2018-2020:				
Description	Objectives	1.1	1.2	1.3	1.4
B.		2.1	2.2	2.3	2.4
C.		3.1	3.2	3.3	
Initiatives (major work streams)					
A. Owner:					
A1					
A2					
A3					
A4					
A5					
B. Owner:					
B1					
B2					
B3					
C. Owner:					
C1					
C2					
C3					
C4					

By the end of the day, participants will:

- Understand the research base for the **Response To Intervention** model and how to **action support** for diverse student needs across your school
- Understand the **core challenge** to improving student outcomes
- Utilise **three sources of research** (cognitive science, master teaching & cognitive strategies) to:
 - **identify a set of principles of instruction** (i.e Rosenshine's 10 or Archer's 16)
 - **guide alignment** of teaching practice with cognitive science research
 - **discern effective practices or programs** today & in the future
 - **stay informed of further developments** in the research & evidence-base for effective instruction
- Develop a shared understanding for **evaluating teacher effectiveness**
- Link key learnings to the EDvance **Transformation Framework, School Case Studies**, and own school's **Strategic Directions Document (Placemat)**
- Make a **leadership commitment** for pre-work leading into workshop 3



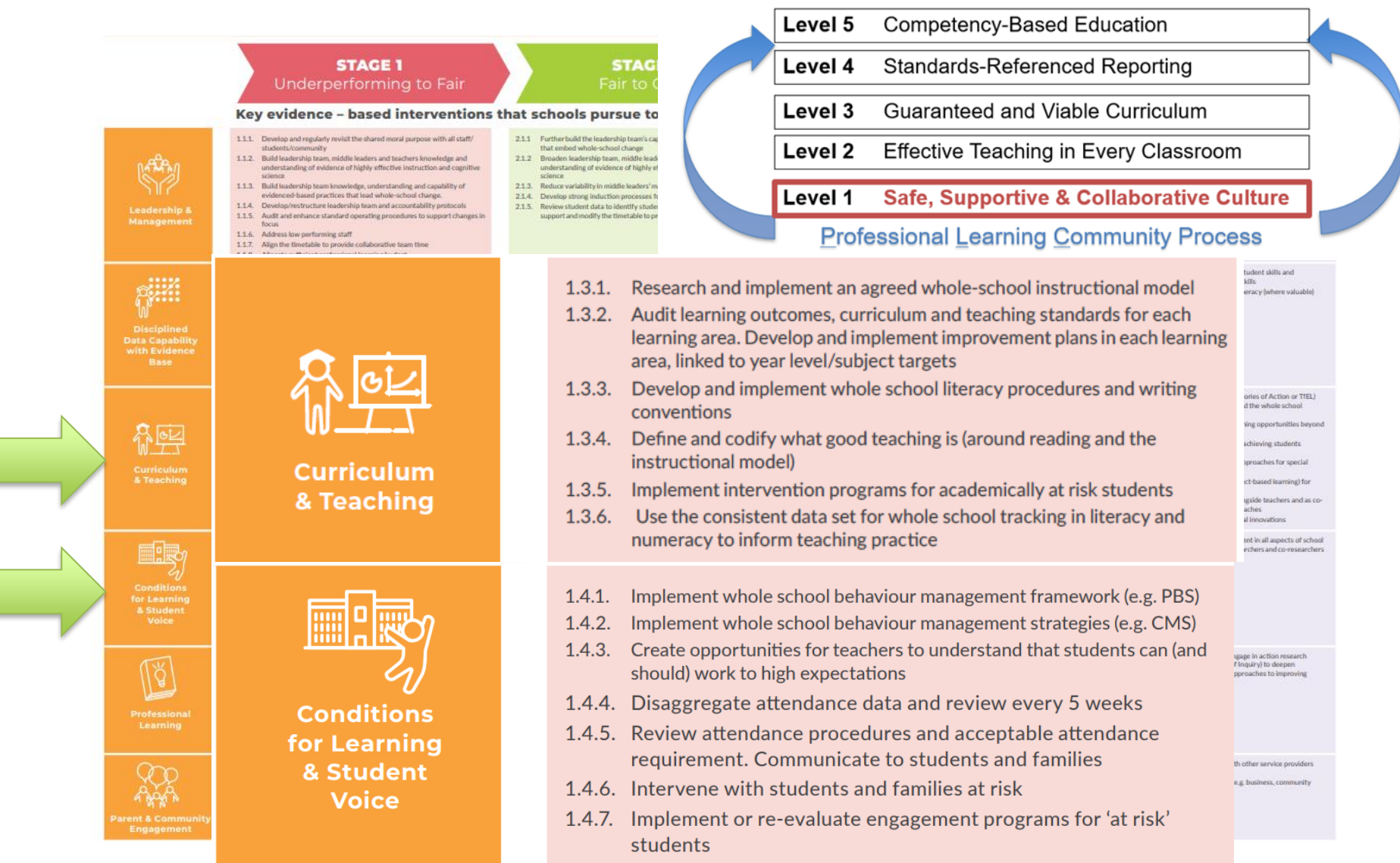
LEAD INDICATORS: (provide direction)

- 1.1 & 1.2** *The staff/students, parents and the community believe the school environment is **safe, supportive and orderly***
- 1.3** Teachers have formal roles in the decision-making process regarding school initiatives
- 1.4** ***Collaborative teams regularly interact to address common issues** regarding curriculum, assessment, instruction and the achievement of all students.*

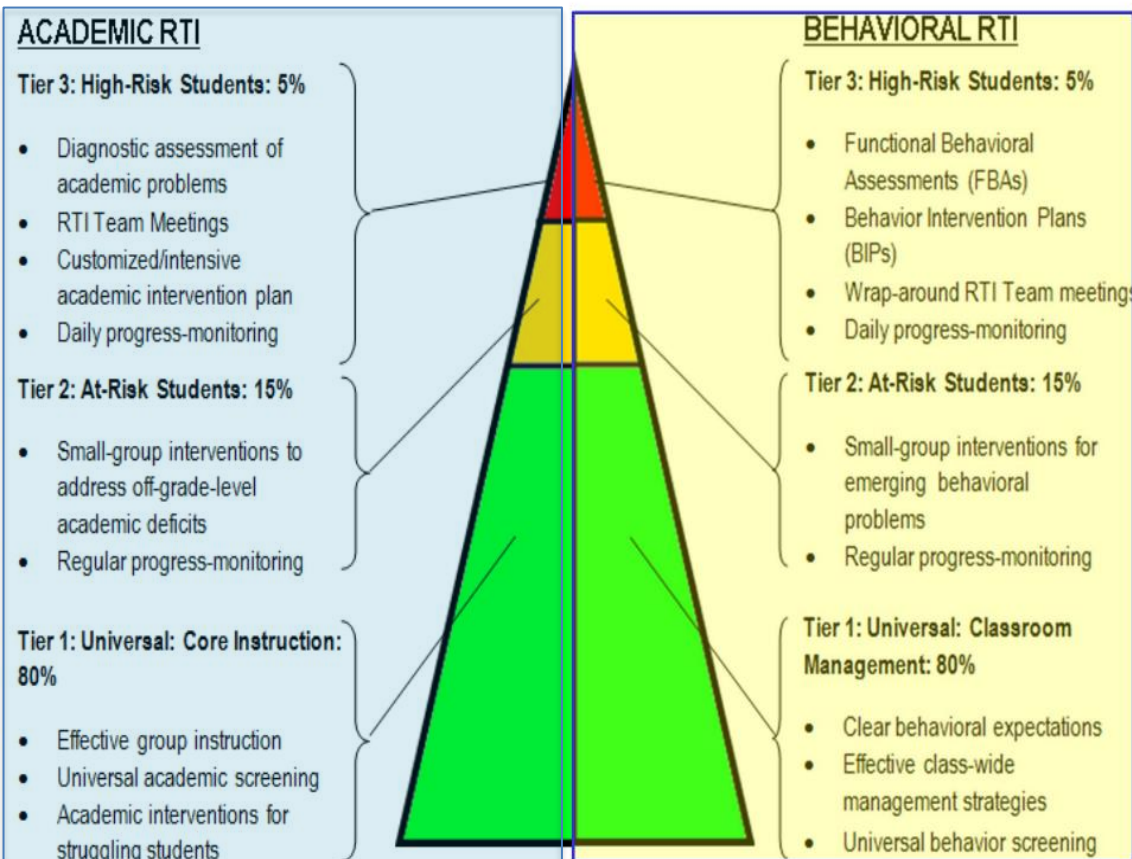
CRITICAL COMMITMENT: (initiatives to help meet KPI targets)

Level 1: Establish a strong **PLC Process** that involves well-structured collaborative teams to address the **6 critical questions & 3 big ideas**

How do Marzano's stages align with the Transformation Framework?



How do you provide the '*right*' level of intervention to a diverse range of student needs?



RTI Key features:

- A range of services to which students can be assigned that span the levels or Tiers, from **universal** through to **more intensive** supports
- '**Decision points**': educators periodically looking at data, identifying students at risk and deciding what specific academic/behavioural supports are needed
- Ongoing progress **monitoring** of student interventions
- Provision of **more intensive interventions** when lesser interventions are not effective
- **Referral for specialist services** for students who continue to have significant academic or behaviour deficits despite the best efforts to provide intervention support of appropriate intensity.

(Burns et al, 2007 and Fairbanks, Sugai et al, 2007)

Response To Intervention: Or a multi-tiered system of support - is an integrated system of data collection, data interpretation and actions that must occur in the correct sequence.

Key issue: Yr 7 students up to 3+ years behind (Lit/Num) at commencement of Secondary school

Background:

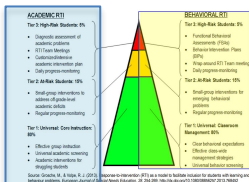
2016/17 'At risk' students identified: *Literacy, Numeracy + Socio-emotional needs*
 1 teacher for Maths/Science & 1 Teacher for English/HASS – mainstream curriculum delivered
= mixed results

2018 Piloted D.I program '**Corrective Reading**'
= student improvement on average 30 correct words/min (up to 62 correct words/min)

2019 Critical Lit/Num needs identified only – allocated staffing: 4 teachers + 4 EAs
 3 D.I. programs delivered: reading, maths, spelling
 Time allocated: 16 hours per week (MESH subjects time)
= Reading improvements av.35 correct words/min
= Spelling age av. 9 months improvement, highest = 28 months improvement
+ 12 students transitioned to mainstream programs

2020 **LINCS Program:** Critical Lit/Num needs + students below grade level Lit/Num needs identified
 Staff allocation: 4 teachers, 4 EAs, 16 hrs per week, 2 Streams of intervention:

- **Critical Intervention:** Students 3+ years below expected grade level
 DI programs Reading, Numeracy, Spelling & Writing
- **Supportive Intervention:** Students 1-2 years below expected grade level
 Explicit Direct Instruction for Maths, English, Science & HASS



3+ years below expected level

Commercial D. I Programs:

- Corrective Reading – decoding
- Connecting Maths Concepts
- Spelling Mastery
- Expressive Writing
- Essentials for Writing

