Developing Expert Teachers

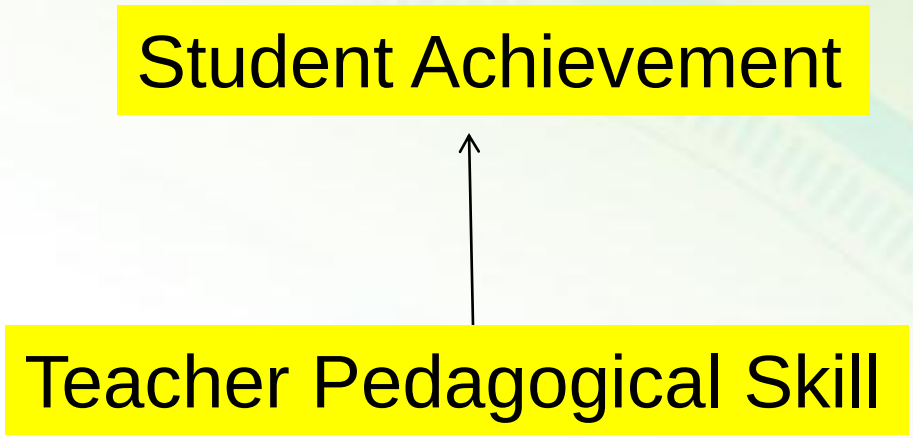
Robert J. Marzano

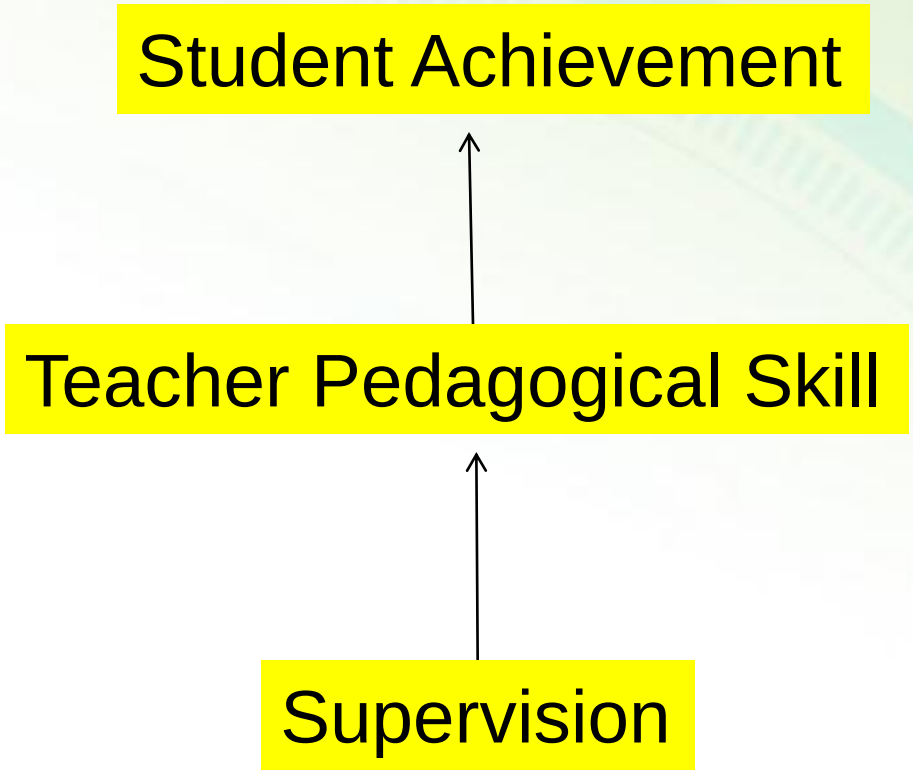
Tina Boogren

Effective teachers are made not born.

Even small increments in teacher effectiveness can have a positive effect on student achievement.

The purpose of supervision should be the enhancement of teachers' pedagogical skills.


Student Achievement
Teacher Pedagogical Skill


Student Achievement
Teacher Pedagogical Skill
Supervision

What must a district or school do?

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- Provide opportunities for focused feedback and practice.
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Four Domains for a Common Language of Teaching

- Domain 1: Classroom strategies and behaviors
- Domain 2: Planning and preparing
- Domain 3: Reflecting on teaching
- Domain 4: Collegiality and professionalism

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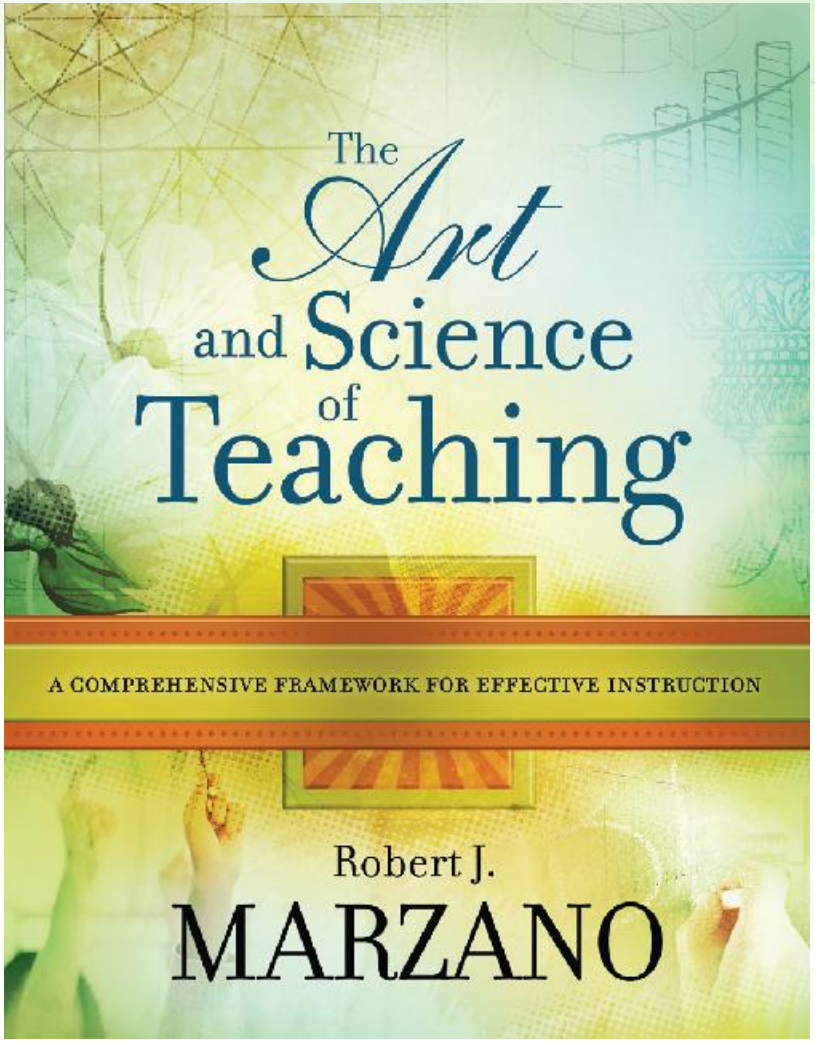

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The Art & Science of Teaching is a designed as a comprehensive framework that puts together other works into a unified whole.

At the level of teacher planning, *The Art & Science of Teaching* involves 10 design questions teachers ask of themselves as they plan a unit of instruction.

If you don't like this one create your own…

but it should be at least as complex.

Q1: What will I do to establish and communicate learning goals, track student progress, and celebrate success?

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Q5: What will I do to engage students?

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Q10: What will I do to develop effective lessons organized into a cohesive unit?

At the level of teacher observation…

The Art & Science of Teaching sheds light on three fundamental segments of classroom instruction.

