Good Morning and Welcome Back to Day 3
Evolving Systems Thinking

Module 4—Data Use
Module 5 – System Instructional Practices
Looking Back - Phrase Flashback

- Confirmation Bias
- Purposes of Data - Leading and Trailing
- Four Types of Data
- Triangulation of Qualitative Data
- Data Dialogue Template
- Collaboration for Learning
- Big and Little Data
- The Right Inch
- Your Choice
- Your Choice
-
Congenial and Collaborative

- Team members work together constructively and everyone gets along.
- Focus on individual classrooms.
- Staff sometimes team teach and visit others’ classrooms.
- Focus of discussion is on teaching.
- Leaders provide excellent professional learning opportunities.

For Scotland's learners, with Scotland's educators
Congenial and Collaborative

- Team members work together constructively and everyone gets along.
- Focus on individual classrooms.
- Staff sometimes team teach and visit others’ classrooms.
- Focus of discussion is on teaching.
- Leaders provide excellent professional learning opportunities.

How

- Staff ask colleagues difficult question about teaching and learning.
- Leaders challenge the status quo.
- Focus of discussions is on impact - student learning.
- Staff have ownership for all students.
- Leaders are leading learners and learning leaders.

Congenial

Collaborative

For Scotland’s learners, with Scotland’s educators
Congenial and Collaborative

- Team members work together constructively and everyone gets along.
- Focus on individual classrooms.
- Staff sometimes team teach and visit others’ classrooms.
- Focus of discussion is on teaching.
- Leaders provide excellent professional learning opportunities.

How

- Use data
- Develop collaborative skills
- Use learning protocols
- Avoid the imposter syndrome
- Third point

- Staff ask colleagues difficult question about teaching and learning.
- Leaders challenge the status quo.
- Focus of discussions is on impact - student learning.
- Staff have ownership for all students.
- Leaders are leading learners and learning leaders.
Human Rights Advocates

For Scotland's learners, with Scotland's educators
Mix and Mingle

Reflect and record your responses to the following sentences. Prepare to share.

- Our most successful students are...
- and as a system we support them by....

Our least successful students are...
and as a system we support them by.....

The greatest challenge for school/system leaders to support our less successful students is...

Our most effective school/system leaders support our more successful students by...
“In a truly equitable system, factors such as race, gender, and socio-economic status do not prevent students from achieving ambitious outcomes. Our experience shows that barriers can be removed when all education partners create the conditions needed for success.”

(Ontario Ministry of Education, 2008, p. 8)

- English Language Learners
- Special Education Students
- Boys (Gender)
- Low socio-economic
- First Nations Metis Inuit
- Children and Youth in Care
Raising the Bar and Closing the Gap

1. Universal Design for Learning (UDL)
2. The Tiered Approach to Early Identification and Intervention
3. Differentiated Instruction
Universal Design For Learning

Who are the students that are best served by UDL? What does UDL look like in schools in Scotland? How do you know? Share examples of evidence. Is it a strength or area for focus? What do system leaders do to build the capacity of schools to deliver on UDL? How do school and system leaders benefit from successful UDL?
Who are the students that are best served by TI? What does TI look like in schools in Scotland? How do you know? Share examples of evidence.

Is it a strength or area for focus? What do school/system leaders do to build the capacity of schools to deliver on TI? How do school and system leaders benefit from successful delivery of TI?
Reflect on the percentages noted in the Pyramid of Learning – RtL

Think about student intervention strategies in your schools.

Would the pyramid in your school(s) reflect the same percentage of students receiving universal instruction, targeted interventions and intensive interventions?