1-2 years below expected level

Explicit Direct Instruction

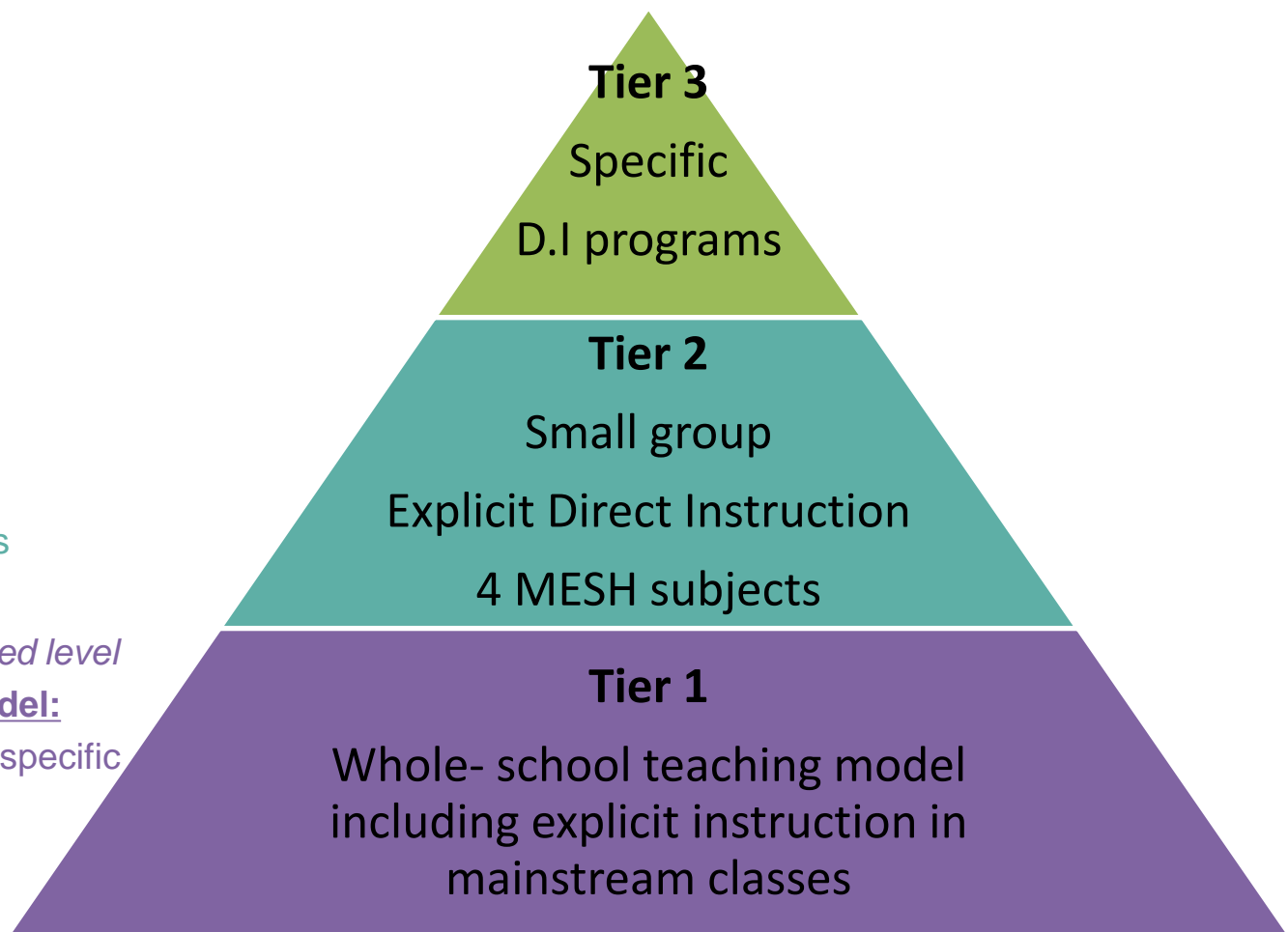
Lesson design & delivery
(engagement norms) components

Close to or <1 year below expected level

Whole School instructional model:

Explicit teaching of learning area specific vocab

- The Writing Revolution
- EDvance Teaching Intensive
- Identifying critical content



Dialogue & Discussion:

- What is your school process or model for **identifying students' points of need - academic & behavioural?**
- What layers of **'interventions'** (varying in intensity) have been put into place in your school?



**Playback to
the group**

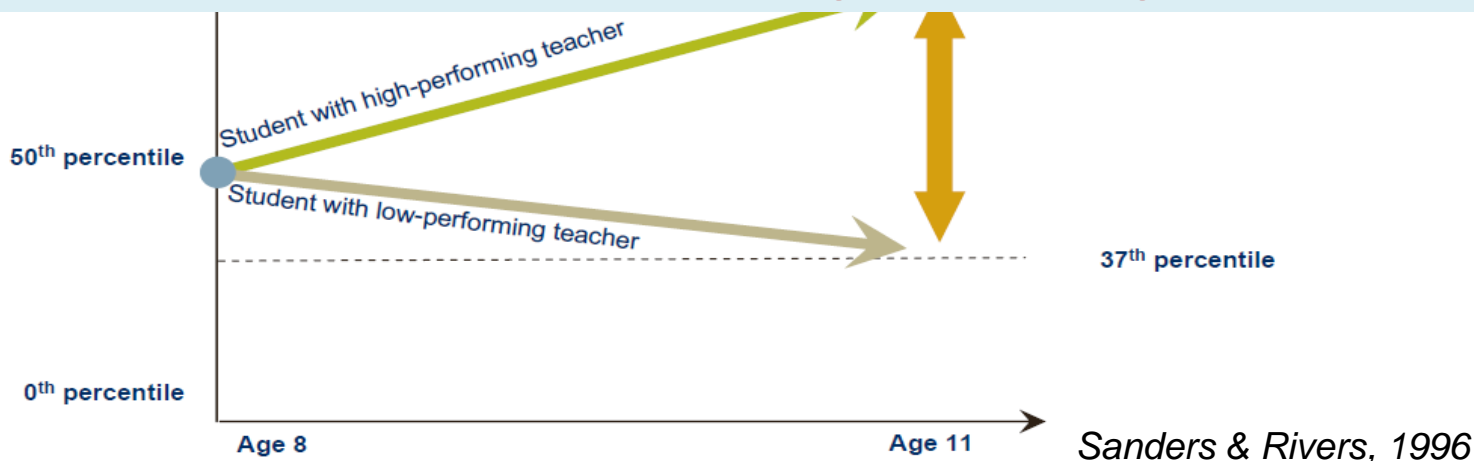


The largest barrier to student learning: **WITHIN-SCHOOL VARIABILITY**

The variability between schools in most Western countries is far smaller than the variability within schools
(Hattie, 2015)

2018 PISA results for **reading** performance across all OECD countries shows that the variability between schools is **29 %**, while the variance within schools is **91 %** (OECD 2019).

Pair-share: In your experience working at your school, is this a reality?
Discuss what **YOU** think leads to a high-performing teacher

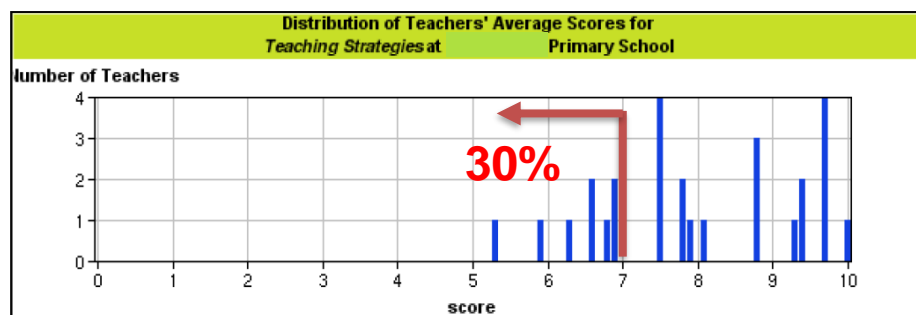


“This structure has subjected students to an educational lottery in which, what they learn, how much they learn, how they are assessed and what happens when they struggle are almost entirely a function of their assigned teacher.”
DuFour, 2018

A lower performing school...

Eight Drivers of Student Learning

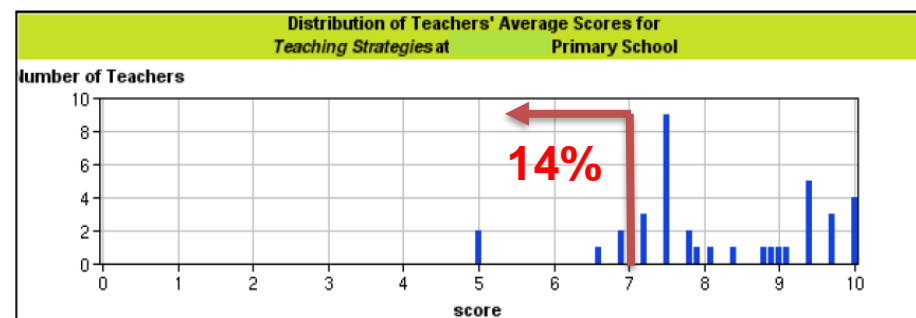
5. Teaching Strategies	8
I help students set challenging learning goals.	7.4
When I present a new concept I try to link it to previously mastered skills and knowledge.	9.1
Students receive written feedback on their work at least once every week.	6.8
I can easily identify unproductive learning strategies.	8
My students are very clear about what they are expected to learn.	8.3
I use two or more teaching strategies in most class periods.	8.8
Students receive feedback on their work that brings them closer to achieving their goals.	8
I discuss with students ways of seeking help that will increase learning.	7.9



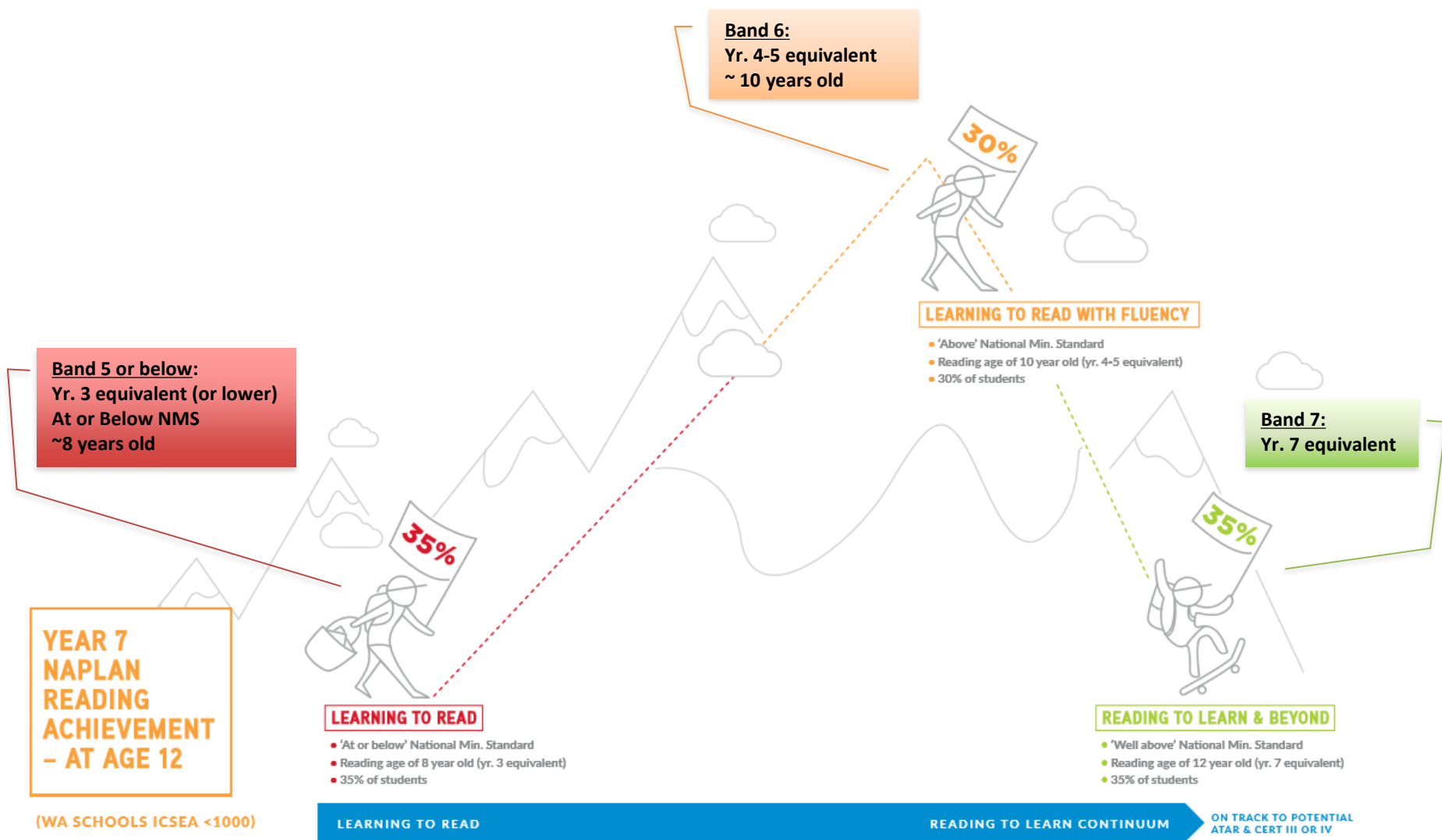
A high performing school....