Supervising
The Art and Science of Teaching

1. Learning goals and feedback
2. Interacting with new knowledge
3. Practicing and deepening
4. Generating and testing hypotheses
5. Engaging students
6. Establishing rules and procedures
7. Adhering to rules and procedures
8. Developing teacher–student relationships
9. Maintaining high expectations

Fundamental Segments of a Classroom Instruction

- Segments that are routine components of every lesson
- Content-specific lesson segments
- Segments that must be enacted on the spot

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SEGMENTS ENACTED ON THE SPOT

ROUTINE SEGMENTS

CONTENT-SPECIFIC SEGMENTS

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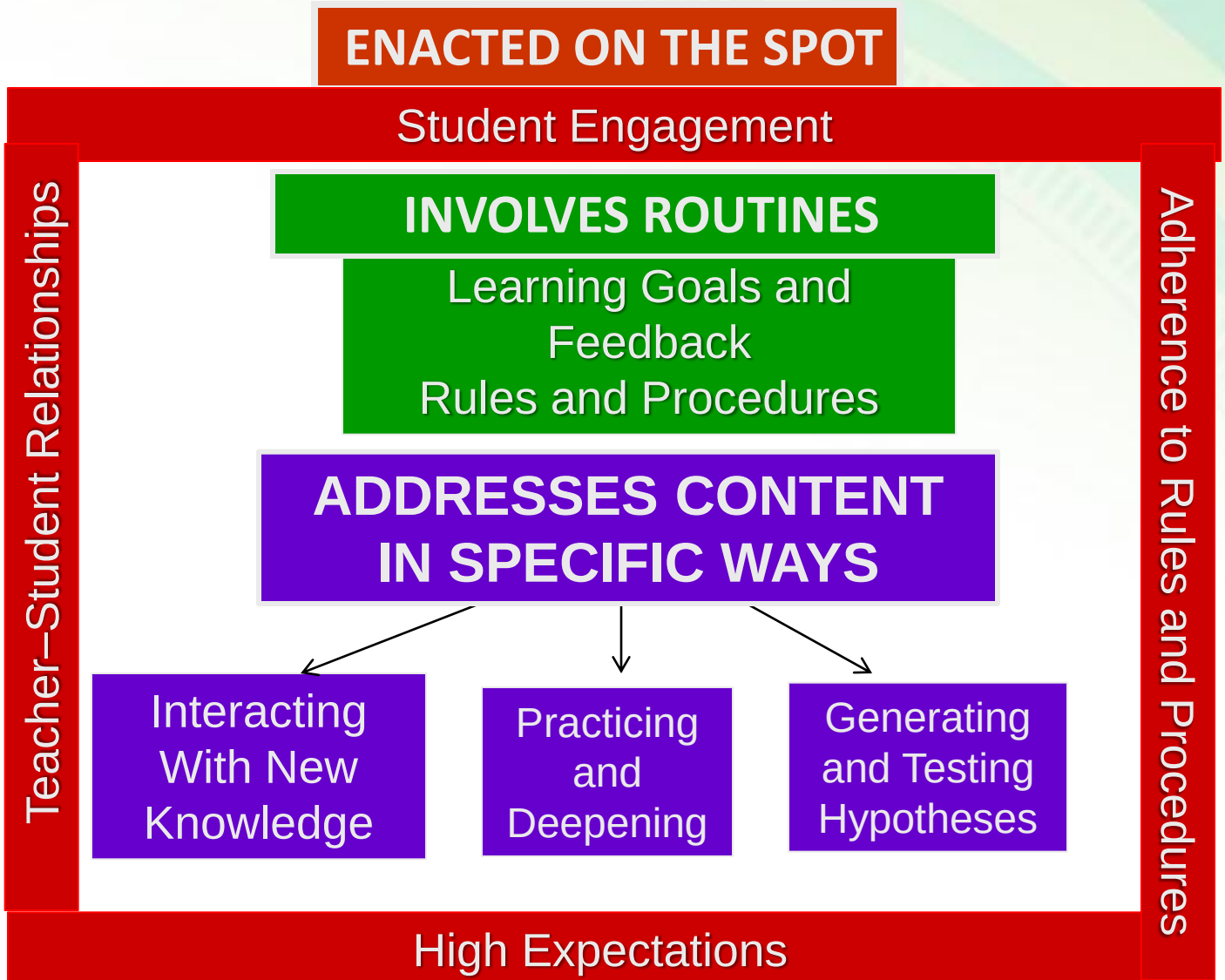

Observing a lesson looks very different from the perspective of *The Art and Science of Teaching*.

The fundamental question any supervisor or observer must ask…

- What am I looking at right now?
  - Segment that is a routine component of every lesson?
  - Content-specific lesson segment?
  - Segment that must be enacted on the spot?

Fundamental Segments of Classroom Instruction

- Segments that are routine components of every lesson
- Content-specific lesson segments
- Segments that must be enacted on the spot

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INVOLVES ROUTINES

Learning Goals and
Feedback
Rules and Procedures

- Rules and procedures (Q 6)
- Communicating learning goals (Q1)
- Tracking student progress (Q1)
- Celebrating success (Q1)

What do you look for as routine components of every lesson?

What do you look for as routine components of every lesson?

- Reviewing important rules and procedures
- Reviewing learning goals
- Tracking student progress
- Celebrating success

Design Question #1: What will I do to establish and communicate learning goals, track student progress, and celebrate success?

1. Providing Clear Learning Goals and Scales (Rubrics)

Innovating	Applying	Developing	Beginning	Not Using

The teacher provides a clearly stated learning goal accompanied by scale or rubric that describes levels of performance relative to the learning goal.

Teacher Evidence	Student Evidence
❒ Teacher has a learning goal posted so that all students can see it ❒ The learning goal is a clear statement of knowledge or information as opposed to an activity or assignment ❒ Teacher makes reference to the learning goal throughout the lesson ❒ Teacher has a scale or rubric that relates to the learning goal posted so that all students can see it ❒ Teacher makes reference to the scale or rubric throughout the lesson	❒ When asked, students can explain the learning goal for the lesson ❒ When asked, students can explain how their current activities relate to the learning goal ❒ When asked, students can explain the meaning of the levels of performance articulated in the scale or rubric

Notes:

2. Tracking Student Progress

Innovating	Applying	Developing	Beginning	Not Using

The teacher facilitates tracking of student progress on one or more learning goals using a formative approach to assessment.

Teacher Evidence	Student Evidence
❒ Teacher helps student track their individual progress on the learning goal ❒ Teacher uses formal and informal means to assign scores to students on the scale or rubric depicting student status on the learning goal ❒ Teacher charts the progress of the entire class on the	❒ When asked, students can describe their status relative to the learning goal using the scale or rubric ❒ Students systematically update their status on the learning goal

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Notes:	

3. Celebrating Success

Innovation	Applying	Developing	Beginning	Not Using

The teacher provides students with recognition of their current status and their knowledge gain relative to the

Fundamental Segments of Classroom Instruction

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- Segments that must be enacted on the spot

