learningforward

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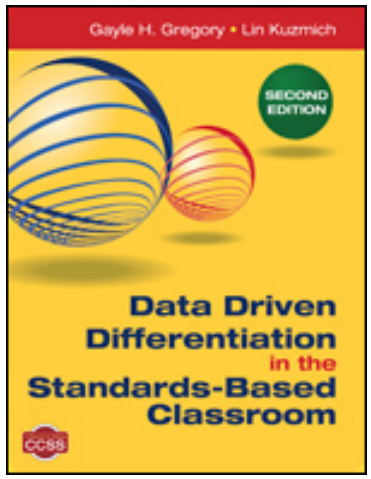

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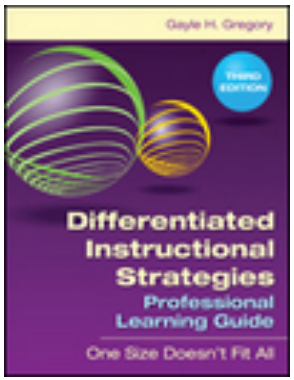

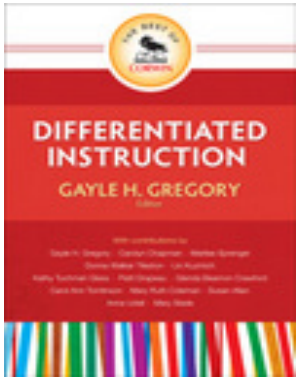

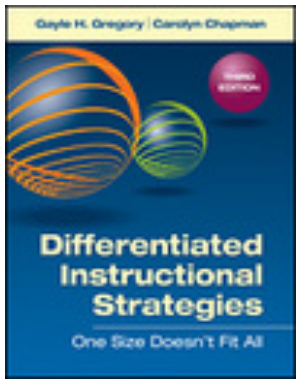

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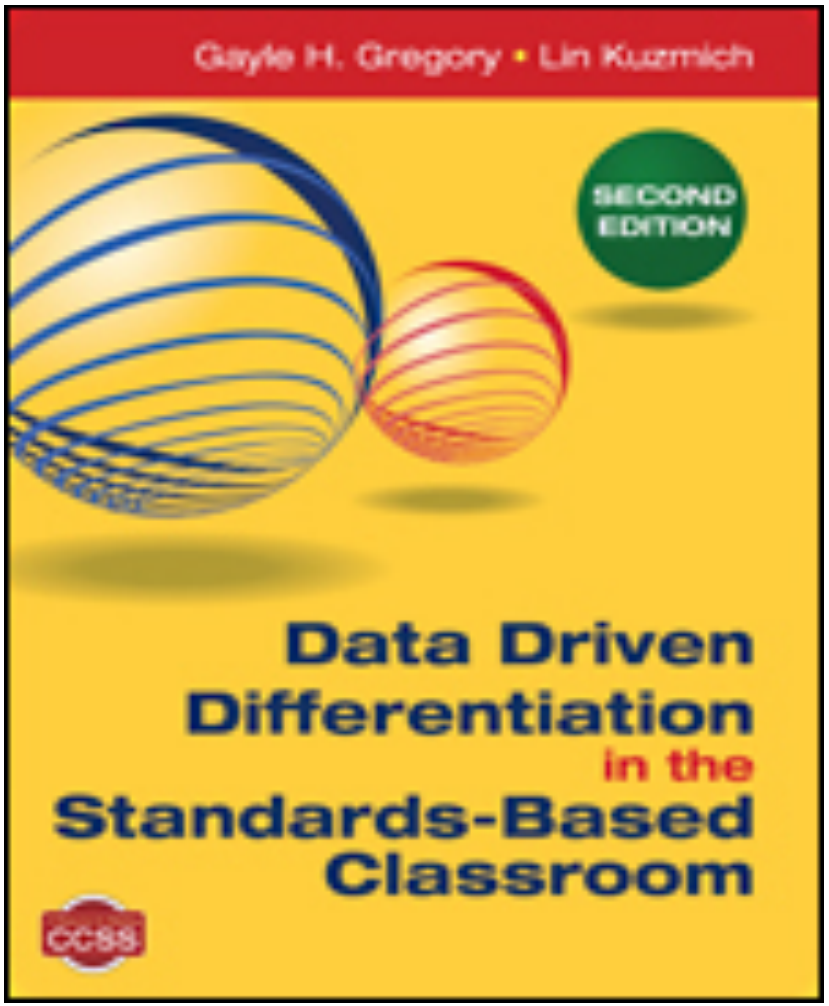
Data Driven Differentiation



Presented by

Gayle Gregory

October 1, 2015

Learning Intentions

- To examine the types of data that can be collected and used to plan for differentiated instruction.