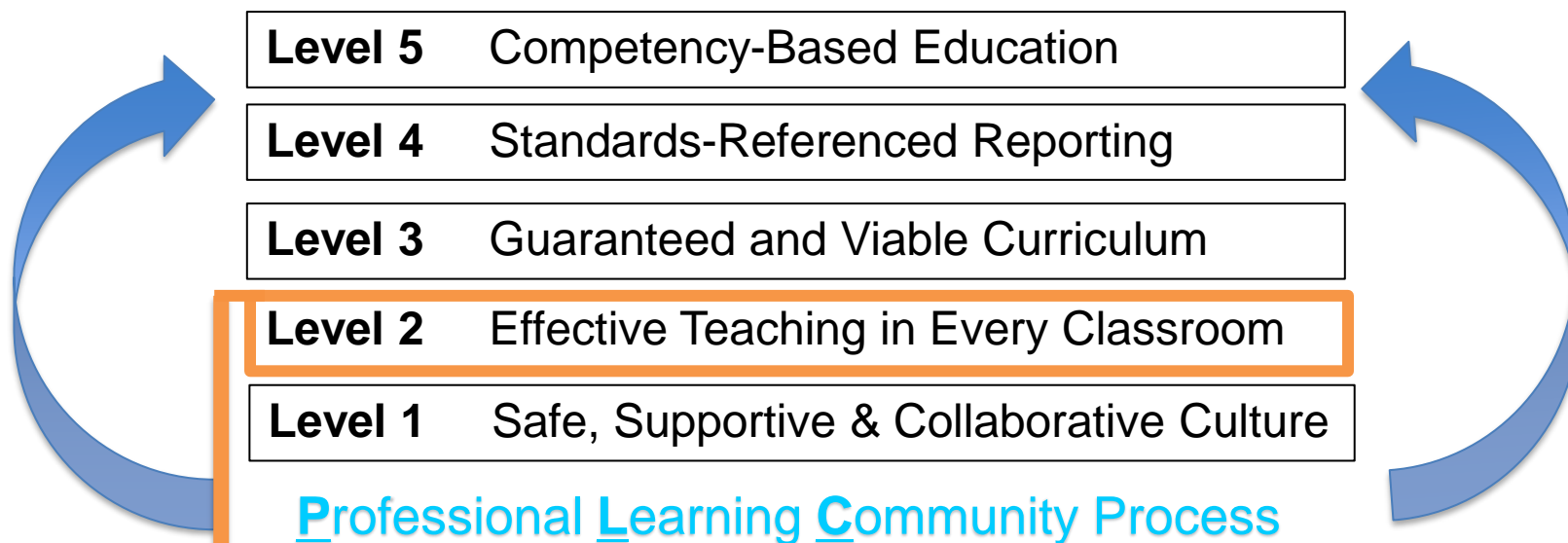
Eight Drivers of Student Learning

5. Teaching Strategies	8.2
I help students set challenging learning goals.	7.9
When I present a new concept I try to link it to previously mastered skills and knowledge.	8.8
Students receive written feedback on their work at least once every week.	7.5
I can easily identify unproductive learning strategies.	7.9
My students are very clear about what they are expected to learn.	8.5
I use two or more teaching strategies in most class periods.	8.8
Students receive feedback on their work that brings them closer to achieving their goals.	8.3
I discuss with students ways of seeking help that will increase learning.	8.1



The challenge in secondary schools





LEAD INDICATORS: (provide direction)

- 2.1** *The school leader communicates a clear vision as to **how teachers should address instruction***
- 2.2** *The school supports teachers to **continually enhance their pedagogical skills***
- 2.6** *Teachers have opportunities to **observe and discuss effective teaching***

CRITICAL COMMITMENTS: (initiatives to help meet KPI targets)

Level 2: Focus on Teacher Development

Critical

- Analytical & discerning

Grounded & stable

- Not blowing in the wind (faddism)

Adaptive

- Not stuck at one point in time
- Flexible to changing context & evidence base (as it grows)
- Not just implementing programs

Moral Purpose: It's about the students

3 key sources of research & evidence— that all teachers & leaders should know

Cognitive Science

How do brains
work? How do we
learn?

Practices of master teachers

We know some
teachers can
support amazing
student growth
and results...what
is it that they do?

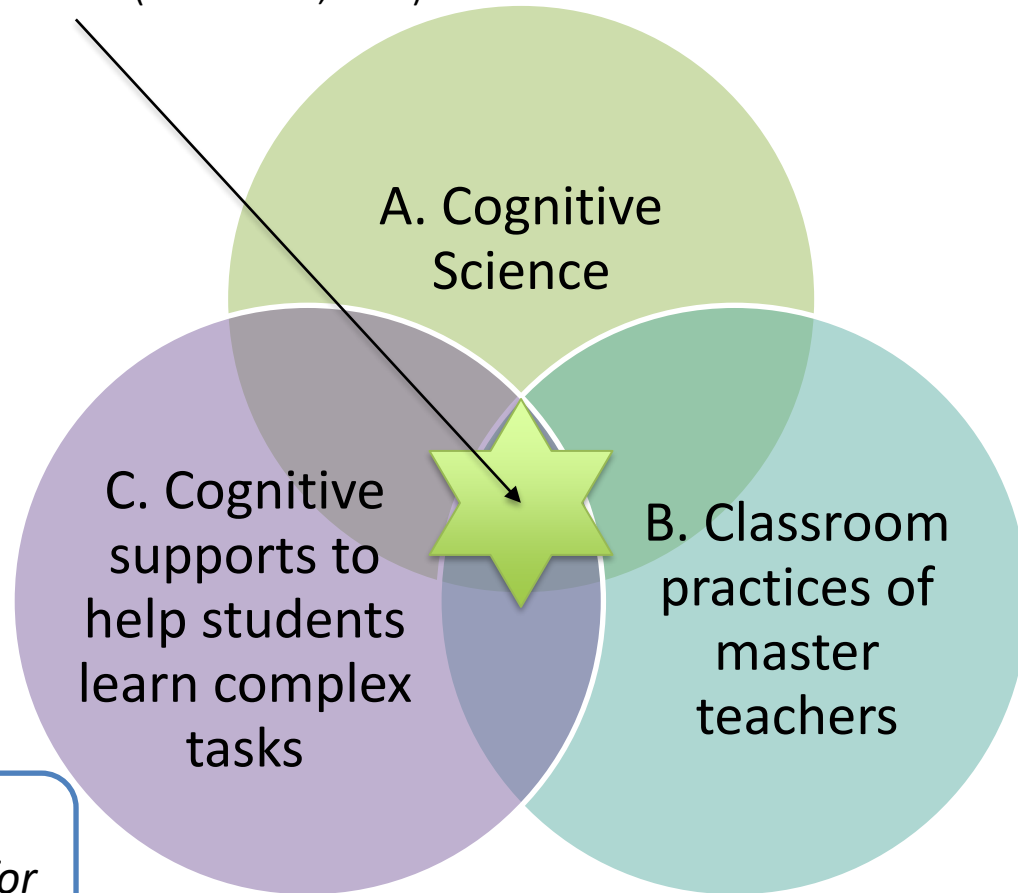
Cognitive supports for complex tasks

What techniques
support people to
master really
challenging and
complex tasks ?

Barak Rosenshine, 2012

We're interested in the intersection of all 3 - highly-reliable, high-impact teaching practices

- *16 Elements of Explicit Instruction* (Archer, 2011)
- *10 Principles of Instruction* (Rosenshine, 2012)

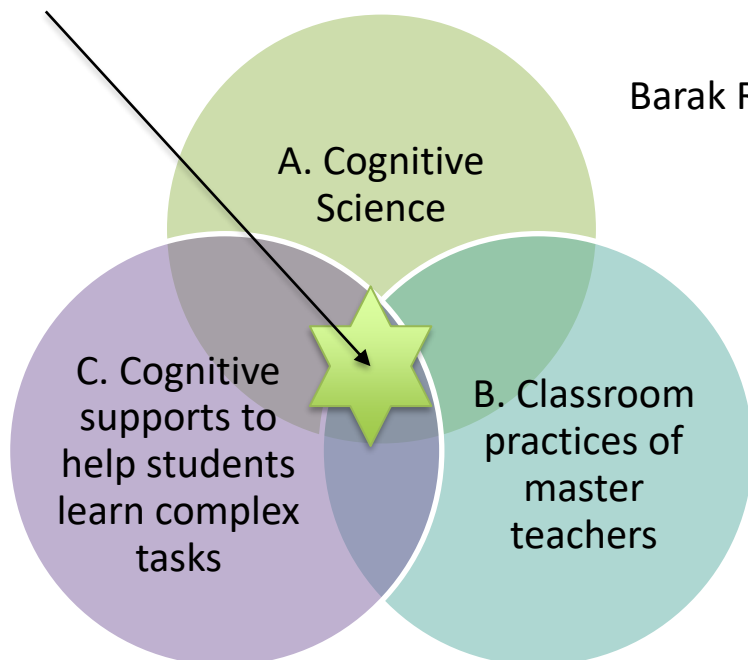


Dialogue:
*Look & compare for
alignment*

Barak Rosenshine, 2012

We're interested in the intersection of all 3 - highly-reliable, high-impact teaching practices

- 16 Elements of Explicit Instruction (Archer, 2011)
- 10 Principles of Instruction (Rosenshine, 2012)



Barak Rosenhine, 2012

Dialogue (Pre-work): Pair-Share and Playback

How does instruction in the research compare to teaching practice in your department in terms of:

- Alignment to research
- Gaps between practice and research
- Variability across classrooms

Pre-work Activity – What does good teaching look like in your school/learning area?

Prior to Workshop two, consider what good teaching looks like in your school/learning area and whether this aligns with the research and pre-readings allocated for the workshop (e.g. Archer and Hughes, Rosenhine, Science of Learning, etc)

Categories to consider	Practice at your school (what does it look like in classrooms)	Alignment to Readings (what does the research say?)
Teaching strategies (delivery of lessons)		
Lesson design (structure of lesson)		

What strengths in teaching practice can you see in alignment with the readings?

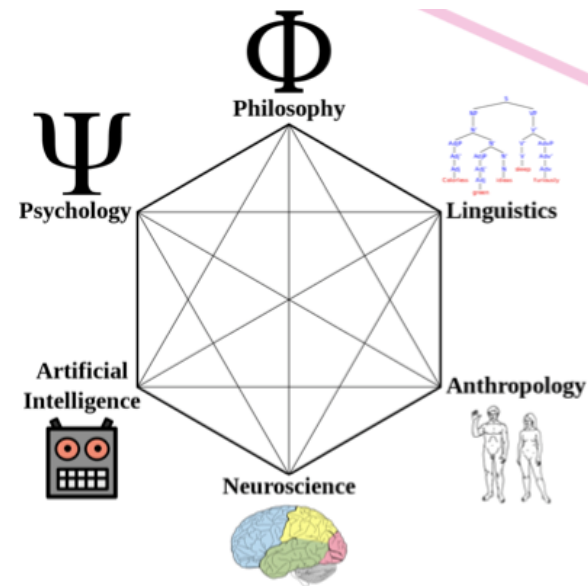
What are the areas of improvement in teaching strategies have you identified?

Fogarty EDvance – Advancing educational opportunities

Founding partners:



Cognitive science is the interdisciplinary **scientific** study of the mind and its processes. It examines what **cognition** is, what it does and how it works.



By Hexagon_with_diagonals.svg: Charles Lowe Human.svg: created by NASA Phi.svg: jossi Psi2.svg: Gdh Lobes_of_the_brain_NL.svg: Mysid Robot_icon.svg: Bilboq Syntax_tree.svg: Aaron Rotenberg derivative work: Charles Lowe [CC-BY-SA-3.0] (<http://creativecommons.org/licenses/by-sa/3.0/>), via Wikimedia Commons
http://upload.wikimedia.org/wikipedia/commons/thumb/d/dd/Cognitive_Science_Hexagon.svg/1024px-Cognitive_Science_Hexagon.svg.png

A. Cognitive Science



C. Cognitive supports to help students learn complex tasks

B. Classroom practices of master teachers

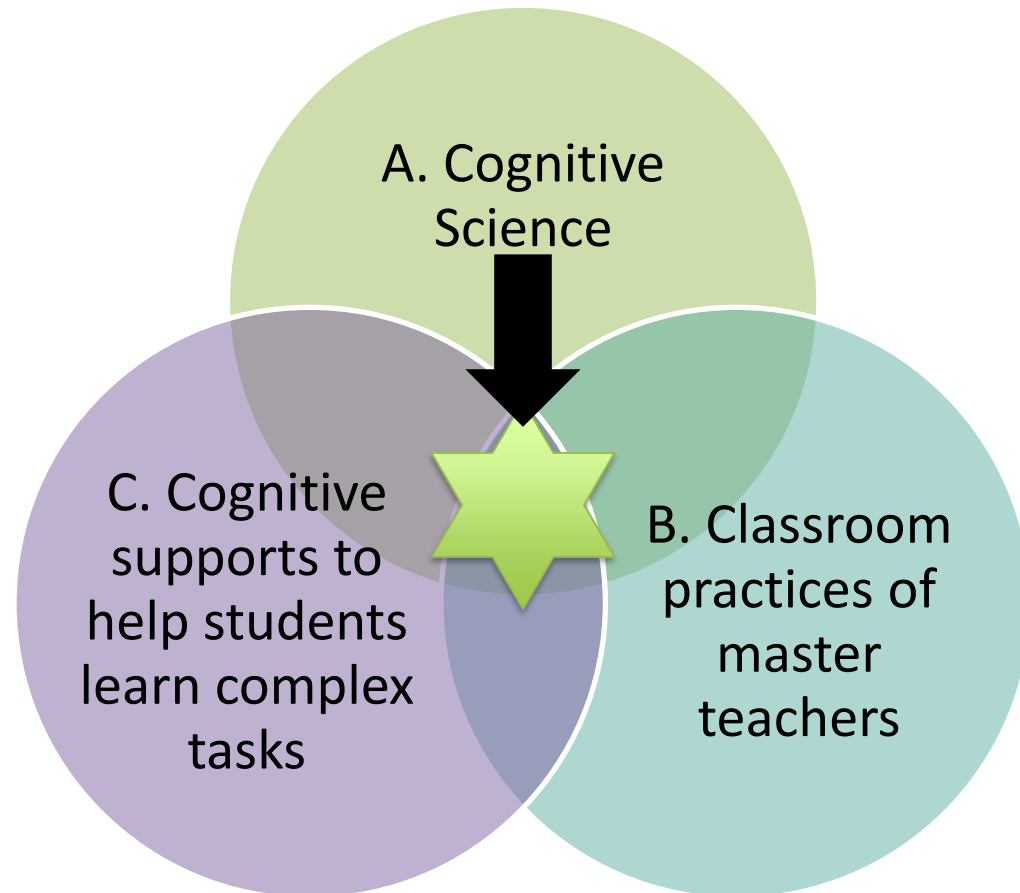
Write down as many pictures as
you can remember from the
previous slide on your paper.