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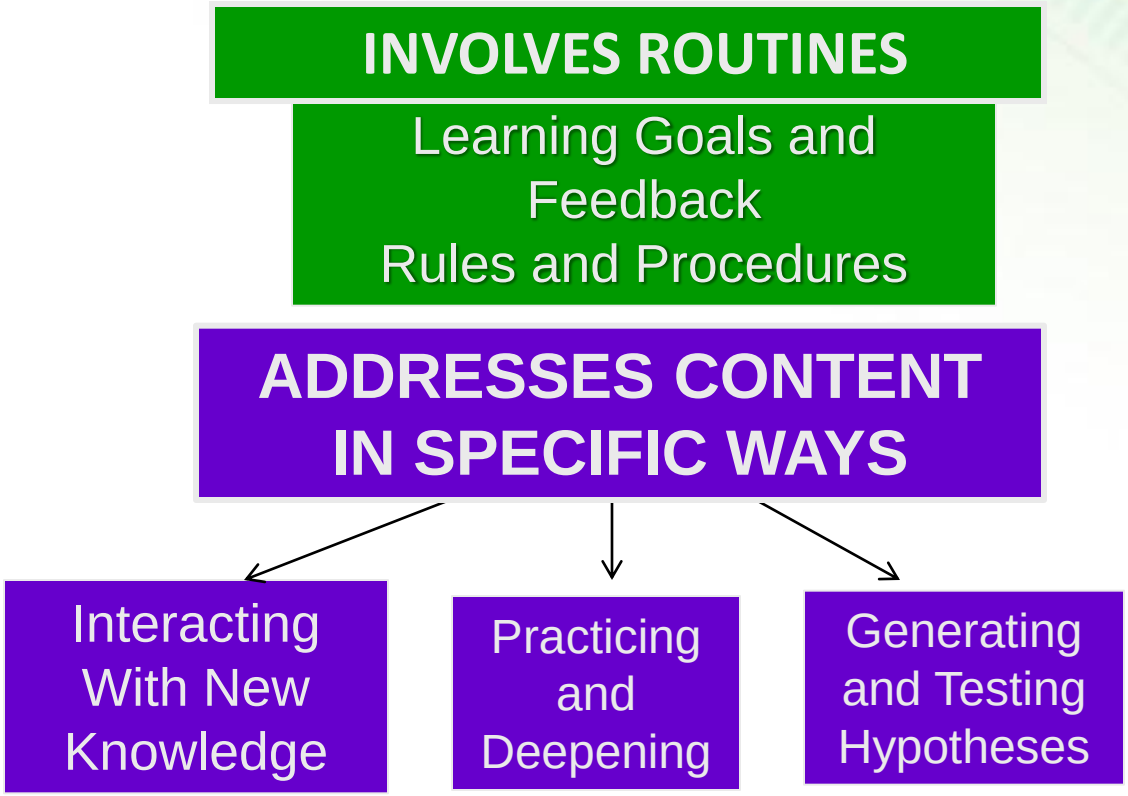

- Interacting with new knowledge (Critical input experiences) (Q2)
- Knowledge practice and deepening activities (Q3)
- Hypothesis generation and testing tasks (Q4)

What type of content segment am I observing?

- Does this segment involve new knowledge? (Q2)
- Does this segment involve knowledge practice and deepening activities? (Q3)
- Does this segment involve hypothesis generation and testing tasks? (Q4)

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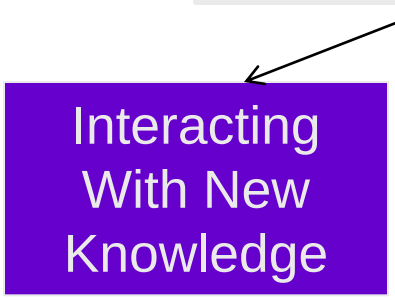
INVOLVES ROUTINES

Learning Goals and
Feedback
Rules and Procedures

ADDRESSES CONTENT IN SPECIFIC WAYS



If the segment involves new knowledge what do you expect to see?

If the segment involves new knowledge what do you expect to see?

- Previewing activities
- Info presented in small chunks
- Students processing each chunk in small groups
- Students summarizing and taking notes after content has been introduced
- Students reflecting on their learning

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If the segment involves knowledge practice and deepening activities, what do you expect to see?

If the segment involves knowledge practice and deepening activities what do you expect to see?

- Brief review of content
- Activities involving similarities and differences
- Activities involving identifying errors in thinking
- Activities involving massed and distributed practice
- Homework possibly used as an extension of these activities

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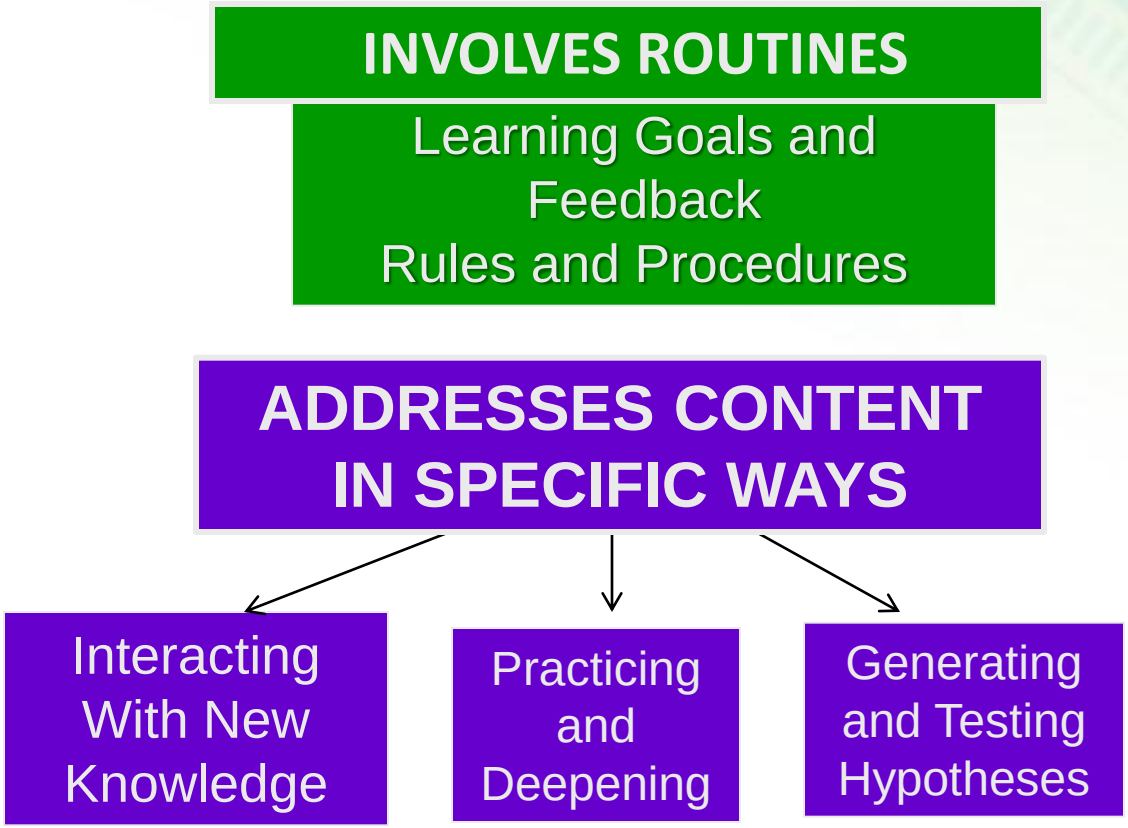

If the segment involves hypothesis generating and testing tasks, what do you expect to see?

If the segment involves hypothesis generating and testing tasks, what do you expect to see?

- Brief review of content
- Students working individually or in groups on long-term tasks
- Teacher acting as facilitator and resource provider

Different Lessons, Different Expected Behaviors

New knowledge

Hypothesis generate–test

Different Lessons, Different Expected Behaviors

New knowledge

- Preview
- Small chunks
- Students process chunks
- Summarize and take notes
- Students reflect

Hypothesis generate–test

Different Lessons, Different Expected Behaviors

New knowledge

- Preview
- Small chunks
- Students process chunks.
- Summarize and take notes.
- Students reflect.

Hypothesis generate–test

- Brief review
- Students work individually and in groups applying content.
- Teacher is facilitator and resource provider.

When appropriate (as opposed to routinely) the teacher designs homework to deepen students' knowledge of informational content or, practice a skill, strategy, or process.