Historically

- ✓ Teach, Test, Hope for the best!
- ✓ Little training in assessment
- ✓ Recognize that assessment is more than grading
- ✓ Challenge to collect and use data.

So many learners

25 - 37 %

37 - 50%

15 - 25%

Why Differentiation

- Every student is different: background, prior knowledge and experiences, preferences and interests, talents, culture, social and emotional needs.

- Some commonalities are true about the human brain and edu neuroscience facts that should guide our practice.

DIFFERENTIATION

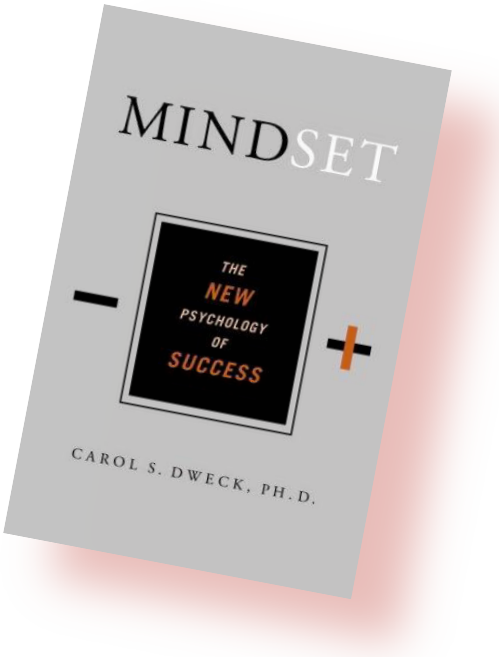
Differentiation is a philosophy or mindset that helps teachers to plan strategically in order to reach the needs of the diverse learners in classrooms today toward targeted standards.

Gregory and Chapman, 2013

MINDSET:

The New Psychology of Success

Carol S. Dweck, Ph.D. Ballantine Books, 2008



- **Fixed Mindset:**

  intelligence is static

- **Growth Mindset:**

  intelligence can be developed

- **The view you adopt for yourself, profoundly affects the way you lead your life.**

A "Fixed" MINDSET:

- **Believe one's intelligence and qualities can't be changed.**
- **Feel pressure to prove oneself over & over.**
- **Fear that if I'm unsuccessful, people will find out that I'm dumb.**
- **Success isn't about learning; it's about proving one's abilities…**