You have 20 seconds!!



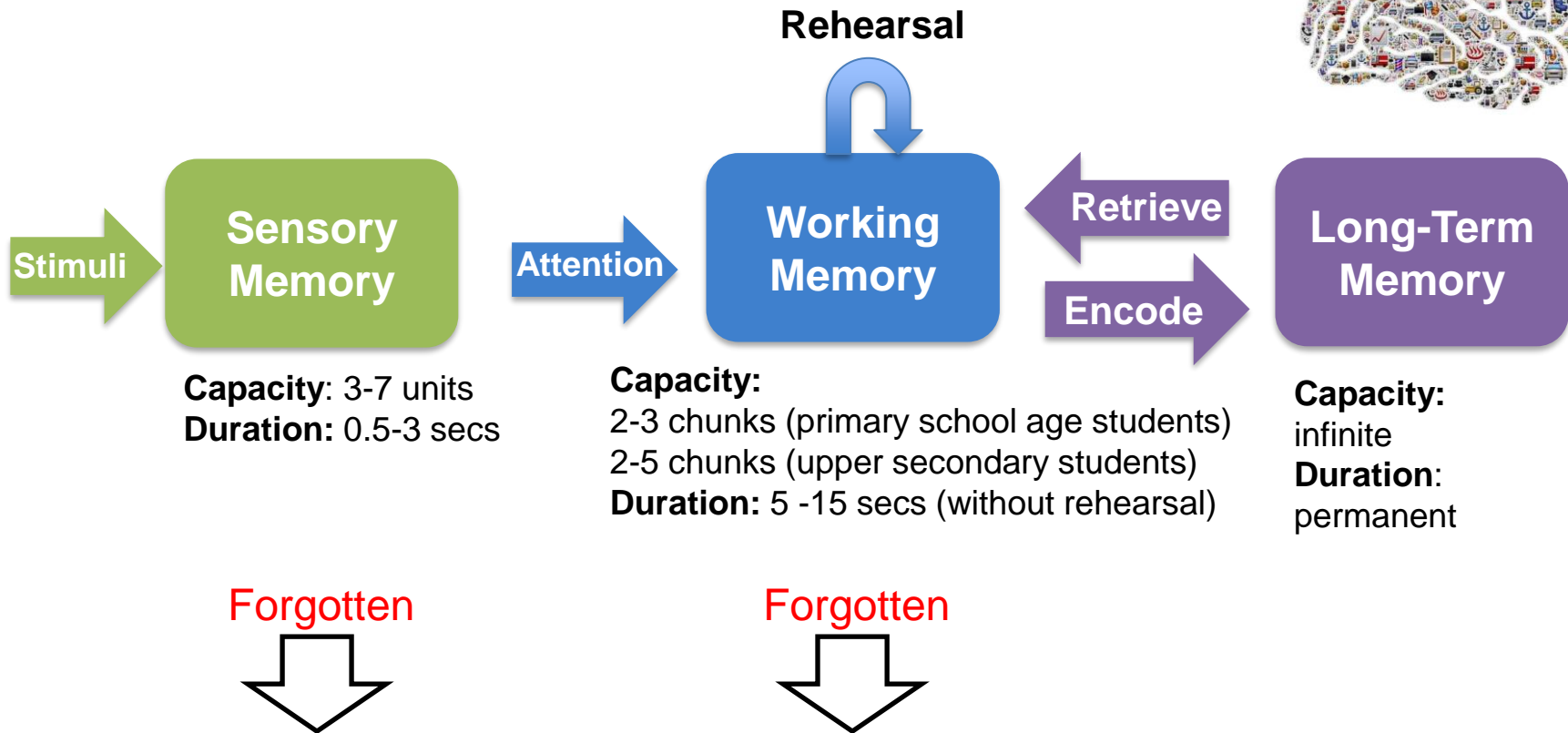


**3 key sources of research & evidence—
that all teachers & leaders should know**

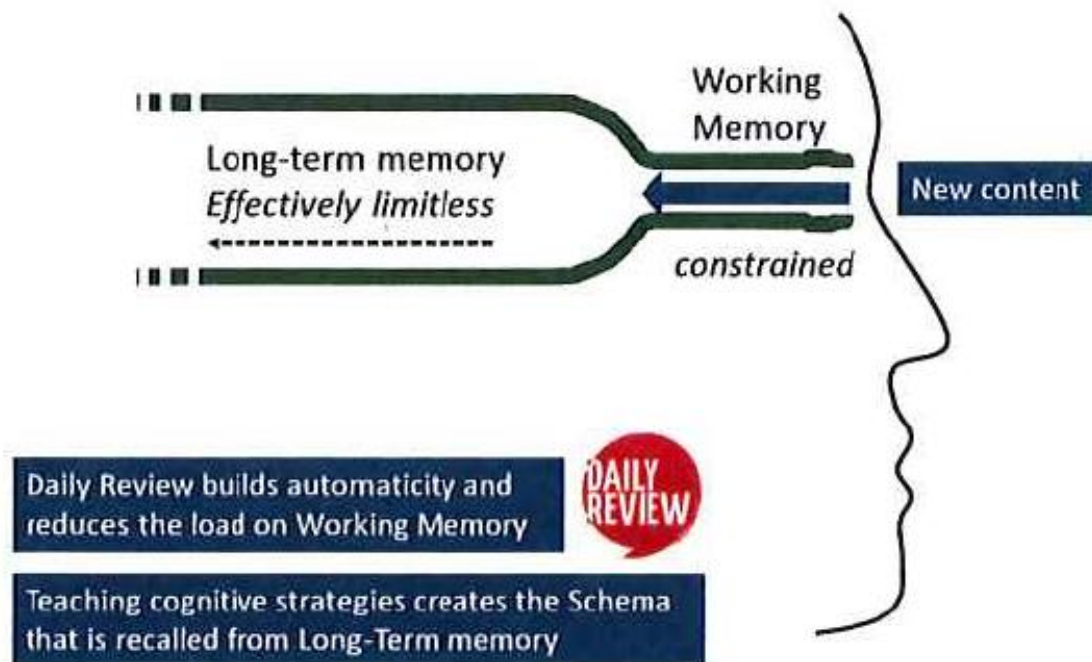


Barak Rosenshine, 2012

Learning is a change in long-term memory



Rule of Thumb: It is very challenging for most people (students) to hold more than 2-3 chunks of information in working memory



Sweller, J. (2016). Story of a Research Program. *Education Review, Resenas Educativas*, 23.



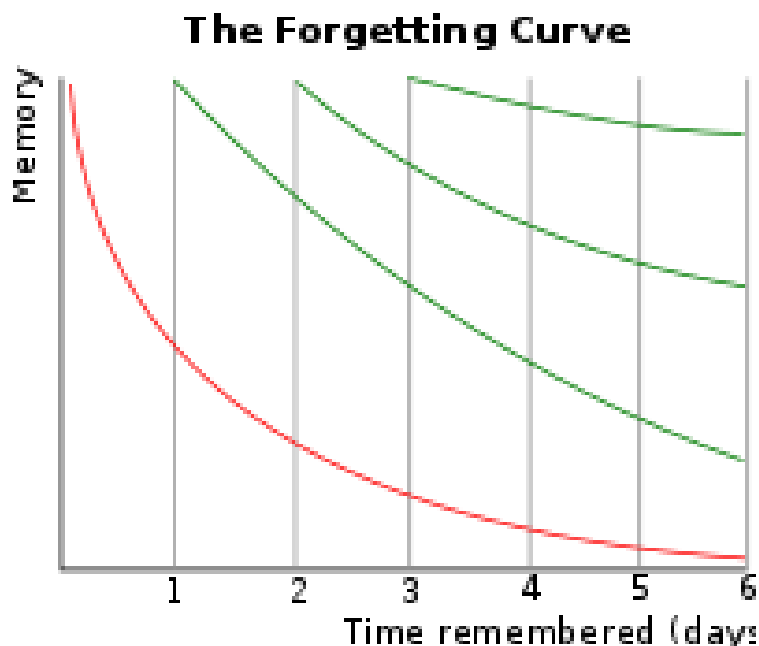
Dylan Wiliam
@dylanwiliam

Follow

I've come to the conclusion Sweller's Cognitive Load Theory is the single most important thing for teachers to know
bit.ly/2kouLOq

Personal reflection:

What are the implications of the cognitive model on teaching and learning?



- Students require a significant amount of spaced practice to transfer a skill or concept from working memory to long-term memory
- Scientists debate how quickly information is lost from memory (it might depend on several factors) and how much practice is required, at what intervals, but the core principle is well accepted
- Different tasks & information require different amounts of practice if they are to be retained
- Distributing the practice is very important. It must be spaced across a longer time period – often over months, or possibly years

Rule of Thumb: skills or concepts need to be practiced 15-72 times to be transferred to long-term memory

Your task from The Science of Learning paper:

Question 1: How do students learn new ideas?	Question 2: How do students learn & retain new information?
Cognitive Principle: 1.1 <i>1.1.1 Students learn new ideas by reference to ideas they already know.</i>	Cognitive Principle: 2.1 <i>2.1.1 Information is often withdrawn from memory just as it went in. We usually want students to remember what information means and why it is so important, so they should think about meaning when they encounter to-be-remembered material.</i>
Cognitive Principle: 1.2 <i>1.2.1 Students must transfer information from WM to LTM</i> <i>1.2.2 Limited WM capacity can be overwhelmed by tasks that are cognitively too demanding</i> <i>1,2,3 Understanding new ideas can be impeded if confronted with too much information at once</i> <i>[Consider the Working Memory capacity for school age students]</i>	Cognitive Principle: 2.2 <i>2.2.1 Practice is essential to learning new facts, but not all practice is equivalent.</i>
Cognitive Principle: 1.3 <i>1.3.1 Cognitive development does not progress through a fixed sequence of age-related stages. The mastery of concepts happens in fits & starts.</i>	

Discuss in your groups:

1. What is the alignment between the cognitive principles and the principles of instruction?
2. How different/similar is this to the practice in your school?
3. As a leader, what strategies could be implemented to incorporate these principles in teaching practice at your school?