Teacher Evidence	Student Evidence
❒ Teacher communicates a clear purpose for homework ❒ Teacher extends an activity that was begun in class to provide students with more time ❒ Teacher assigns a well crafted homework assignment that allows students to practice and deepen their knowledge independently	❒ When asked, students can describe how the homework assignment will deepen their understanding of informational content or, help them practice a skill, strategy, or process ❒ Students ask clarifying questions of the homework that help them understand its purpose

Notes:

12. Examining Similarities and Differences

Innovating	Applying	Developing	Beginning	Not Using

When the content is informational, the teacher helps students deepen their knowledge by examining similarities and differences.

Teacher Evidence	Student Evidence
❒ Teacher engages students in activities that require students to examine similarities and differences between content • Comparison activities • Classifying activities • Analogy activities • Metaphor activities ❒ Teacher facilitates the use of these activities to help students deepen their understanding of content • Ask students to summarize what they have learned from the activity • Ask students to explain how the activity has added to their understanding	❒ Student artifacts indicate that their knowledge has been extended as a result of the activity ❒ When asked, about the activity, student responses indicate that they have deepened their understanding ❒ When asked students can explain similarities and differences ❒ Student artifacts indicate that they can identify similarities and differences

Notes:

13. Examining Errors in Reasoning

Innovating	Applying	Developing	Beginning	Not Using

When content is informational, the teacher helps students deepen their knowledge by examining their own reasoning or the logic of the information as presented to them.

Teacher Evidence	Student Evidence

Fundamental Segments of Classroom Instruction

- Segments that are routine components of every lesson
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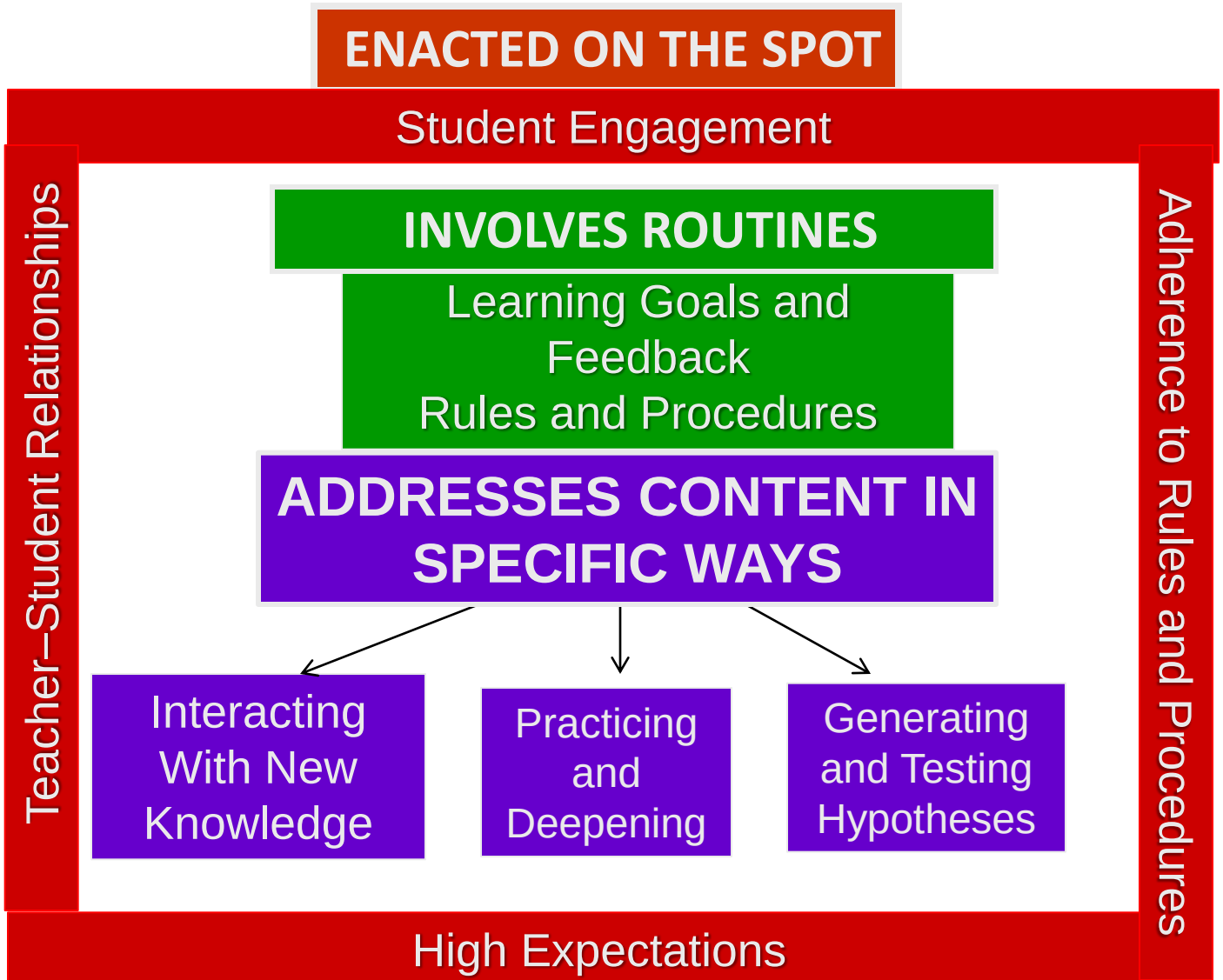

- Engagement activities (Q5)
- Consequences regarding rules and procedures (Q7)
- Relationships (Q8)
- Expectations (Q9)

What do you look for regarding segments that must be enacted on the spot?

What do you look for regarding segments that must be enacted on the spot?

- Engagement activities when students lose focus
- Acknowledge of rules and procedures being followed
- Behaviors that forge positive relationships with students
- Attention to behaviors that communicate high expectations for all students

Design Question #5: What will I do to engage students?

1. Noticing when Students are not Engaged

Innovating	Applying	Developing	Beginning	Not Using

The teacher scans the room making note of when students are not engaged and takes overt action.

Teacher Evidence	Student Evidence
❒ Teacher notices when specific students or groups of students are not engaged ❒ Teacher notices when the energy level in the room is low ❒ Teacher takes action to re-engage students	❒ Students appear aware of the fact that the teacher is taking note of their level of engagement ❒ Students try to increase their level of engagement when prompted ❒ When asked, students explain that the teacher expects high levels of engagement

Notes:

2. Using Academic Games

Innovating	Applying	Developing	Beginning	Not Using

The teacher uses academic games and inconsequential competition to maintain student engagement.