Source: Solution Tree – Response to Learning
“While universal design provides the teacher with broad principles for planning, differentiated instruction allows teachers to address specific skills and difficulties.” (Raynal & Rieunier, 1998).
Hume, Karen (2008). Start Where They Are: Differentiating for Success with the Young Adolescent, Pearson Education Canada: Toronto, ON.
Differentiation

Source: Differentiated Instruction Graphic Organizer (Tomlinson & Imbeau, 2010)
Differentiation

Source: Differentiated Instruction Graphic Organizer (Tomlinson & Imbeau, 2010)
Differentiation

Source: Differentiated Instruction Graphic Organizer (Tomlinson & Imbeau, 2010)
Differentiation

Source: Differentiated Instruction Graphic Organizer (Tomlinson & Imbeau, 2010)
Differentiation

Source: Differentiated Instruction Graphic Organizer (Tomlinson & Imbeau, 2010)
Differentiation

Source: Differentiated Instruction Graphic Organizer (Tomlinson & Imbeau, 2010)
Conditions for Learning

As you view the video, look for two responsibilities of the school/system leaders in ensuring the best possible conditions for learning.
High Expectations- Be Aware

- Pygmalion Effect
- Differentiated Treatment of High & Low Achievers
- Cultural Competence
- Student Engagement and Rigor
Differentiated Instruction Framework

Hume, Karen (2008). Start Where They Are: Differentiating for Success with the Young Adolescent, Pearson Education Canada: Toronto, ON.
“You can enhance or destroy students’ desire to succeed in school more quickly and permanently through your use of assessment than with any other tools you have at your disposal.”  
*Thomas Guskey, The Principal As Assessment Leader*

“Assessment is the bridge between teaching and learning.”  
*Dylan Wiliam*
Reconfigured Assessment Pyramid

Traditional Assessment Pyramid

Reconfigured Assessment Pyramid

Earl, Assessment as Learning: Using Classroom Assessment to Maximize Student Learning

For Scotland's learners, with Scotland's educators
Differentiated Instruction Framework

Hume, Karen (2008). Start Where They Are: Differentiating for Success with the Young Adolescent, Pearson Education Canada: Toronto, ON.
Hattie’s 2018 updated list of factors related to student achievement: 252 influences and effect sizes (Cohen’s d)

Source: J. Hattie (December 2017) visiblelearningplus.com

<table>
<thead>
<tr>
<th>Factor</th>
<th>Effect Size (Cohen’s d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective teacher efficacy</td>
<td>0.57</td>
</tr>
<tr>
<td>Self-reported grades</td>
<td>1.33</td>
</tr>
<tr>
<td>Teacher estimates of achievement</td>
<td>1.29</td>
</tr>
<tr>
<td>Cognitive task analysis</td>
<td>1.29</td>
</tr>
<tr>
<td>Response to intervention</td>
<td>1.29</td>
</tr>
<tr>
<td>Piagetian programs</td>
<td>1.28</td>
</tr>
<tr>
<td>Jigsaw method</td>
<td>1.20</td>
</tr>
<tr>
<td>Conceptual change programs</td>
<td>0.99</td>
</tr>
<tr>
<td>Prior ability</td>
<td>0.94</td>
</tr>
<tr>
<td>Strategy to integrate with prior knowledge</td>
<td>0.93</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>0.92</td>
</tr>
<tr>
<td>Teacher credibility</td>
<td>0.90</td>
</tr>
<tr>
<td>Micro-teaching/video review of lessons</td>
<td>0.88</td>
</tr>
<tr>
<td>Transfer strategies</td>
<td>0.86</td>
</tr>
<tr>
<td>Classroom discussion</td>
<td>0.82</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>0.82</td>
</tr>
<tr>
<td>Deliberate practice</td>
<td>0.79</td>
</tr>
<tr>
<td>Summarization</td>
<td>0.79</td>
</tr>
<tr>
<td>Effort</td>
<td>0.77</td>
</tr>
<tr>
<td>Interventions for students with learning needs</td>
<td>0.77</td>
</tr>
<tr>
<td>Mnemonics</td>
<td>0.76</td>
</tr>
<tr>
<td>Planning and prediction</td>
<td>0.76</td>
</tr>
</tbody>
</table>
New and Interesting

New factors that had a higher than average impact included collective teacher efficacy, conceptual change (concepts and misconceptions - science) programs, teacher credibility (trust, competence, passion), response to intervention, cognitive task analysis and particular types of classroom discussion.