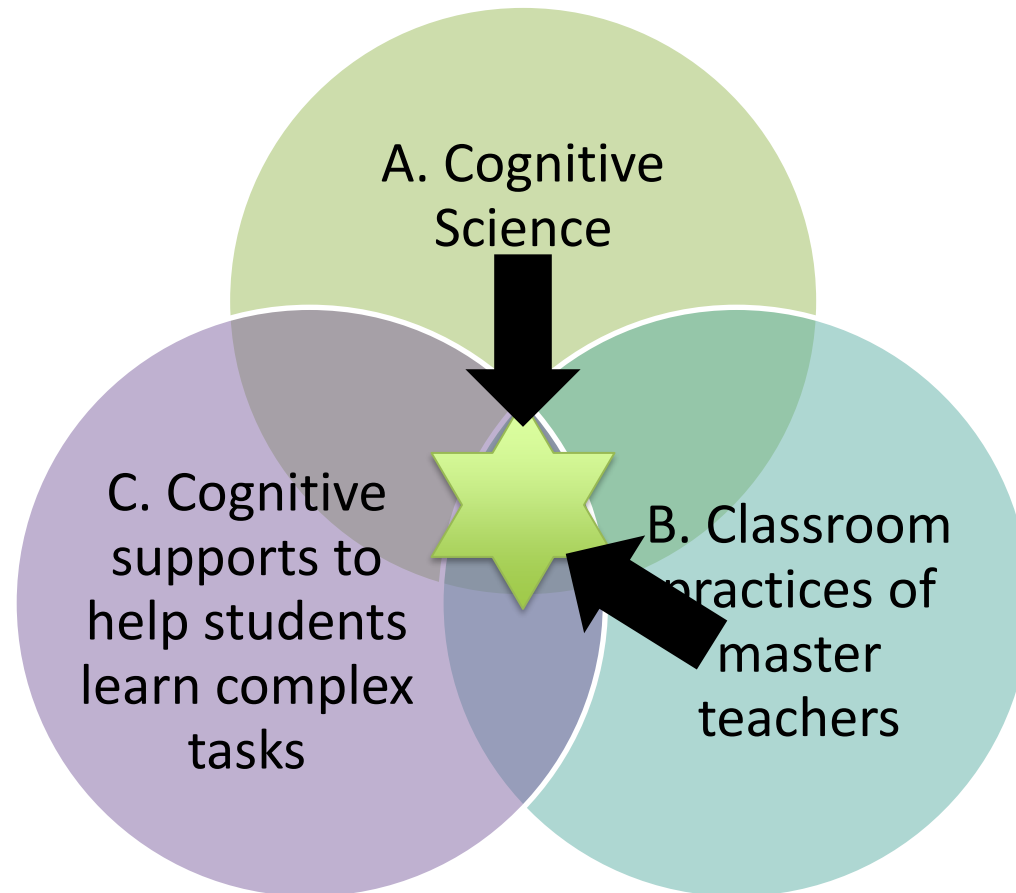


For further consideration:

- Q3: **How do students solve problems?**
- Q4: **How does learning transfer to new situations in or outside of the classroom?**
- Q5: **What motivates students to learn?**
- Q6: **What are common misconceptions about how students think and learn?**



**3 key sources of research & evidence—
that all teachers & leaders should know**

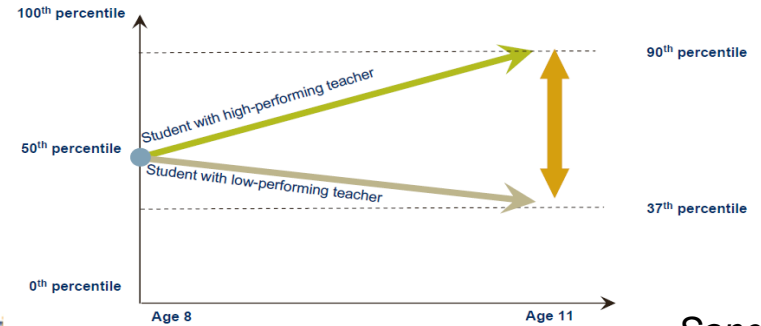
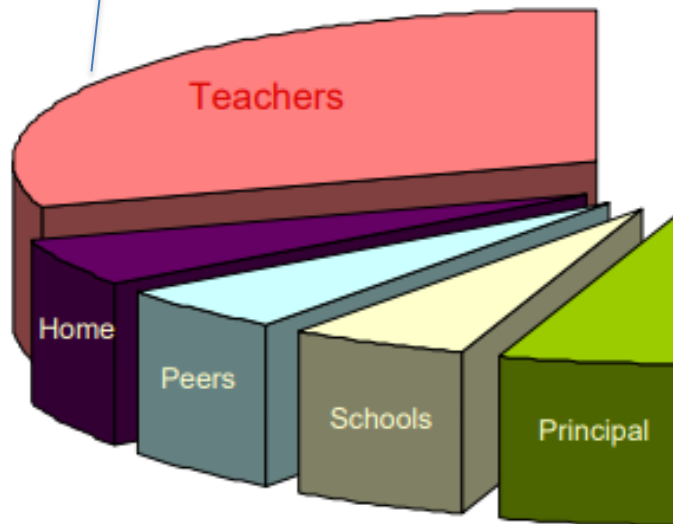


Barak Rosenshine, 2012

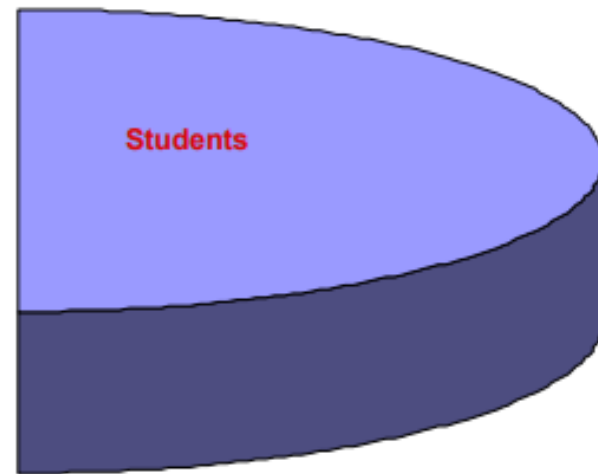
Variance in Student Achievement

30%

Percentage of Achievement Variance



Sanders & Rivers, 1996



Hattie, 2003

Review: how do different instructional techniques relate to PISA science outcomes?

- Students given opportunities to explain their ideas
- Students spend time in the lab doing practical experiments
- Students are required to argue about science questions
- Students are asked to draw conclusions from an experiment
- The teacher explains science ideas can be applied
- Students are allowed to design their own experiments
- There is a class debate about investigations
- The teacher explains the relevance of concepts to our lives
- Students are asked to do an investigation to test ideas

change in PISA¹ science score relative to baseline,²
 score increase ● or decrease ●

Teacher-directed methods

- Teacher explains scientific ideas
- A whole class discussion takes place with the teacher
- The teacher discusses the questions
- The teacher demonstrates an idea

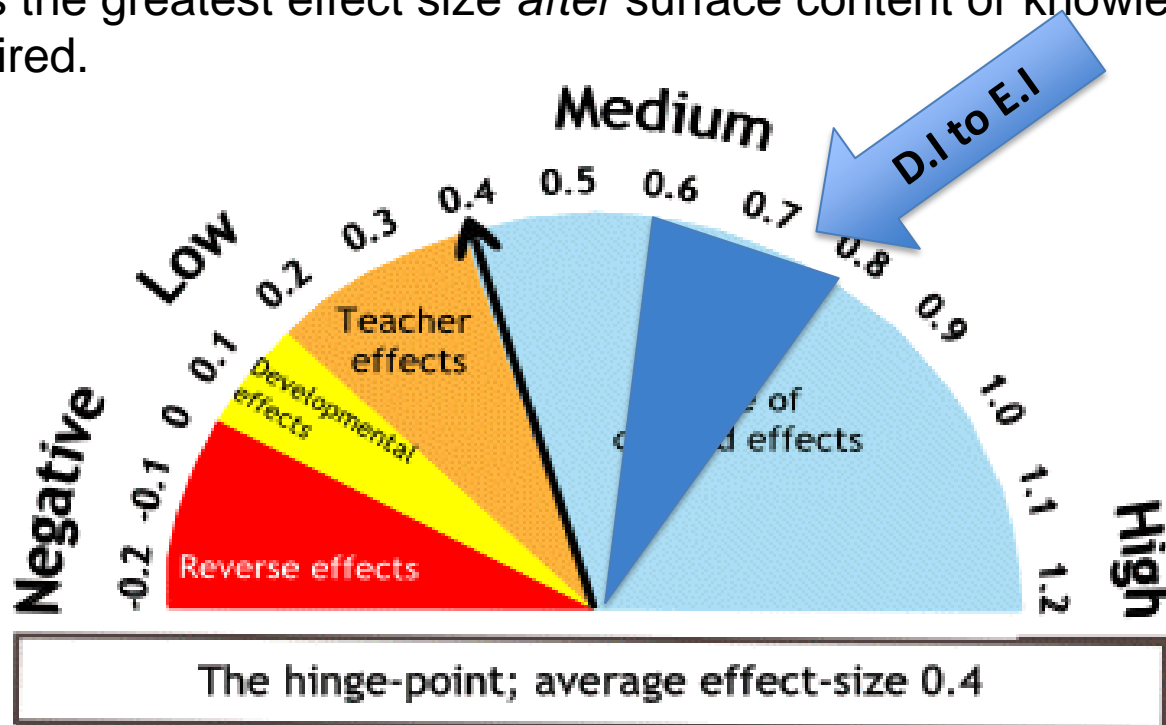
Inquiry-based methods

	None to few lessons	Some to many lessons	Many to all lessons
None to few lessons			
Some to many lessons			
Many to all lessons			

<i>Influence</i>	<i>Effect Size</i>	<i>Source of Influence</i>
Feedback	1.13	Teacher
Students' prior cognitive ability	1.04	Student
Instructional quality	1.00	Teacher
Direct instruction	.82	Teacher
Remediation/feedback	.65	Teacher
Students' disposition to learn	.61	Student
Class environment	.56	Teacher
Challenge of Goals	.52	Teacher
Peer tutoring	.50	Teacher
Mastery learning	.50	Teacher
Parent involvement	.46	Home
Homework	.43	Teacher
Teacher Style	.42	Teacher
Questioning	.41	Teacher
Peer effects	.38	Peers
Advance organisers	.37	Teacher
Simulation & games	.34	Teacher
Computer-assisted instruction	.31	Teacher
Testing	.30	Teacher
Instructional media	.30	Teacher
Aims & policy of the school	.24	School
Affective attributes of students	.24	Student
Physical attributes of students	.21	Student
Programmed instruction	.18	Teacher
Ability grouping	.18	School
Audio-visual aids	.16	Teacher
Individualisation	.14	Teacher
Finances/money	.12	School
Behavioural objectives	.12	Teacher
Team teaching	.06	Teacher
Physical attributes (e.g., class size)	-.05	School
Television	-.12	Home
Retention	-.15	School

Hattie, 2003

- The things that have the most significant impact are all about making learning visible and **explicit** to students. They are almost always the influences that teachers have control over
- **Inquiry-based teaching has an effect size of 0.49**
- The key to inquiry based teaching is when it occurs
- Inquiry has the greatest effect size *after* surface content or knowledge has been acquired.



DELIVERY

Engagement norms

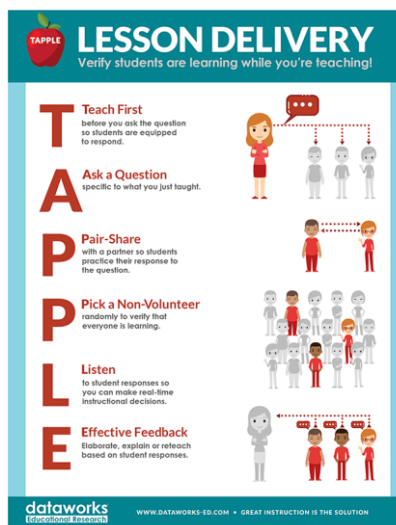


Creating Academic STUDENT ENGAGEMENT

- **Pronounce With Me**
- **Track With Me**
- **Read With Me**
- **Gesture With Me**
- **Pair-Share**
A → B, B → A
- **Attention Signal**
Eyes Front, Back Straight
- **Whiteboards**
Chin-it
- **Complete Sentences**
Public Voice, Academic Vocabulary

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Delivery protocols



LESSON DELIVERY
Verify students are learning while you're teaching!

T Teach First
before you ask the question so students are equipped to respond.

A Ask a Question
specific to what you just taught.

P Pair-Share
with a partner so students practice their response to the question.

P Pick a Non-Volunteer
randomly to verify that everyone is learning.

L Listen
to student responses so you can make real-time instructional decisions.

E Effective Feedback
Elaborate, explain or reteach based on student responses.

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Activity:

1. Which of these protocols were used in the teaching demo?
2. Count the number of “checks for understanding” in the teaching demonstration?

Spell with me
Choral response

Scarcity

Track with me
Read with me

Definition

Scarce

- **Scarcity** – when there are limited resources but an unlimited demand for resources.





Using the word

Scarce

- Scarcity – when there are limited resources but an unlimited demand for resources
- When fidget spinners were a phase, they became **scarce**.
- During summer, when there is a drought, there is a **scarcity** of water.
- Before my mum goes grocery shopping, there is a **scarcity** of food in the house.



Scarcity

Scarce

- Find Three synonyms:
- Unlimited. Limited.
Insufficient. Many.
Little. Abundant.

- Scarcity – when there are limited resources but an unlimited demand for resources

Example or Non-Example?