Teacher Evidence	Student Evidence
❒ Teacher uses structured games such as Jeopardy, family feud, and the like ❒ Teacher develops impromptu games such as making a game out of which answer might be correct for a given question ❒ Teacher uses friendly competition along with classroom games	❒ Students engage in the games with some enthusiasm ❒ When asked, students can explain how the games keep their interest and help them learn or remember content

Notes:

3. Managing Response Rates

Innovating | Applying | Developing | Beginning | Not Using

The teacher uses response rates techniques to maintain student engagement in questi

Teacher Evidence

- Teacher uses wait time
- Teacher uses response cards
- Teacher has students use hand signals to respond to questions
- Teacher uses choral response
- Teacher uses technology to keep track of students' responses
- Teacher uses response chaining

Student Evidence

- Multiple students or the entire class respond questions posed by the teacher
- When asked, students can describe their thinking about specific questions posed by the teacher

Notes

4. Using Physical Movement

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A Hierarchy of Data Types

- Teacher self-perception data
- Teacher self-observation data
- Observation data from peers, instructional coaches, supervisors

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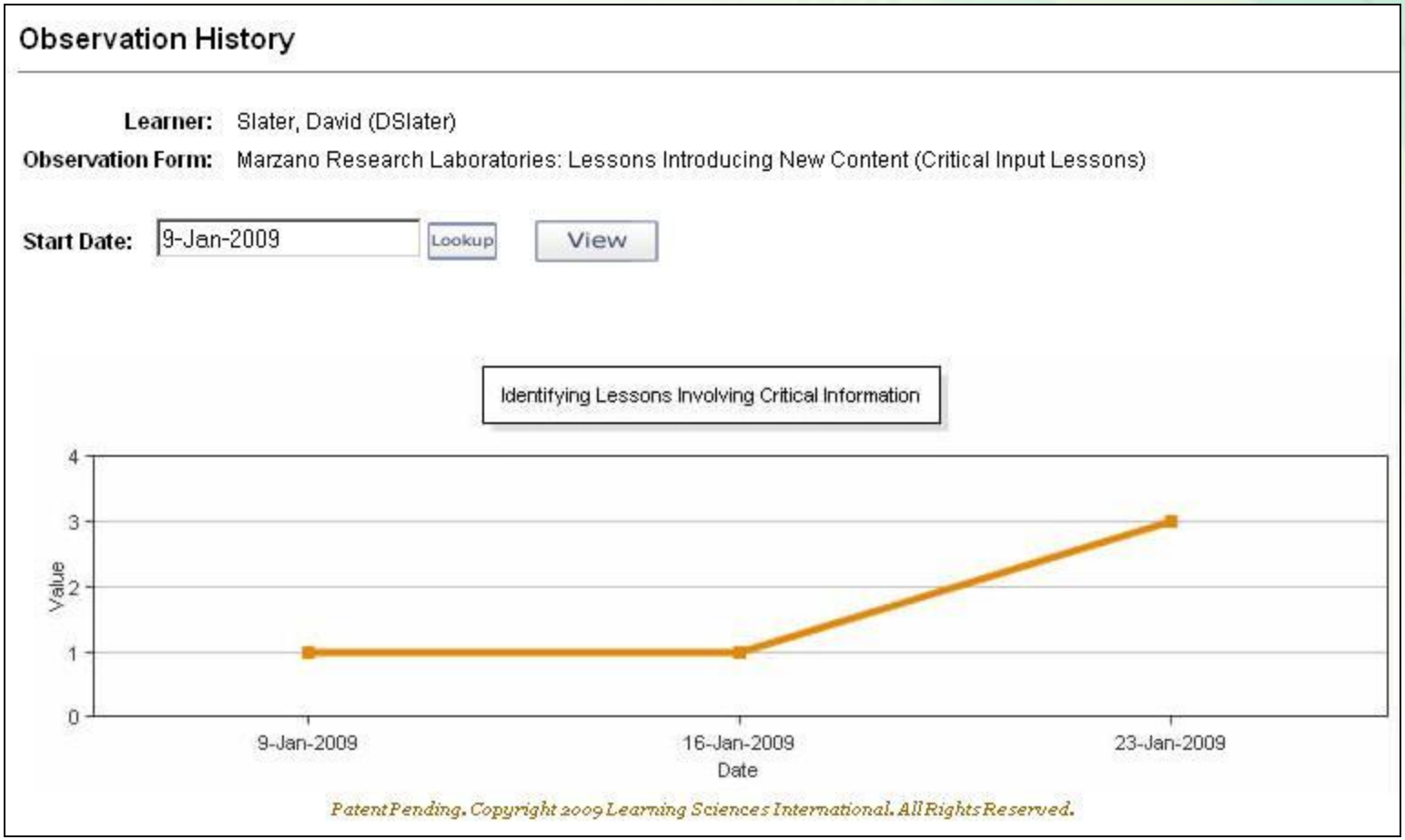
Teachers score themselves on a rubric or scale for the various components of the model.

Innovating 4	Applying 3	Developing 2	Beginning 1	Not Using 0
New strategies are created to meet needs of specific students or class as a whole.	Strategy is used and monitored to see if it has desired effect.	Strategy is used but in a mechanistic way.	Strategy is used but pieces are missing.	Strategy is called for, but not used.

Graph of Progress on Growth Continuum



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Teachers score a videotape of their own lesson.

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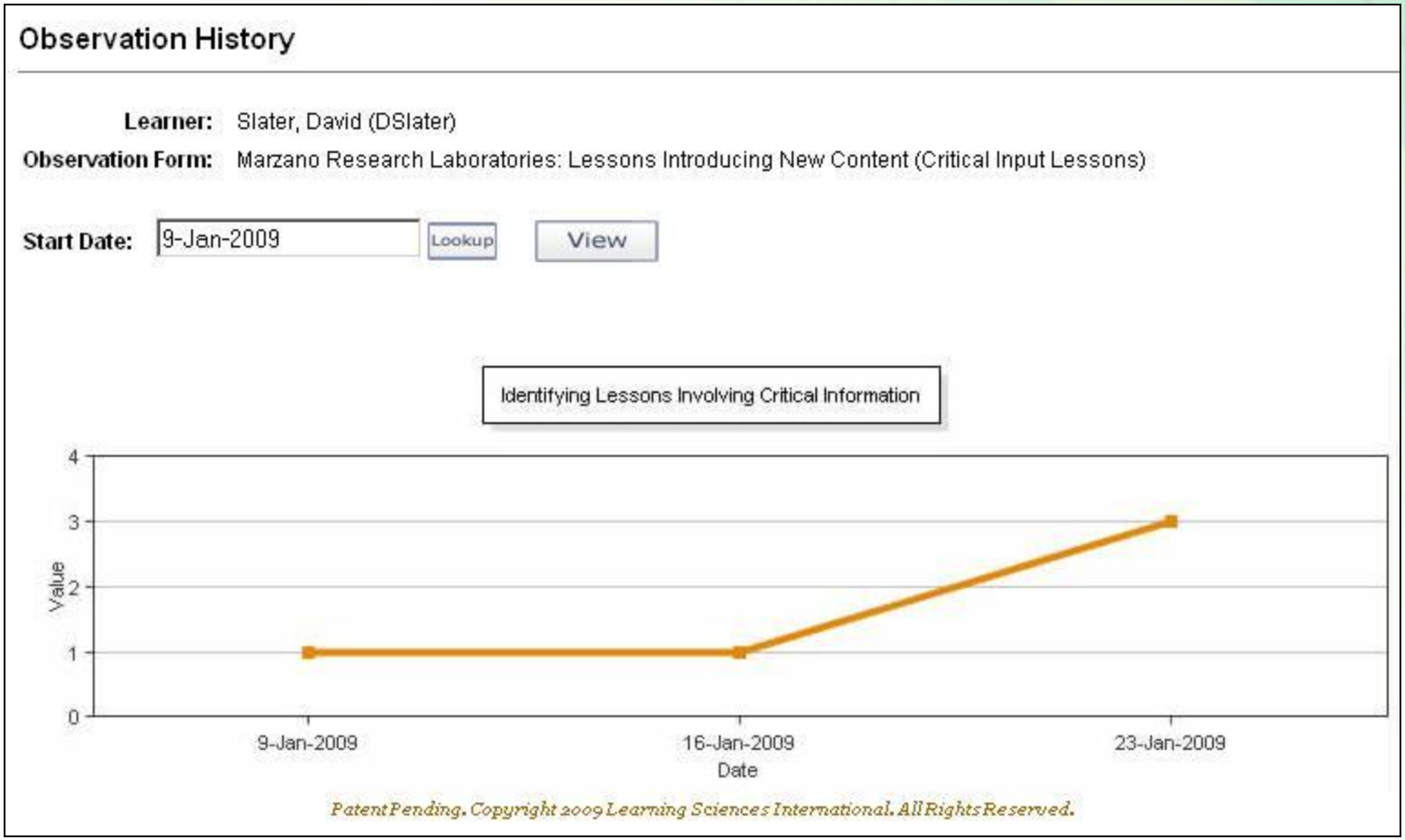

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Observation Data From Peers, Instructional Coaches, Supervisors

- Walk throughs (mini-observations)
- Comprehensive observations
- Cueing teaching
- Student surveys

Walk Throughs

(Arguably) Walk throughs are the most common form of feedback to teachers.