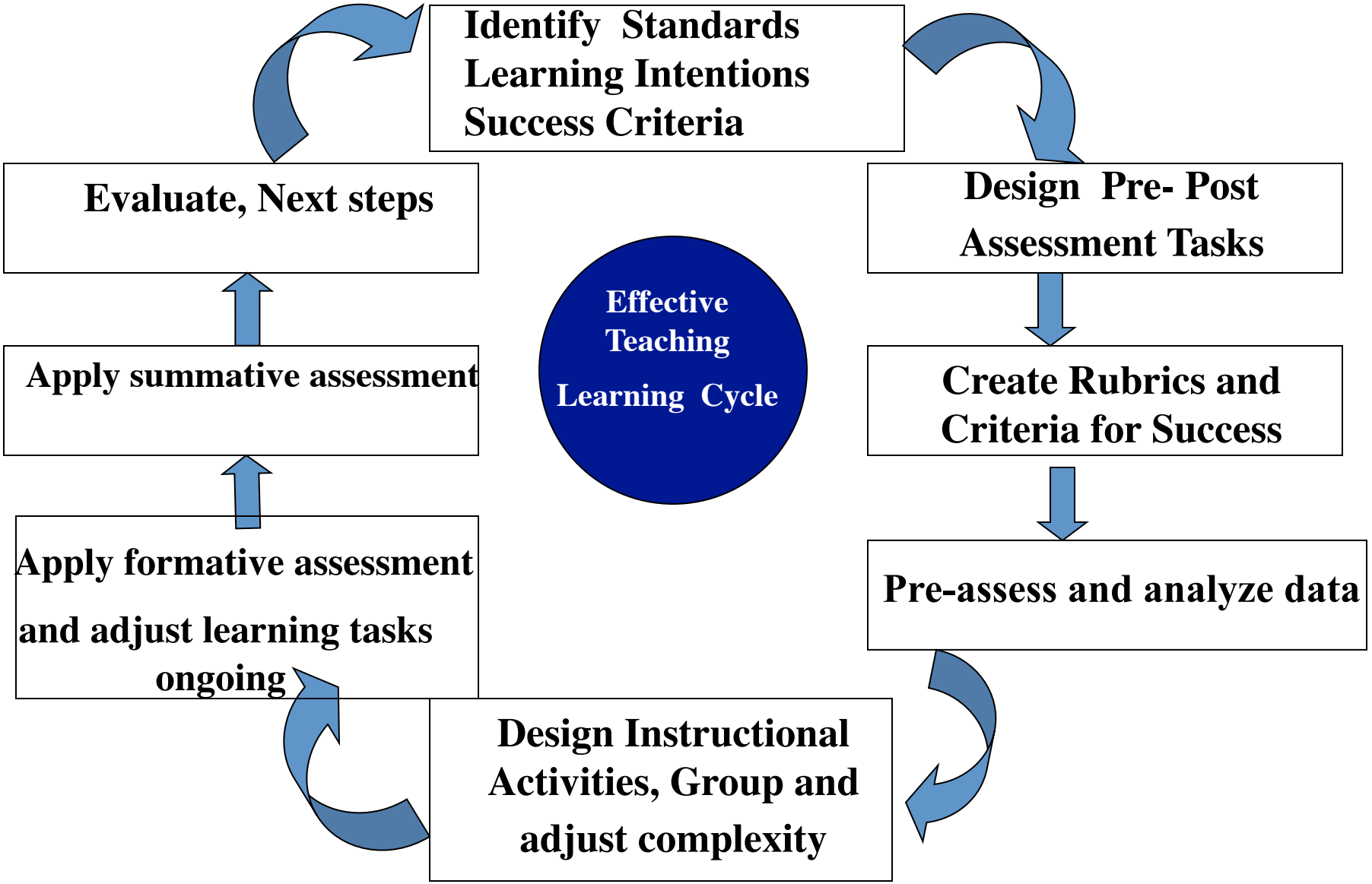
"Growth" Mindset

- **Some kids keep trying something until they get better at it.**
- **They ask questions and try to figure out the answers.**
- **When experiencing difficulties, they don't give up right away.**
- **They are willing to put in extra time to get better.**

Fostering a Growth Mindset:

- Encourage risk-taking
- Take on challenges
- Provide opportunities for feedback
- Learn from and share your failures
- Promote positive “self-talk”
- Learning is sloppy -expect it to take time
- Encourage “do-overs”
- “Not yet”

Recursive Learning Cycle



Using Data

I collect the following data..	Data is important because..
It's difficult to use data because……	I need help with….

Diagnostic thinking

- When to collect and how to ensure quality data.
- Examine cause and effect:
- *If I do this?*
- *If I know this?*
- *Are my expectations appropriate?*
- *What success might I expect?*

Data Driven Differentiation In the Standards-Based Classroom

Creating the Climate	Knowing the Learner	Assessing the Learner	Curriculum	Adjustable Assignments	Instructional Strategies
Building Connections •Risk Taking •Theaters of the Mind •Resilience •Nurture **Foster and Sustain Growth** •Feedback •Reflective Learning •Rituals •Respect •Cultural History •States of Mind •Celebration •Higher Level Thinking	**Learning Styles** •Strengths •Needs •Attitudes •Preferences **8 Multiple Intelligences Intelligent Behavior** •Persistence •Listening •Metacognition •Flexibility •Accuracy & Precision •Posing Questions & Problems •Experience & New Application •Sensory •Creativity •Efficacy	**Diagnostic Thinking** •Pre-Assessment •Formative Assessment •Formal versus Informal Data Collection •Performance Assessments **Analyze Formative Data** •Grouping •Selecting Differentiation Strategies •Critical Thinking **The Role of Other Forms of Assessment** •Using Summative Data •Self Assessment	**Curriculum Mapping** •Standards-Based •Focus and Target •Expectations **Unit Planning** •Standards •Benchmarks or Objectives •Key Concepts •Skills •Critical Questions •The Role of Critical Thinking •Relevance •Final Assessment •Rubric •Pre-Assessment •Chunking a Unit •Transition Points	**T.A.P.S.** **Total group** **Alone** **Pairs** **Small group** **Adjustable grids** •Compacting •Adjusting for Competency •Content & Materials •Communication & Technology •Multiple Intelligences •Readiness •Interest & Choice •Process & Rehearsal	**Best Practices Strategies for:** •Sensory Memory •Short Term Memory •Long Term Memory **Research-Based Strategies:** •Inductive Thinking •Note Taking and Summarizing •Homework •Non-linguistic Representations •Cooperative Group Learning •Lesson Planning