- Scarcity – when there are limited resources but an unlimited demand for resources

Example or Non-Example?



- Scarcity – when there are limited resources but an unlimited demand for resources

Example or Non-Example?



- Scarcity – when there are limited resources but an unlimited demand for resources

Example or Non-Example?





Write

Scarce

- Scarcity – when there are limited resources but an unlimited demand for resources
- Write a sentence using the word scarcity/scarce....
 - Tickets to the concert were scarce because....
 - Water is scarce in Perth because...
 - There is a scarcity of.....
Because.....

DELIVERY

Engagement norms




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Elaborate, explain or reteach based on student responses.

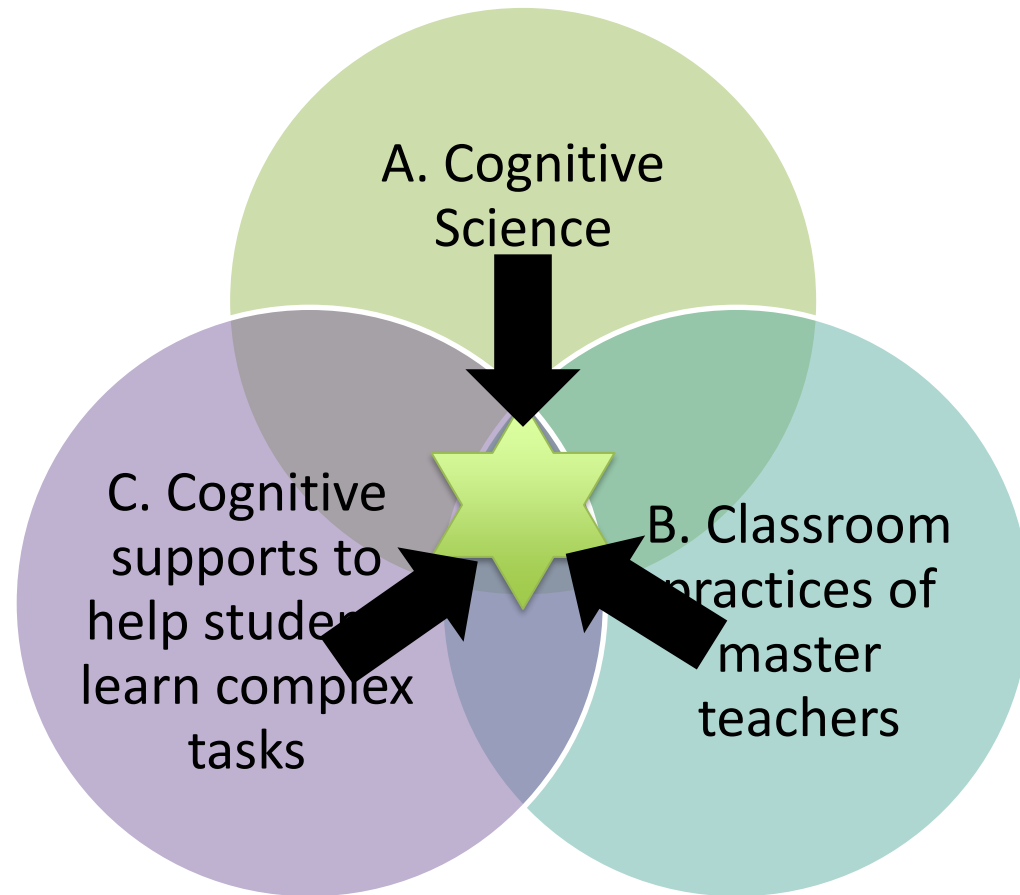
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Discuss in your groups:

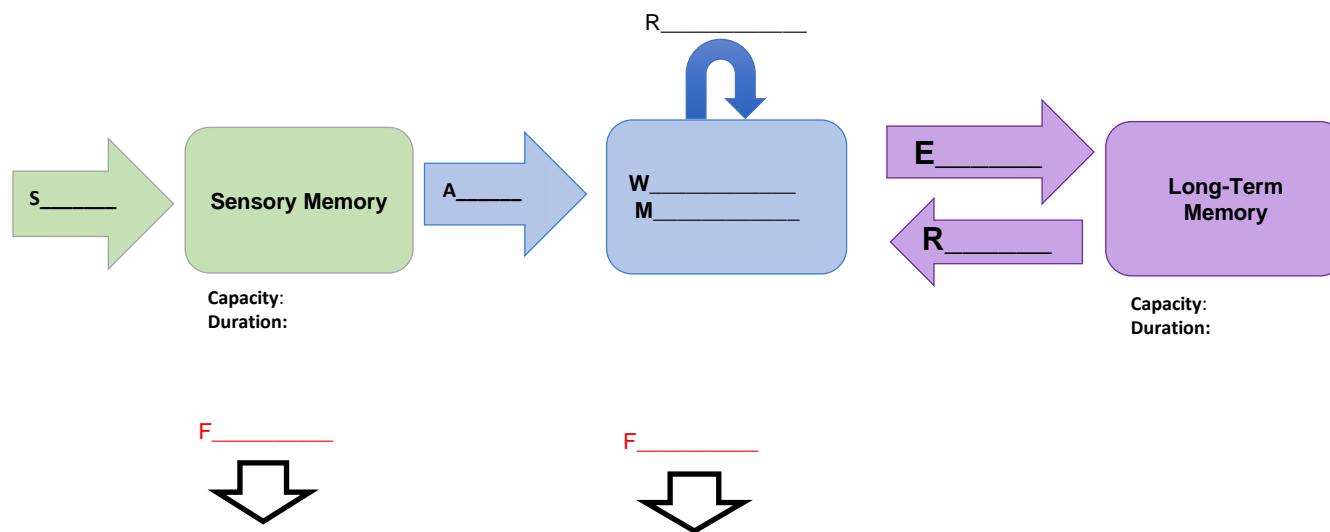
1. Which of these protocols were used in the teaching demo?
2. How many “checks for understanding” were done in the teaching demonstration.

**3 key sources of research & evidence—
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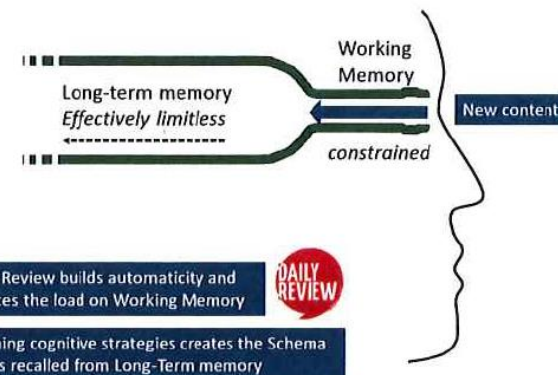


Barak Rosenshine, 2012

Guided Notes – A Cognitive Model



What are the implications of the cognitive model on teaching and learning?



Sweller, J. (2016). Story of a Research Program. *Education Review, Resenas Educativas*, 23.

Factors influencing the location of biomes





Track with me
Read with me

- I can name and explain the factors influencing the location of biomes



- I have recited the factors influencing the location of biomes and associate a gesture with them.
- I have completed guided notes about the factors influencing the location of biomes
- I have completed single sentence stems explaining the factors influencing the location of biomes

Factors influencing the location of Biomes

- L = Latitude
- A = Altitude
- D = Distance from the sea
- M = Mountains
- O = Ocean Currents
- P = Prevailing Winds

Track with me
Read with me
Choral Response
Choral Reversal
Gesture with me

Latitude

The sun's rays are more direct at the **equator**, so more of the sun's energy hits that area making it **warmer**. Places **closer** to the equator receive more sunlight than places far away from the equator.

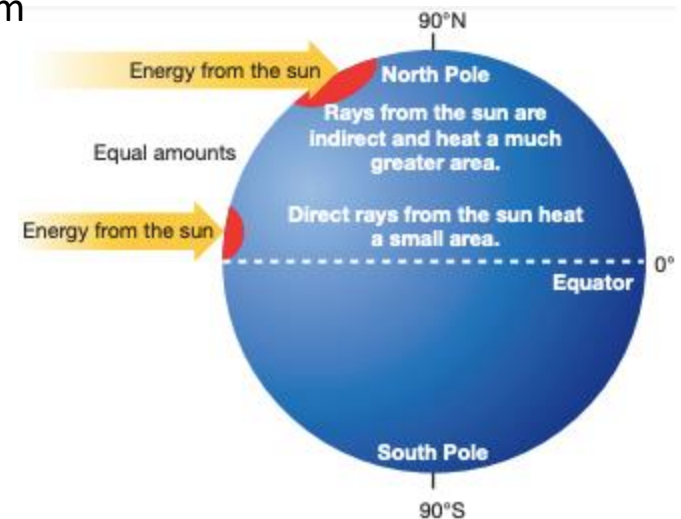
The amount of **sunlight** affects the types of plants and animals that live in a place.

The following biomes exist along the equator making this area very warm:

1. **Rainforests**
2. **Grasslands**
3. **Deserts**

The following biomes are in high latitudes far from the equator and are always cold:

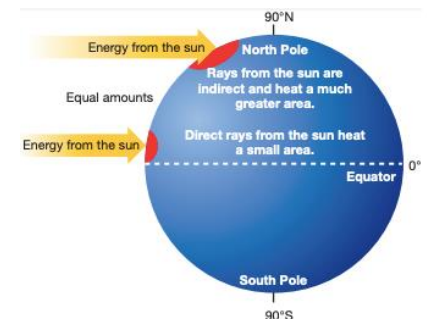
1. **Tundra**



Latitude – Sentence Stem

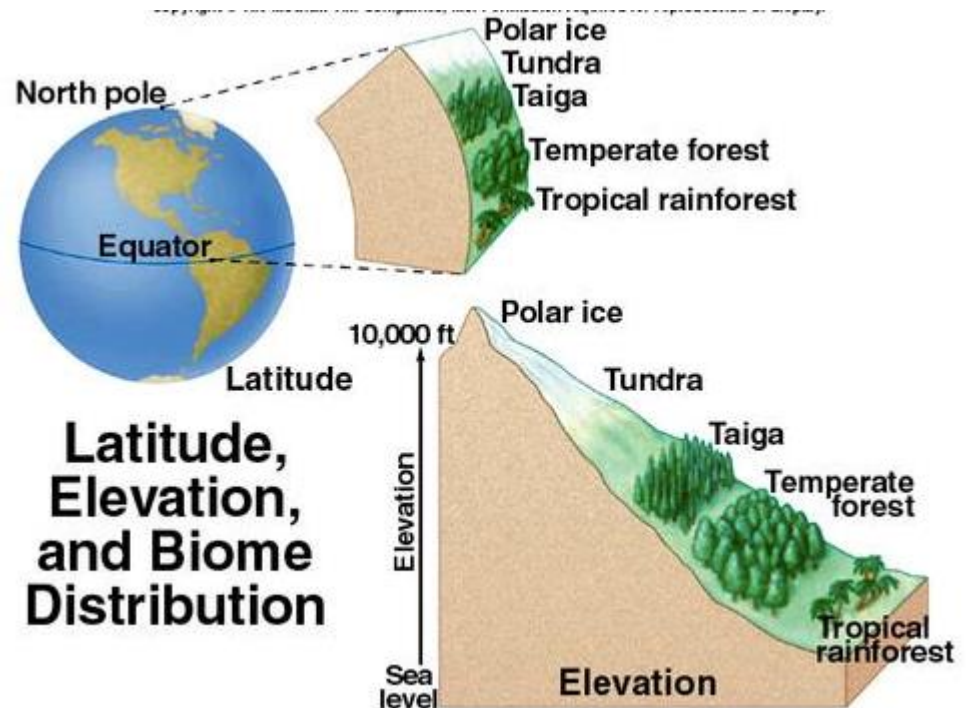
Pair-Share

- Complete **at least ONE** of the following sentence stems on your guided notes page **OR** write your own sentence about how latitude affects the distribution of biomes:
- Latitude affects where biomes are distributed because_____
- If a place is closer to the equator then_____
- The tundra biome is cold because_____



Altitude

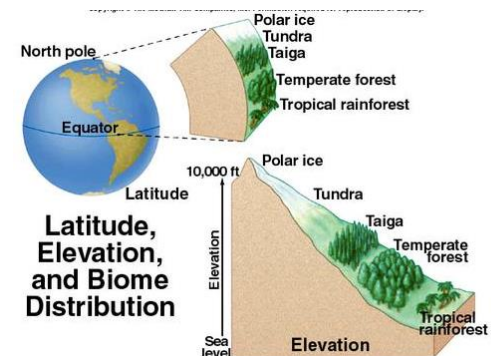
- Altitude is: **the height of an object above sea level.**
- As altitude **increases**, temperature **decreases.**
- Places in high altitudes will have **less** vegetation.
- A biome that has high altitude is the **tundra** biome – which is covered in **snow and ice.**



Altitude – Sentence Stem

Pair-Share

- Complete **at least ONE** of the following sentence stems on your guided notes page:
- When a place has a high altitude, then _____
- The higher the altitude, _____
- If the altitude is high, the temperature _____



Distance from the Sea

- Coastal areas (like Perth) are **cooler** and **wetter** than inland areas.
- Clouds form when **warm air from inland areas meets cool air from the sea.**
- In **inland** areas in summer, temperatures can be **very hot and dry** as moisture from the sea evaporates before it reaches the centre of the land mass.