New factors that had a negative or lower than average impact included depression, corporal punishment in the home, web-based learning, and juvenile delinquent programs.

A new item service learning had a moderate effect.
Differentiated Instruction in Hollywood

For Scotland's learners, with Scotland's educators
Marzano Instructional Strategies

Meta analysis of instructional practices.
Two key findings

1. Teachers matter

2. Nine strategies show a higher likelihood of increasing student achievement
## Marzano High Yield Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>%ile gains on Student Achievement Tests</th>
<th>Effect Size</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Objectives and Providing Feedback</td>
<td>Create an environment for learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reinforcing Effort and Providing Recognition</td>
<td>Develop understanding activate, prior knowledge &amp; scaffold new learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incorporating Cooperative Learning Effectively</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilizing Cues, Questions, and Advance Organizers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using Nonlinguistic Representations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summarizing and Note Taking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assigning Homework and Providing Practice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifying Similarities and Differences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generating and Testing Hypotheses</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Marzano Instructional Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Objectives and Providing Feedback</td>
</tr>
<tr>
<td>Reinforcing Effort and Providing Recognition</td>
</tr>
<tr>
<td>Incorporating Cooperative Learning Effectively</td>
</tr>
<tr>
<td>Utilizing Cues, Questions, and Advance Organizers</td>
</tr>
<tr>
<td>Using Nonlinguistic Representations</td>
</tr>
<tr>
<td>Summarizing and Note Taking</td>
</tr>
<tr>
<td>Assigning Homework and Providing Practice</td>
</tr>
<tr>
<td>Identifying Similarities and Differences</td>
</tr>
<tr>
<td>Generating and Testing Hypotheses</td>
</tr>
</tbody>
</table>

For Scotland's learners, with Scotland's educators
### NINE High Yield Strategies Marzano

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Percentile gains on Student Achievement Tests</th>
<th>Effect Size</th>
<th>Ranking highest to lowest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using Nonlinguistic Representations</td>
<td>27</td>
<td>.75</td>
<td>5</td>
</tr>
<tr>
<td>Summarizing and Note Taking</td>
<td>34</td>
<td>1.0</td>
<td>2</td>
</tr>
<tr>
<td>Assigning Homework and Providing Practice</td>
<td>28</td>
<td>.77</td>
<td>4</td>
</tr>
<tr>
<td>Identifying Similarities and Differences</td>
<td>45</td>
<td>1.61</td>
<td>1</td>
</tr>
<tr>
<td>Generating and Testing Hypotheses</td>
<td>23</td>
<td>.61</td>
<td>7</td>
</tr>
</tbody>
</table>

Think about your school, visits to or inspection of schools. What is the level of teachers’ knowledge about effective instructional strategies?

What strategies do you see in action when you visit classrooms and speak to students and teachers?

Next steps?
The Differentiated Instruction Framework for Teaching and Learning

Hume, Karen (2008). Start Where They Are: Differentiating for Success with the Young Adolescent, Pearson Education Canada: Toronto, ON.
Are the students learning?

What are the students learning?

How are the students learning?

How do you know the students are learning?

Are the students learning in an optimal environment?

Focus on Student Learning

Student Engagement
Curriculum Connections
Instructional Strategies
Student work
Health and Safety

For Scotland's learners, with Scotland's educators

Reference: Three Minute Walkthrough, C. Downey
Classroom Walkthroughs / Observations

While on your walkthrough, look for evidence of staff collaboration about student learning throughout the school – look not only in classrooms but also in the staff room, hallways, workrooms, other areas. Record evidence that you see of staff collaboration about student learning.