Gregory and Kuzmich 2014

Safe & Secure Climate & Environment

- Physically comfortable
- Known plans and expectations
- Clear procedures
- Adequate time
- Immediate feedback
- Inclusion

- Clear learning intentions and criteria for success

Perceived Threat, Anxiety and Pressure Can Minimize Learning

When responding to true danger or perceived threat, brains are less capable of doing any of the following:

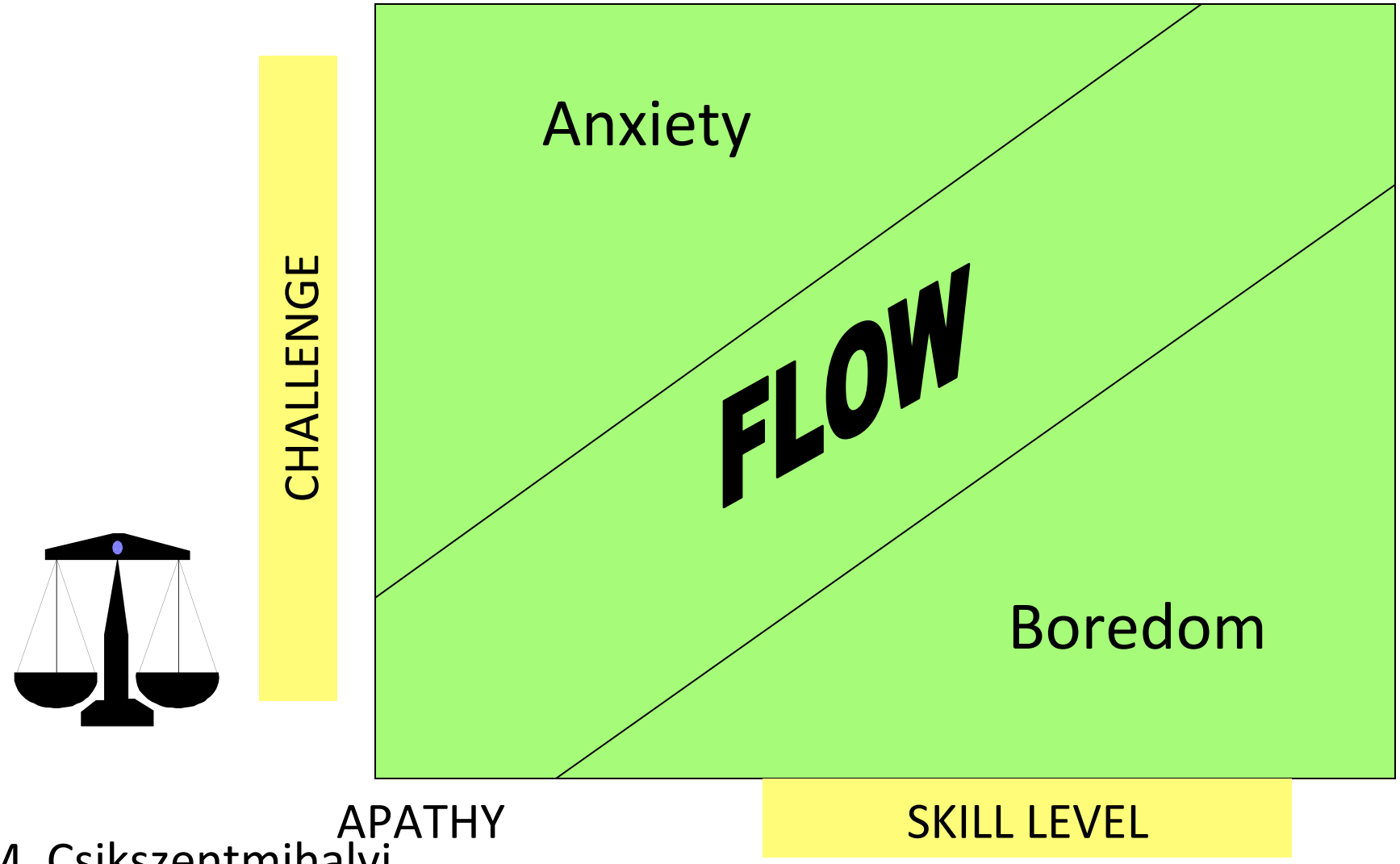
- **Being creative**
- **Remembering and accessing prior learning**
- **Engaging in complex tasks, open-ended thinking, and question**
- **Planning and mentally rehearsing**
- **Communicating effectively**