Distance from the Sea – Sentence Stem

Pair-Share

- Complete **at least ONE** of the following sentence stems on your guided notes page:
- Coastal areas are _____
- In inland areas _____



Guided notes take advantage of one of the most consistent and important findings in recent educational research:

Students who make frequent, relevant responses during a lesson learn more than students who are passive observers.

Students must respond throughout the lecture by *listening, looking, thinking, and writing* about the lesson's content.

Guided notes are an effective way of supporting students as they:

- Help students to *easily identify the most important information*
- Improve students' independent note-taking skills.

Fill in the gaps or circle the correct answer:

The factors affecting the distribution of biomes are:

- L =
- A =
- D =
- M =
- O =
- P =

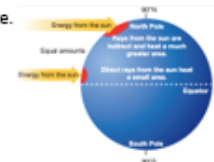
Latitude

The sun's rays are more direct at the _____, so more of the sun's energy hits that area making it warmer/cooler. Places closer/further to the equator receive more sunlight than places far away from the equator.

The amount of _____ affects the types of plants and animals that live in a place.

The following biomes exist along the equator making this area very warm:

- 1.
- 2.



The following biomes are in high latitudes far from the equator and are always cold:

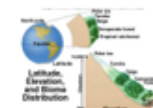
- 1.

Complete at least ONE of the following sentence stems below:

Latitude affects where biomes are distributed because _____

If a place is closer to the equator, then _____

The tundra biome is cold because _____



Altitude

Altitude is: _____

- As altitude _____, temperature _____.
- Places in high altitudes will have _____ vegetation.
- A biome that has high altitude is the _____ biome – which is covered in _____.

Complete at least ONE of the following sentence stems below:

When a place has a high altitude, then _____

The higher the altitude, _____

If the altitude is high, the temperature _____

Distance from the Sea

- Coastal areas (like Perth) are _____ and _____ than inland areas.
- Clouds form when _____
- In _____ areas in summer, temperatures can be _____ as moisture from the sea evaporates before it reaches the centre of the land mass.



Daniel Willingham (Cognitive Psychologist)

1. What are 2 strategies that Daniel Willingham describes as ineffective (highlighting and re-reading) in learning new information? Why?
2. What are some strategies that are more effective? Why?

Study strategies	Effectiveness?
Summarising material you are learning	Most effective when the assessments are by performance or generative, rather than closed or multiple choice (0.66)
Underlining and highlighting	Most effective when done by professionals rather than students (0.50)
Practice/self-testing	Most effective when done to consolidate students' knowledge and understanding (0.44)
Using keyword mnemonics	Effective only for surface learning (0.76)
Distributing practice out over time	The longer time between practice opportunities, the greater the retention (0.60)
Rehearsal and memorisation	Most effective when students have learned something well (0.73)
Re-reading or reviewing notes and material	Effective only for surface learning (0.49)

Elements of whole school instructional models should go well beyond a lesson structure

DESIGN



DELIVERY

Lesson structure

5 Step Lesson Plan Template

Anticipatory Set	<ul style="list-style-type: none"> Engage students. Connect with prior learning. Explain what students will learn. Explain what students will do. Connect to future learning.
Introduction of New Material	<ul style="list-style-type: none"> Provide direct instruction of content. Model new skills. Check for understanding.
Guided Practice	<ul style="list-style-type: none"> Facilitate student work.
Independent Practice	<ul style="list-style-type: none"> Assign independent classwork or homework.
Closure	<ul style="list-style-type: none"> Have students briefly summarize their learning.

Review mechanisms



Engagement norms

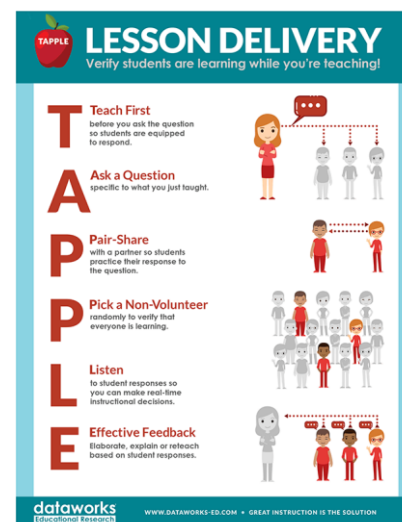


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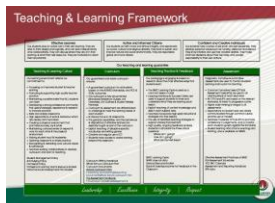
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...and many more elements



High performing schools made a small start and added many additional layers over the course of many years

Key References to Support Discussions About High Impact Instruction (including explicit instruction)

Articles

- Clark, R., Kirschner, P., Sweller, J., (Spring 2012), Putting Students on the Path to Learning: The Case for Fully Guided Instruction, American Educator
- Deans for Impact (2015). The Science of Learning. Austin, TX: Deans for Impact. Retrieved 10 July 2016 from http://www.deansforimpact.org/the_science_of_learning.html
- Louden, W. (2015). High performing primary schools: What do they have in common? Department of Education Western Australia.
- NSW Department of Education and Communities (2017). Effective Reading Instruction in the Early Years. Sydney: Centre for Education Statistics and Evaluation. Retrieved 06 June 2017 from: <https://www.cese.nsw.gov.au/publications-filter/literature-review-effective-reading-instruction-in-the-early-years-of-school>
- NSW Department of Education and Communities (2012). Great Teaching, Inspired Learning What does the evidence tell us about effective teaching? Centre for Education Statistics and Evaluation. Sydney: Centre for Education Statistics and Evaluation. Retrieved 5 July 2016 from: <http://www.cese.nsw.gov.au/publications-filter/great-teaching-inspired-learning>
- NSW Department of Education and Communities (2015). What works best: Evidence-based practices to help improve NSW student performance. Centre for Education Statistics and Evaluation. Sydney: Centre for Education Statistics and Evaluation. Retrieved 5 July 2016 from: <http://www.cese.nsw.gov.au/publications-filter/what-works-best-evidence-based-practices-to-help-improve-nsw-student-performance>
- Rosenshine, B. (2012). Principles of Instruction: Research-Based Strategies That All Teachers Should Know. The Education Digest, 78(3), 30-40
- Twyman, J. & Heward, L. (May 2016), How to improve student learning in every classroom now, International Journal of Educational Research

Books

- Archer, A. L & Hughes, C, A (2011). Explicit instruction: effective and efficient teaching. New York: Guilford Press.
- Hollingsworth, J. R., & Ybarra, S. E. (2008). Explicit direct instruction (EDI): The power of the well-crafted, well-taught lesson. 116 S. Seventh Street, Fowler, CA 93625: Corwin Press & Data Works Educational Research

Cognitive Science

- Daniel Willingham: Cognitive Psychologist – University of Virginia: YouTube channel & web page www.danielwillingham.com
- Stanislas Dehaene, Michael Posner, Steven Pinker – follow their work!
- Cognitive Load Theory: Research that teachers really need to understand, CSES 2017
- Importance of investing in adolescence from a developmental science perspective, Dahn et al, 2018

Effective Reading Instruction

- Stanislas Dehaene: Reading in the brain (2010) + recent work
- Maryanne Wolf: Reader Come Home (2018), Proust & the Squid (2008)
- Dyslexia Speld Foundation www.dsf.net.au
- Learning difficulties Australia www.lidaustralia.org

Fogarty EDvance – Advancing educational opportunities

An initiative of



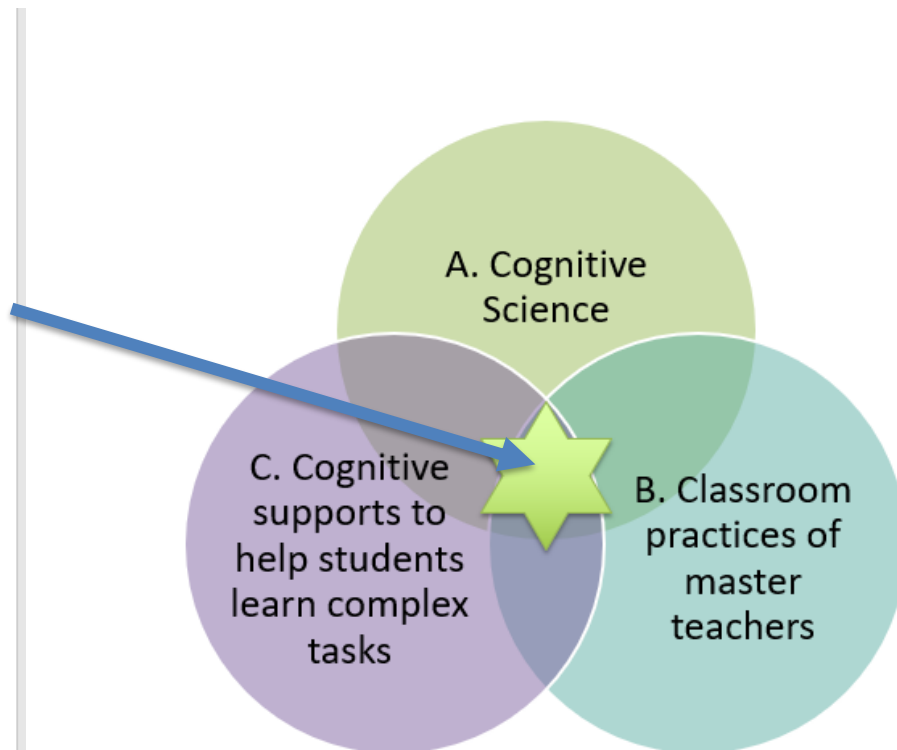
Founding partners:



An initiative of:



Founding partners:





3-year “Measuring Effective Teaching” MET Project - Bill and Melinda Gates Foundation

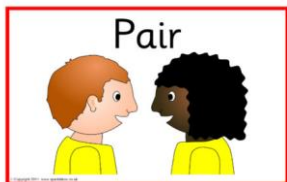
Teaching Effectiveness



1. Student outcomes **data**

2. Classroom **observations**

3. Student **feedback**



Pair-Share

Do we need one or all of these data sets to understand and measure effective teaching? What % would you assign to each?

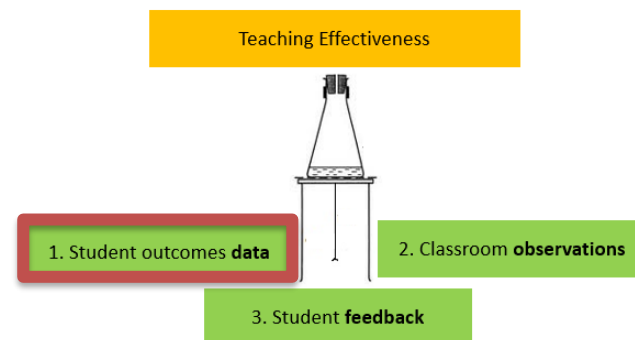
What they found

Student Outcomes data:

Standardised assessments are **very predictive** of future performance on other standardised assessments

Students who perform well on standardised assessments generally do well on **higher order thinking assessments** (critical thinking, problem solving etc..)