OR

Look for evidence that an agreed upon strategy is being used – what are the students doing and what success are they having?
Questions for Students

• What are you learning? What are you working on?
• What do you do if you don’t know the answer or you’re stuck?
• How will you know when you’re finished?
• How will you know if what you’ve done is good quality?

Instructional Rounds in Education: A Network Approach to Improving Teaching and Learning City, Elmore, Fiarman, and Teitel (2009) and in Instructional Rounds in Action, Roberts (2012)

• What are you learning?
• How are you doing?
• How do you know?
• How can you improve?
• Where do you go for help?

Lyn Sharratt, Putting Faces on Data
Consciously Skilled

For Scotland's learners, with Scotland's educators
A Complexity of Learning and Teaching Graphic

To address the diverse needs of all learners, educators consider varied components of instruction to refine their practice. Recent research (e.g., Leithwood, 2013, Hattie, 2012) investigating the learning and teaching process makes reference to the importance of each of the components illustrated in the graphic below.

Responsive, effective, and coherent practice includes all of the following components:

**REFLECTIVE STANCE** that includes:
- Evidence-informed thinking about the current state, the ideal state, how to bridge the gap, and how to gauge progress along the way
- Seeking feedback on impact of teaching to inform next steps

**LEARNING ENVIRONMENT** that is culturally responsive and based on:
- A belief that all students can learn
- An understanding of ‘how we learn’
- Our needs as we learn: affirmation, relationships, challenge, contribution, power and autonomy, purpose, student voice

**PEDAGOGICAL CONTENT KNOWLEDGE**
- Knowledge of the learner, curriculum and program within and across subject disciplines: content and pedagogy (e.g., organizing and connecting content, cognitive and metacognitive skills), and related learning skills and work habits

**DIFFERENTIATED RESPONSE** that addresses the needs of different learners:
- Know the Learner – assess to gather information about student readiness, interests and/or learning preferences, and
- Respond to the particular needs of different groups of learners by differentiating ways of learning and ways to demonstrate learning

**ASSESSMENT** to inform instruction and learning by identifying learning goals and success criteria, providing effective feedback as part of assessing for, as and of learning, and making thinking and learning visible

**EVALUATION** based on a variety of evidence (e.g., observations, conversations and products) documented over time and focusing on the achievement of overall expectations

**INSTRUCTIONAL STRATEGIES** that are engaging and strategic – based on where learning needs to go and targeted to the level of support required
- Educators use a repertoire of Instructional strategies that are responsive to student learning interests, preferences and assessed needs
- Practice should be adaptive – selecting and fine-tuning strategies based on what works – for the student, the context and the intended area of learning
- Educators ask themselves: Why this learning, with this student at this time, in this way? What is the impact?

**DESIGN FOR LEARNING** that is based on the concepts of universal design for learning and an understanding of how learning happens:
- Focus and engage students by activating prior knowledge and experience, helping generate questions and discussing current understandings related to the learning goals
- Engage in learning opportunities that are relevant, authentic and appropriate to needs, monitor progress: adapt or extend the learning with opportunities for shared, guided and independent practice
- Consolidate, connect and reflect on the process as well as the new learning and understandings
Reflective Stance

• **Evidence informed thinking about** the current state, the ideal state, how to bridge the gap, and how to gauge progress along the way

• **Seeking feedback** on impact of teaching and leading to inform next steps

How often do you take a reflective stance when engaged in your work? When does this happen?
How often do teachers take a reflective stance? How do you as a leader provide opportunities for reflection?
How often do students take a reflective stance?
“When measures of student learning are viewed from different vantage points and from a range of system perspectives, what students learn or don’t learn becomes a mirror reflecting back to educators at all levels of the system the impact of their actions and strategies.”
Stop ... I need to know more about this....

Caution ... I am still wondering about ...

Green ... I am ready to move forward on ...