Flow: The Optimal Experience

- Challenged to your skill level
- Ongoing feedback
- Action quickly follows inspiration
- Sense of control
- Unselfconscious
- Unaware of passage of time
- Intrinsic motivation

M. Csikszentmihalyi

Getting Students into the FLOW ZONE



M. Csikszentmihalyi

Goldilocks & the Three Bears

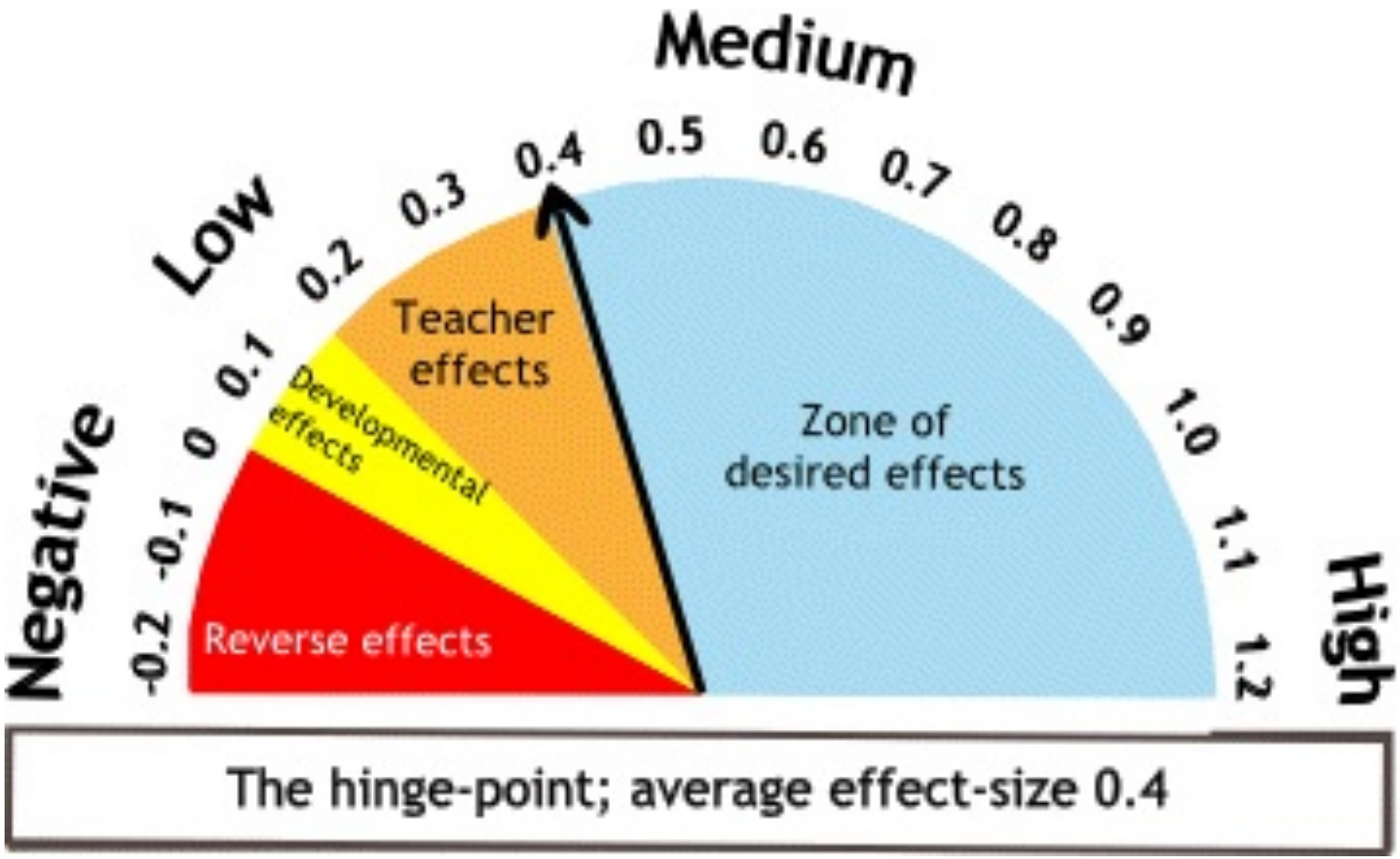
It was JUST RIGHT!