(Some) Basic Assumptions Underlying Walk Throughs

- Frequent feedback is beneficial to teachers.
- Identification of high-yield strategies has made it possible to identify effective teaching more easily.

(The Problem With) Basic Assumptions Underlying Walk Throughs

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  Yes, but feedback must accurately reflect the complexity of the teaching and learning process.

(The Problem With) Basic Assumptions Underlying Walk Throughs

- Frequent feedback is beneficial to teachers.

  Yes, but feedback must accurately reflect the complexity of the teaching and learning process.

- Currently we are on the verge of misusing the research on instructional strategies in the same way we misused Hunter's fine work.

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(Some) Basic Assumptions Underlying Walk Throughs

- Frequent feedback is beneficial to teachers.
- Identification of high-yield strategies has made it possible to identify effective teaching more easily.
- There are no such things as high-yield strategies. There are only high-probability strategies.

What is clearly needed is a robust model of teaching as the basis of feedback to teachers…

that does not simply assume all research-based instructional strategies should be present in every lesson.

Walk Throughs (Mini-Observations)

- 3–5 minute tour through classroom
- Good for 30,000-feet view of teachers as a whole
- Must include the context in which mini-observation took place
  - Routines
  - Content lesson
  - On the spot

Observation Data From Peers, Instructional Coaches, Supervisors

- Walk throughs (mini-observations)
- Comprehensive observations
- Cueing teaching
- Student surveys

Comprehensive Observations

- Set up with a preconference.
- Focus on specific elements of effective teaching.
- Last the entire period or majority of it.
- Good for feedback regarding deliberate practice.

Observation Data From Peers, Instructional Coaches, Supervisors

- Walk throughs (mini-observations)
- Comprehensive observations
- Cueing teaching
- Student surveys

Cueing Teaching

- Focus on struggling teachers
- Specific areas of needed improvement
- Preconference–cueing–post-conference

Observation Data From Peers, Instructional Coaches, Supervisors

- Walk throughs (mini-observations)
- Comprehensive observations
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- Student surveys

What is the role of student feedback regarding effective instruction?

Students complete surveys regarding the use of specific instructional strategies and their effectiveness.

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Opportunities to Observe and Discuss Effective Teaching

- Instructional rounds
- Expert coaches
- Expert videos
- Teacher-led PD
- Virtual communities

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Instructional Rounds

- Teams are guided by lead teacher.
- Rounds can be short or long in duration.
- Primary focus is for observers to compare and contrast their practice with observed practice.
- It might be used to provide feedback to observed.

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Primary Goals for Student Achievement and Classroom Strategies and Behaviors

- Each year teachers set growth goals regarding Domain 1: Classroom Strategies and Behaviors.

Innovating 4	Applying 3	Developing 2	Beginning 1	Not Using 0
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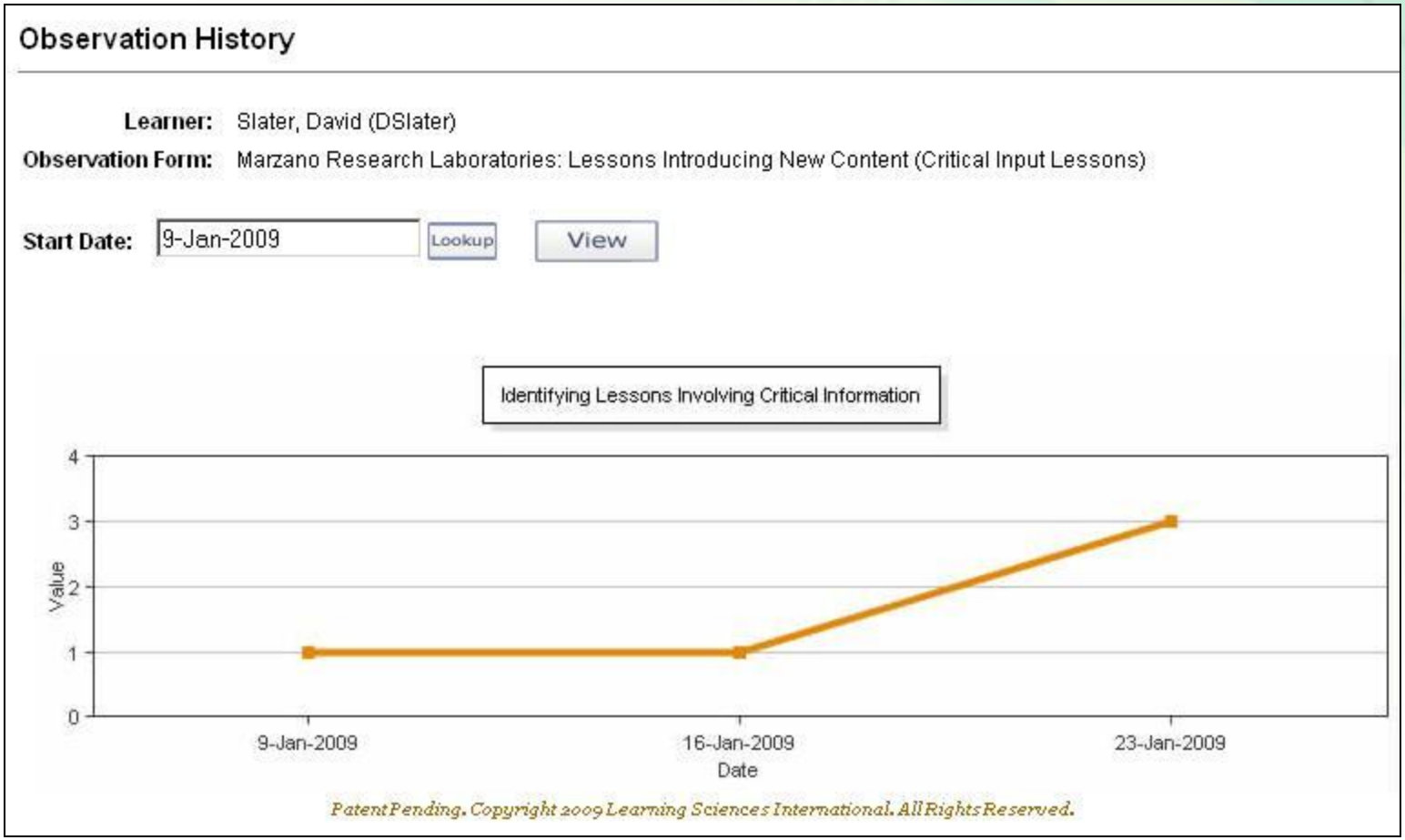
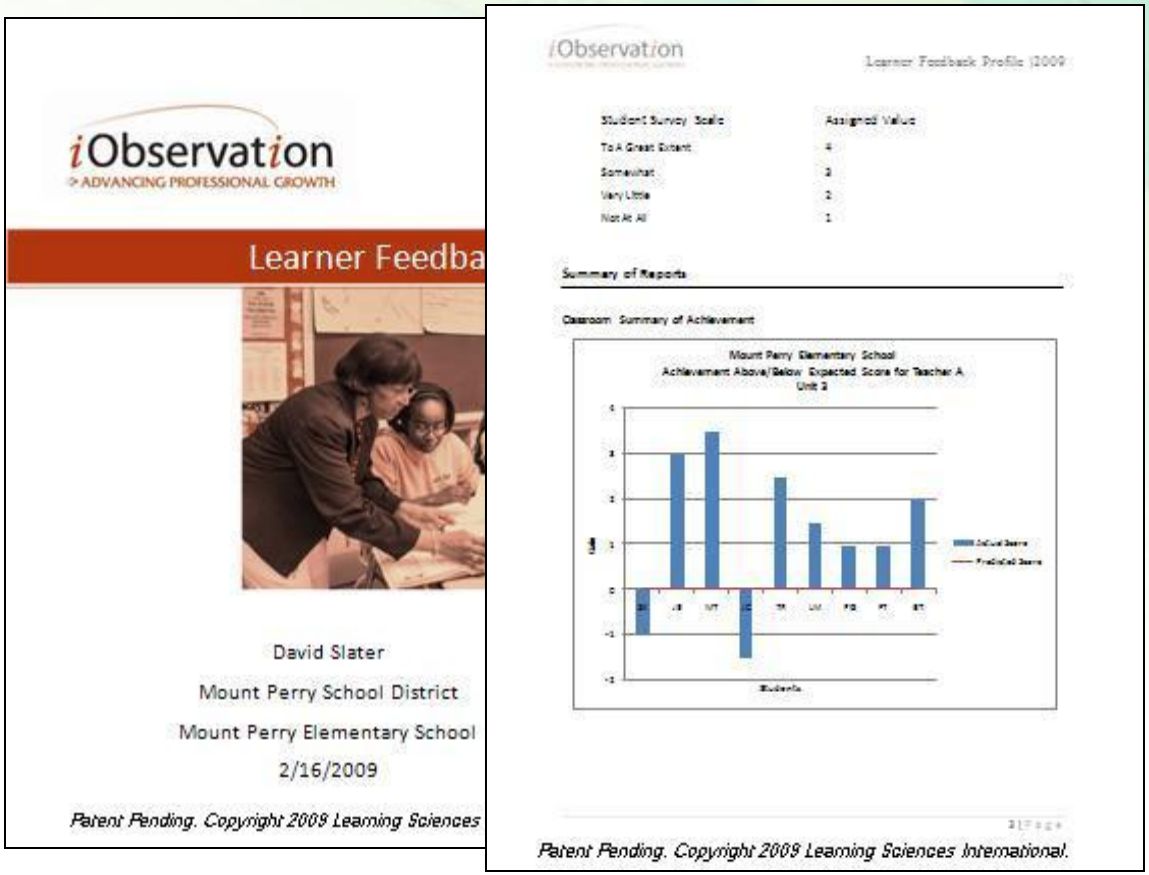