Prove Vs Improve – need more than NAPLAN data otherwise we are just ‘proving’ not ‘improving’
– make a consistent data set available, with higher frequency than NAPLAN



What they found

Classroom observations:

Classroom observations contribute to understanding (& measuring) effective teaching, but don't rely too heavily on them

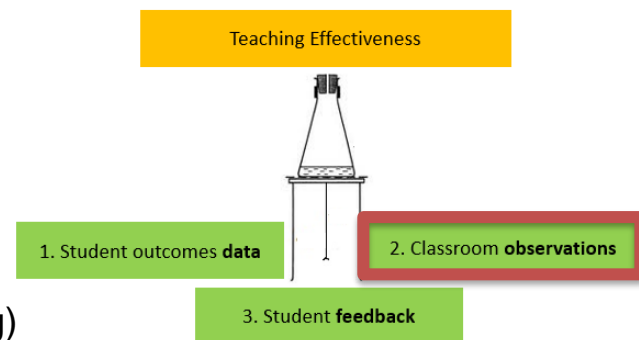
- of overall weighting is optimum
- is too high & counter-productive

Principals and administrators rate their own staff more highly than peer observers & admin from other schools, but the spread/ranking of teachers is similar

Adding lessons & observers improves reliability – multiple observers are important. Splitting them between observations improves reliability (predictive power)

Watching first 15 mins of a lesson is 60% reliable as a whole lesson

- Use different observers
- A least 2 full length lesson observations
- Doesn't always have to be a whole lesson, 15 mins can help
- Videos can work



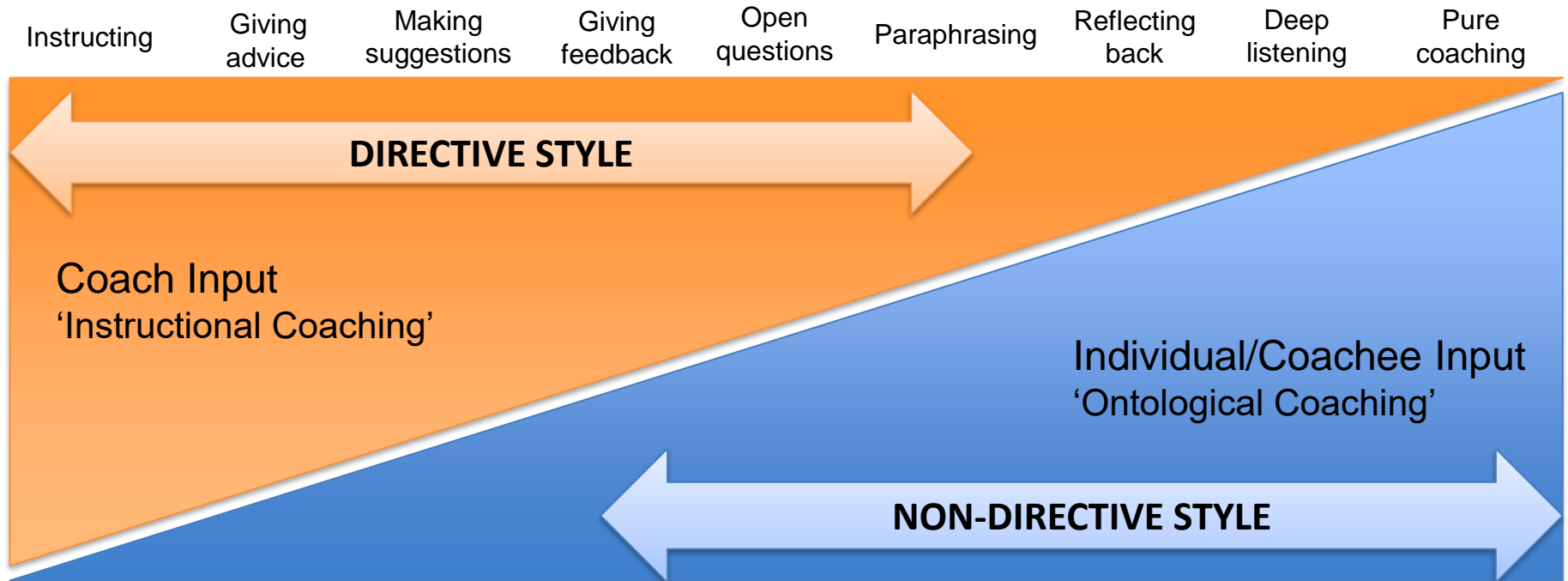
PROFESSIONAL DEVELOPMENT OUTCOMES

Professional Development Elements	Knowledge Level	Skill Attainment	Transfer to Practice
THEORY (e.g. presenter explains content - what it is, why it is important and how to teach it)	10%	5%	0%
DEMONSTRATION (e.g. presenter models instructional practices)	30%	20%	0%
PRACTICE (e.g. participants implement instructional practices during the session)	60%	60%	5%
COACHING (e.g. participants receive ongoing support and guidance when they return to the classroom)	95%	95%	99%

Bruce Joyce and Beverly Showers. Student Achievement through Staff Development (3rd ed:2002)

“Great teaching is the most important in-school factor in determining student achievement. It is critical that we provide our teachers with the feedback and coaching they need to master this very challenging profession and become great teachers. We all need to look at multiple sources of information to understand better our teachers’ strengths and development areas so we can provide the most targeted and useful coaching.”

Tom Boasberg, Superintendent, Denver Public Schools *in The MET Project*



Generic rubric for Coaching Instruction (Marzano)

Innovating 4	Applying 3	Developing 2	Beginning 1	Not Using 0
The teacher integrates several strategies to create a macro-strategy or adapts strategies for unique student needs or situations	The teacher uses strategies or behaviours associated with an element and monitors their effects on student outcomes	The teacher uses strategies or behaviours associated with an element, but in a mechanistic way	The teacher uses the strategies or behaviours associated with an element incorrectly or with parts missing	The teacher is unaware of strategies or behaviours associated with an element
	<ul style="list-style-type: none"> • Coach teachers to create macro – strategies • Coach teachers to adapt strategies for unique needs of learners 	<ul style="list-style-type: none"> • Coach teachers in ways to monitor effectiveness of the strategy they are working on • Look for teacher decisions based on the monitoring (What do they do and why?) 	<ul style="list-style-type: none"> • Look for proper set up & directions • Look for correct execution of a strategy <u>OR</u> • Look for a protocol when using a strategy when appropriate (TAPPLE, T/P/S, CFU) • Coach: Monitor the effect the strategy has on the learners, esp. errors 	<ul style="list-style-type: none"> • Provide teachers with research (WHY) • Provide teachers with simple strategies (WHAT) • Provide an understanding of steps in the strategy (HOW) • Model or Co-teach the strategy

What they found

Student Feedback:

“A well-designed student perception survey can **provide reliable feedback** on aspects of teaching practice that are **predictive of student learning**”

“**Students know** an effective classroom when they experience one”

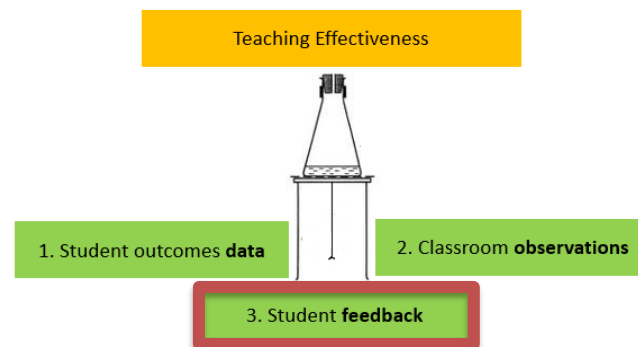
“The MET project finds **student surveys produce more consistent results** than classroom observations or achievement gain measures”

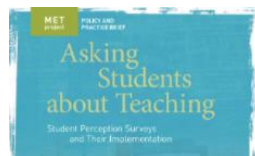
“Student surveys also can **provide feedback for improvement**”

→ timely feedback, improved ability to act, mitigates against “too little too late”

“Surveys may **provide outcome-related results in grades and subjects** for which **no standardised assessment** of student learning are available”

“Not to be confused with popularity contests, well-designed student perceptions surveys **capture important aspects of instruction and the classroom environment**”





 **Tell Them From Me**



School life

Out of school life

Classroom experiences

Beyond classroom experiences

Class A

Class B

Class C

Subject A

Subject B

Subject C

Instruc.
Model A

Instruc.
Model B

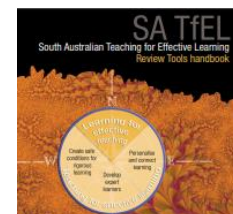
Instruc.
Model C

Program A

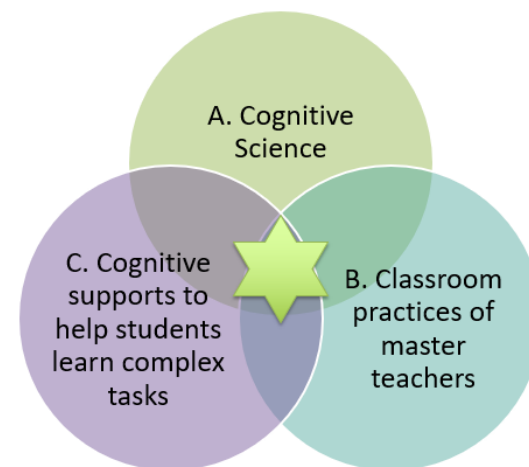
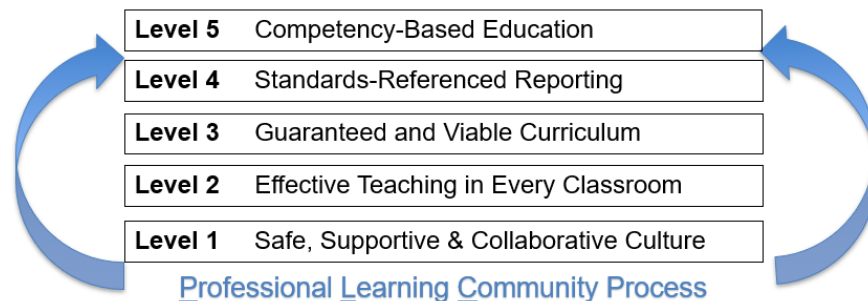
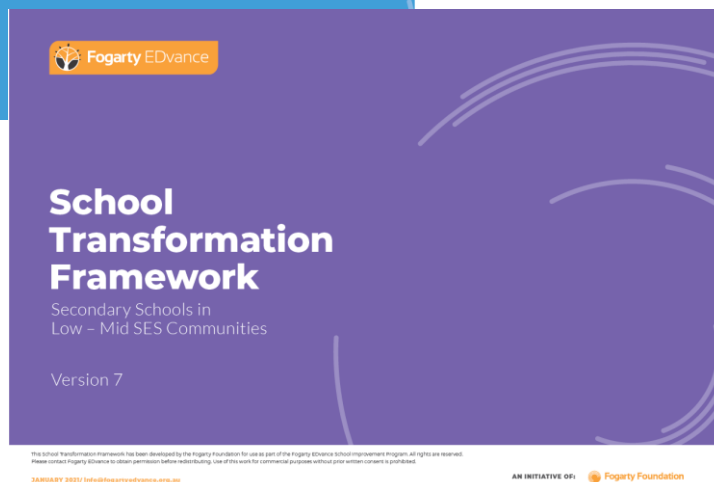
Program B

Program C

 **Tell Them From Me**



How does the research of the past two days align with the **EDvance Transformation Framework** (*Marzano's Hierarchy of School Needs Level 1 & 2, the three key areas of research that all teachers should know*)?



How are you strategically approaching the challenge of improving instruction in your school?

- What **Objectives and Initiatives** (work streams) has your school included in the Placemat to directly influence behaviour and instruction?
- How do these **Initiatives** align with the evidence-base?
- **What can you do in your roles to get this work going in your departments/learning areas?**



Give you time for you to step away from operational matters for the day...

...to work in the space of strategic school leadership (without having to wear your operational hat)...

...to see what your senior leaders have been working through...

...so that you have a shared language and a clear voice to bring to future strategy discussions.

The focus isn't on writing lists of to dos, or key takeaways.



What work do **you** need to do back at school?

- Decide **on at least 2 action points** that align to your schools' Strategic Directions Document that you will commit to doing in your department/learning

Example Leadership Commitment: I commit to.....

Talk in my team with a focus on:

- Teaching and learning

Example action item for teaching and learning: Introduce team to some readings at a LA meeting (Dempster's LfL jigsaw/ Archer & Rosenshine activity)

- Orderly learning environment

Example action item for orderly learning environment: Observation timetable for CMS

ACTIVITY: Put your answers in the padlet:

https://padlet.com/georgie_wynne/leadership_commitmentSTL

What are the two action items aligned to my schools' strategic plan that you commit to doing?

"I commit to...."

Remember to add your name, position & school name in your response!



Write down as many pictures as
you can remember from the
previous slide on your paper.

You have 20 seconds!!



1. Feedback Form – please complete before you leave today



2. Leadership commitment - what will **you do** as a leader before the next workshop?
- ensure you have written your commitment in the **padlet**

Resources to consider:

- Reading list
- Cognitive Science principles – activities
- Alignment in research activity

3. Pre-Reading – Workshop 3: Building Effective Teams

- *Creating the conditions for transformational change* – Paul Browning
- *Situational Leadership* – Blanchard
- *Leader-Member Exchange Theory* – Lunenburg

4. Workshop 3: **Thursday 11th August 2022**
Newman Siena Centre, Room S.101