Caring and Support

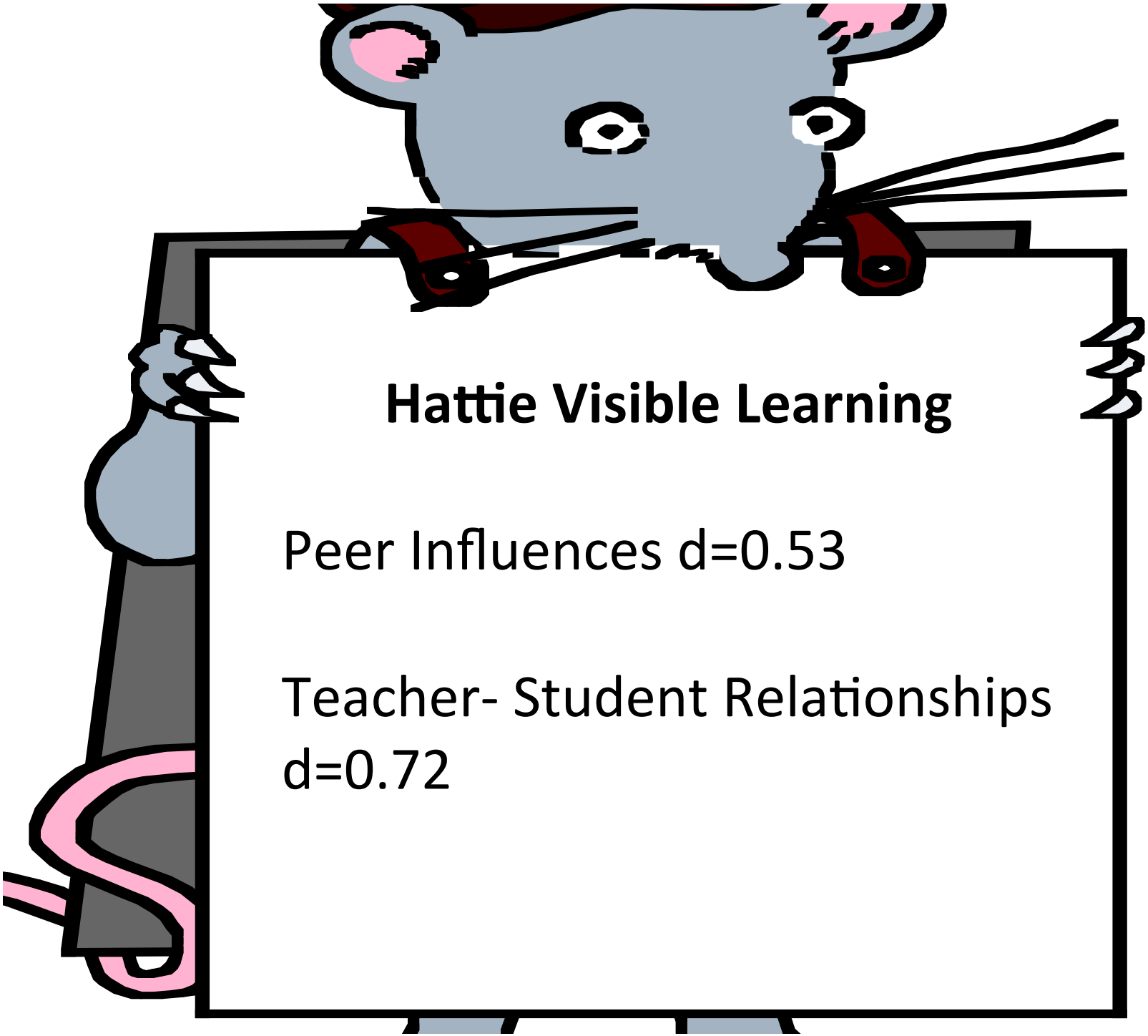
- Is this teacher my friend or enemy?
- Will I be embarrassed or feel stupid?
- What will my classmates think?
- Can I do this work?
- Where is my connection to this task?
- Am I valued?

Inclusion generates a sense of security & enhances the brain's ability to engage.