Primary Goals for Student Achievement and Classroom Strategies and Behaviors

- Each year teachers set growth goals regarding Domain 1: Classroom Strategies and Behaviors.
- Each year teachers set growth goals regarding student value-added achievement.

Printable Student Achievement Profile



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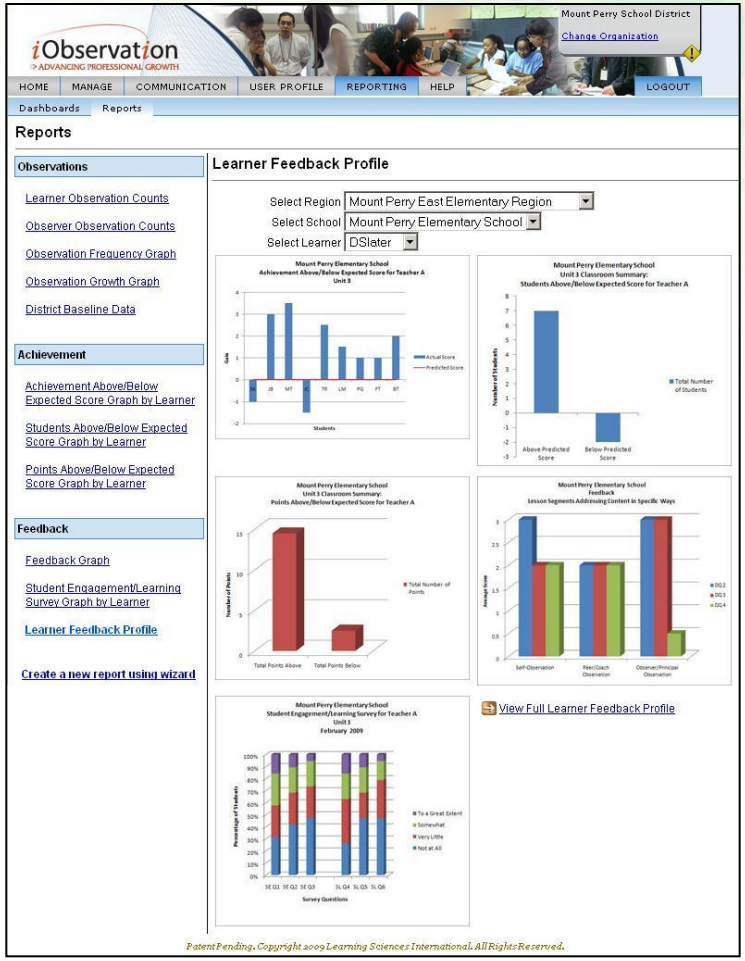
Teacher Feedback Profile as Dashboard



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Secondary Goals for Domains 2, 3 & 4

- Domain 2: Planning and Preparing
- Domain 3: Reflecting on Teaching
- Domain 4: Collegiality and Professionalism

Domain	Goal Type
Value-Added Achievement	Primary
Domain 1: Class Strategies and Behaviors	Primary
Domain 2: Planning and Preparing	Secondary
Domain 3: Reflecting on Teaching	Secondary
Domain 4: Collegiality and Professionalism	Secondary

Domain 2: Planning and Preparing

- Planning and preparing for lessons and units
- Planning and preparing for use of materials and technology
- Planning and preparing for special needs of students

Domain 3: Reflecting on Teaching

- Evaluating personal performance
- Developing and implementing a professional growth plan

Identifies specific areas of pedagogical strength and weakness within Domain 1

Innovating 4	Applying 3	Developing 2	Beginning 1	Not Using 0
The teacher is a recognized leader in helping others with this activity	The teacher identifies specific strategies and behaviors on which to improve from routine lesson segments, content lesson segments, and segments that are enacted on the spot	The teacher identifies specific strategies and behaviors on which to improve but does not select the strategies and behaviors that are most useful for his or her development	The teacher attempts to perform this activity but does not actually complete or follow through with these attempts	The teacher makes no attempt to perform this activity

Domain 4: Collegiality and Professionalism

- Promoting a positive environment
- Promoting exchange of ideas and strategies
- Promoting district and school development

Stages of Teacher Development

- Initial-status teacher
- Professional teacher
- Mentor teacher
- Expert teacher

Initial-Status Teacher

- Bottom one-third of distribution of value- added achievement
- Minimum scores of 1 on all elements of Domain 1

Professional Teacher

- Between 34th and 84th percentile on value-added achievement
- Minimum scores of 2 and a majority of scores of 3 on Domain 1