Know Thy Impact



Visible Learning, John Hattie, 2009



Hattie Visible Learning

Peer Influences d=0.53

Teacher- Student Relationships d=0.72

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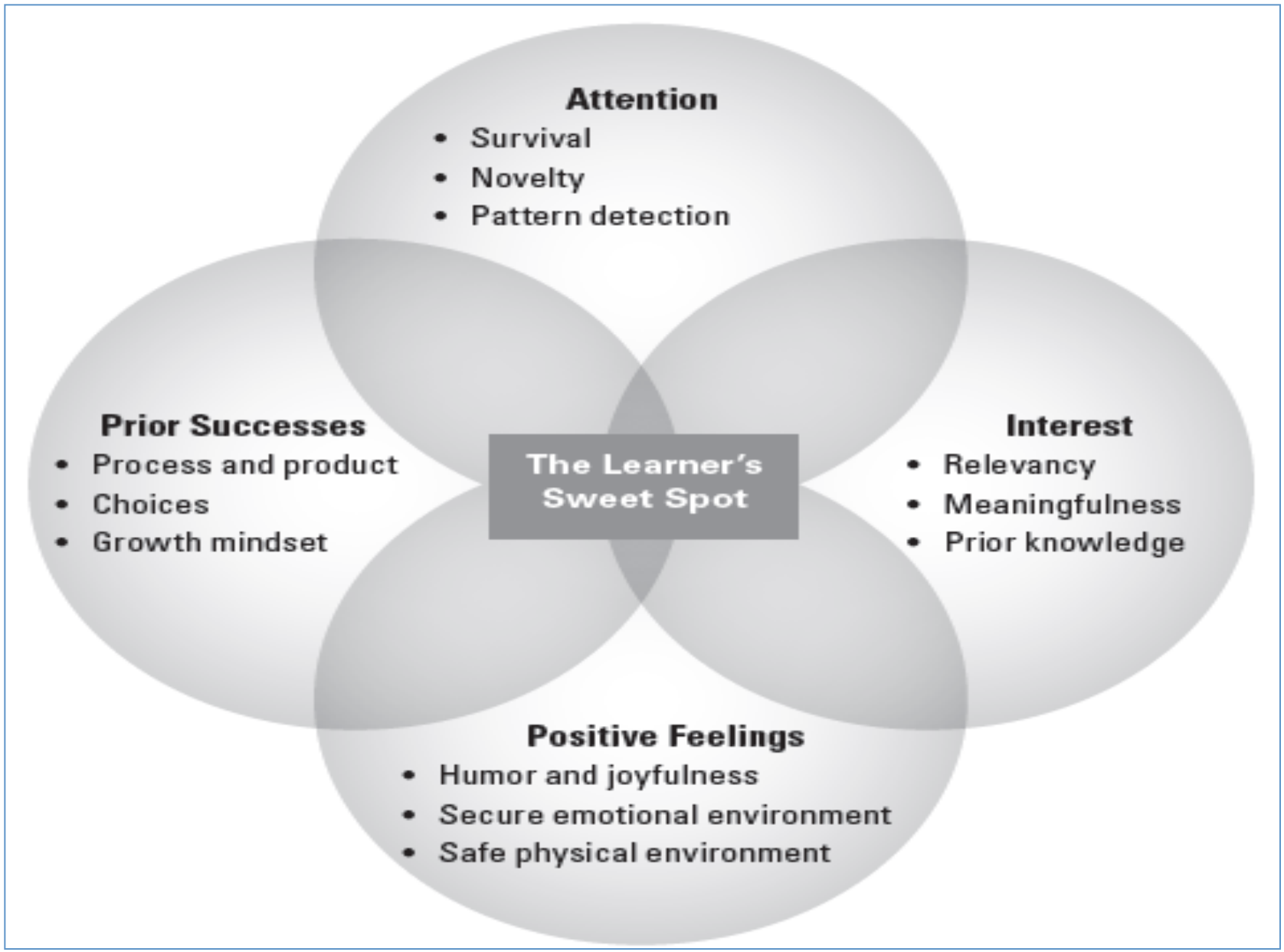
Gregory and Kuzmich 2014

Sweet Spot

- A place where a combination of factors results in a maximum response for a given amount of effort.