Mentor Teacher

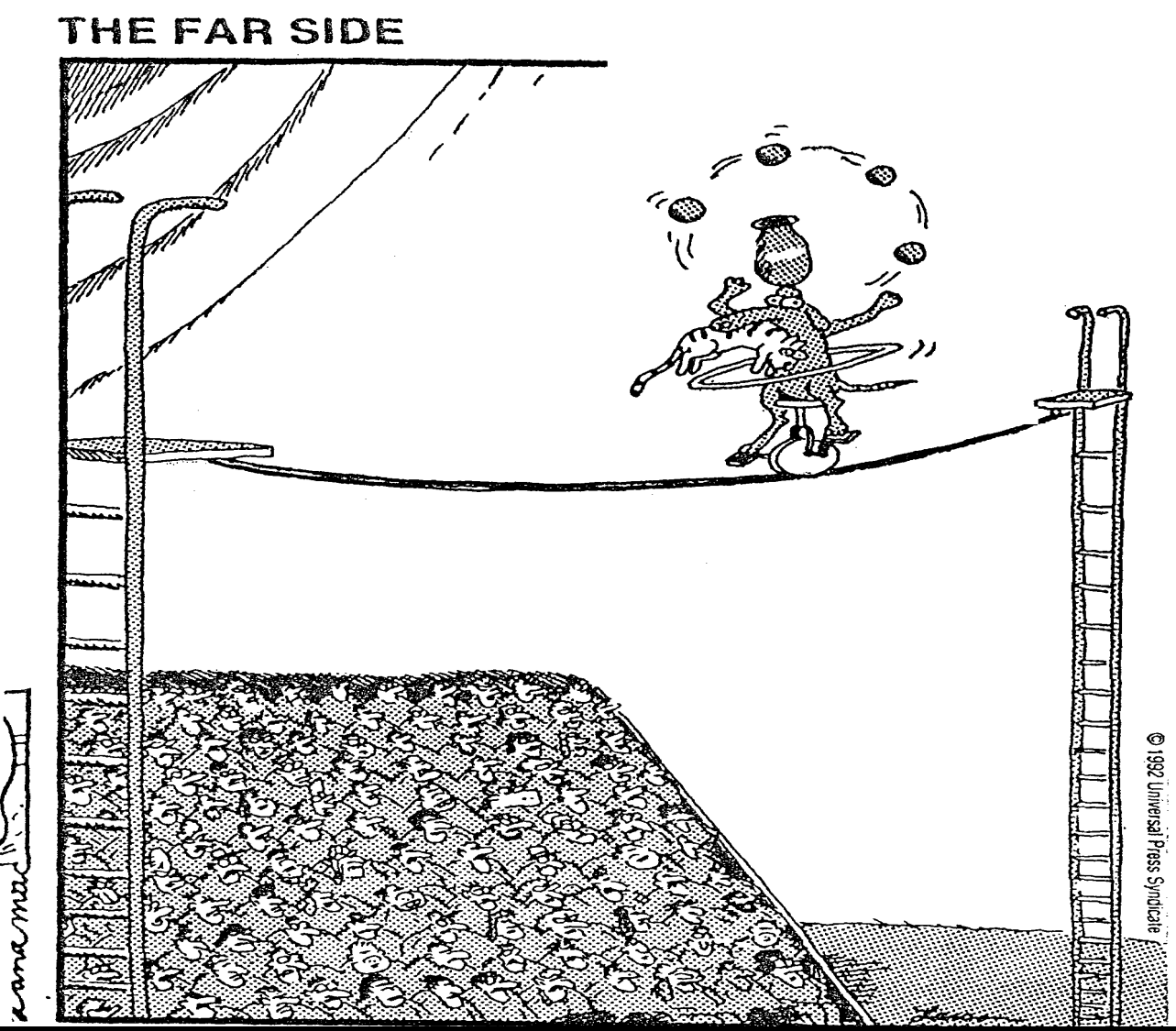
- Above 84th percentile on value-added achievement
- Scores of 4 on selected elements of Domain 1 and minimum scores of 3 on all other elements
- Leads instructional rounds
- Serves as an expert coach

Master Teacher

- Above 98th percentile on value-added achievement
- Scores of 4 on selected elements of Domain 1 and minimum scores of 3 on all other elements
- Leads instructional rounds
- Serves as an expert coach
- Is involved in teacher evaluation policy and practice

Leadership for Incremental Change

- Emphasize relationships.
- Establish strong lines of communication.
- Be an advocate for the school.
- Provide resources.
- Maintain visibility.
- Protect teachers from distractions.
- Create culture of collaboration.
- Look for and celebrate successes.

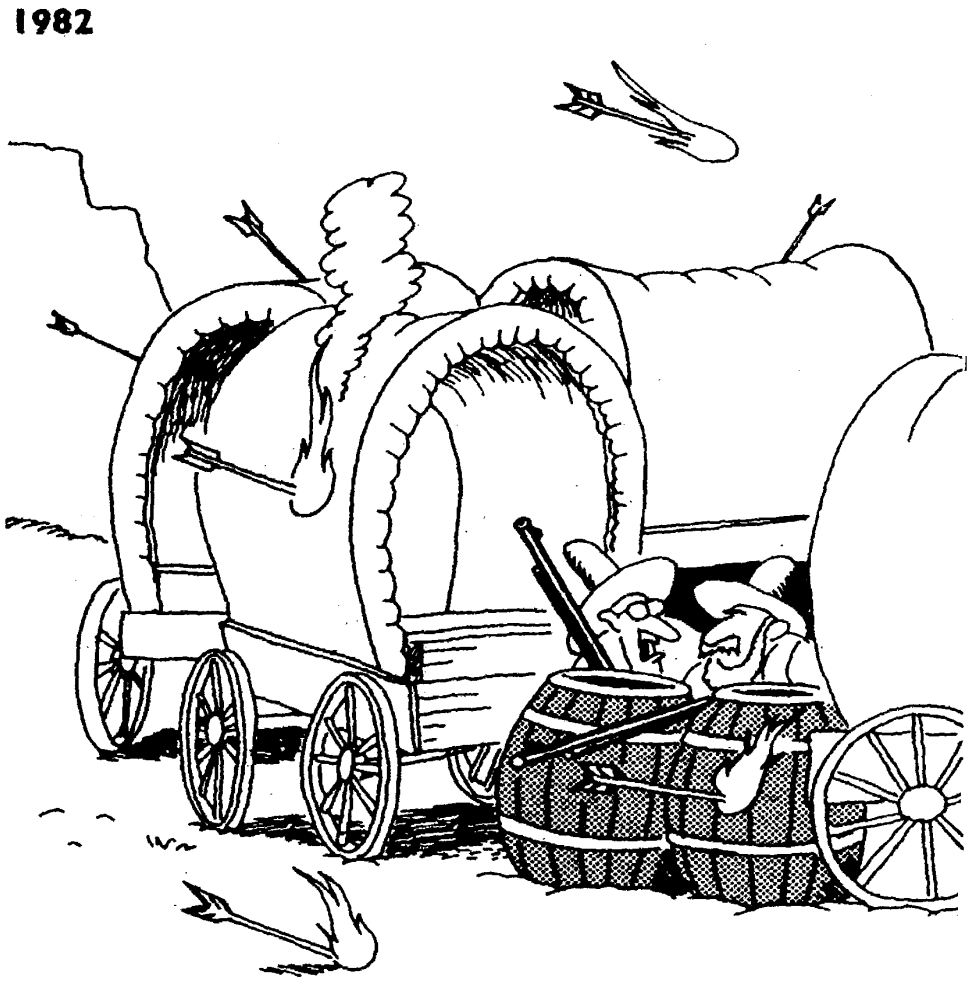


High above the hushed crowd, Rex tried to remain focused. Still, he couldn't shake one nagging thought: He was an old dog and this was a new trick.

Leadership for Second Order Change

- Shake up the status quo.
- Expect some things to seem worse.
- Propose new ideas.
- Operate from strong beliefs.
- Tolerate ambiguity and dissent.
- Talk research and theory.
- Create explicit goals for change.
- Define success in terms of goals.


1981



"Hey! They're lighting their arrows! . . . Can they *do* that?"


DON'T
EVER
GIVE UP

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