The Learner's "Sweet Spot"



STUDENT PROFILES

- Learner Preferences
- Cultural Responsiveness
- Prior Knowledge & Readiness

- **A *Learning Profile* is an umbrella term to collect, identify, and share the ways in which each of us perceives, takes in and processes information, and learns best as individuals.**

- **It is grounded in a body of cognitive research suggesting there are many different ways that individuals approach learning.**

Learning Preferences:

Visual – Auditory – Kinesthetic

Analytical – Creative – Practical

MI Strengths:

MI Challenges:

Group/Independent

Performer - Producer

Outside School:

Sports

Music

Hobbies

Pop Culture

Free Time

Employment

Student Profile:

_____

Gender: M F Birthday: ___/___/___

Grade :_____ School Year: _____

Teacher: _____

Class: _____

Family/Social Connections:

Family

Friends @ School

Other Friend

Leader - Follower

Social Network

Academic Challenges:

Academic Strengths:

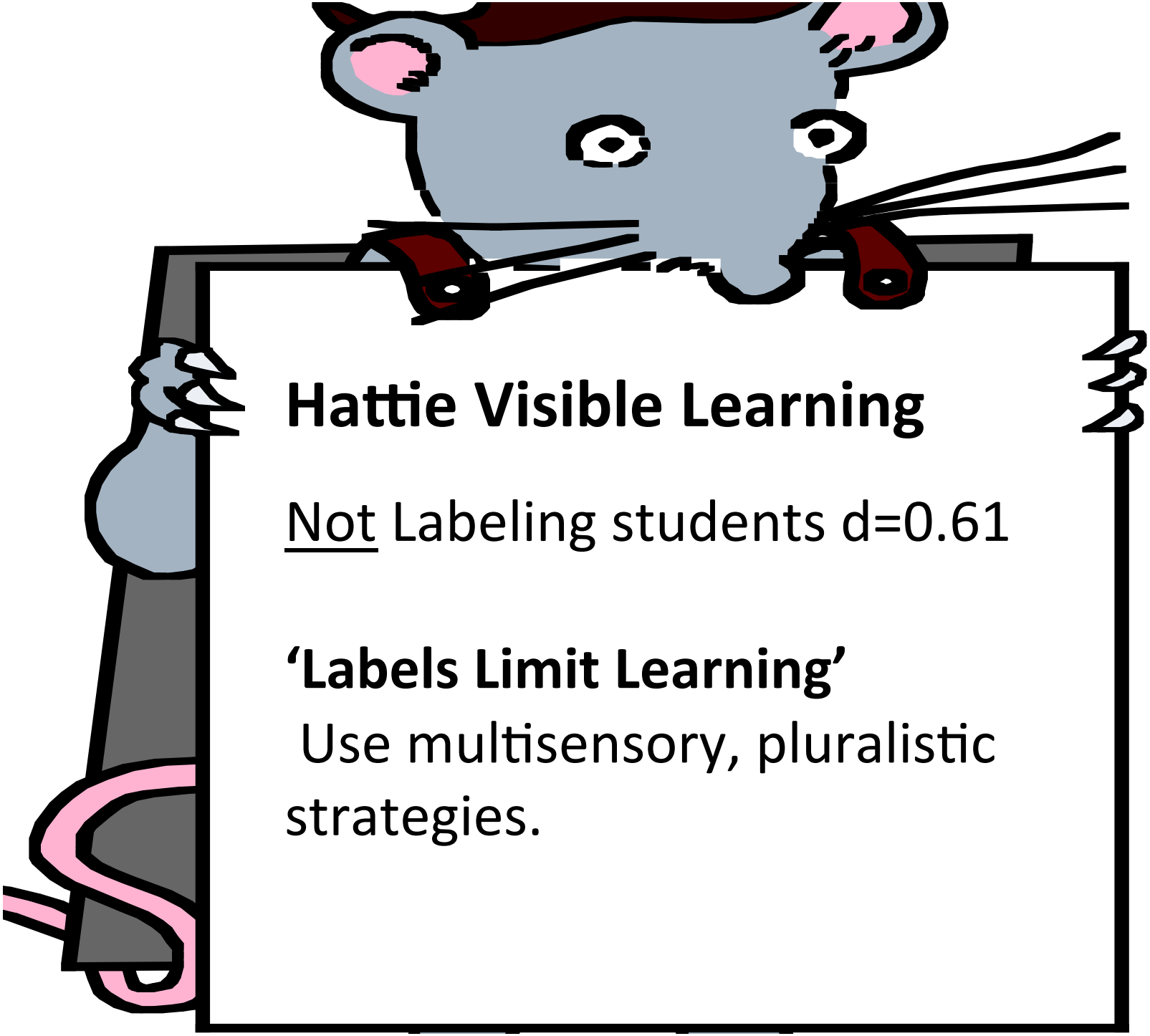
Reading Level

Artistic Abilities

Technology Savvy

Favorite Subjects

General Health:



Hattie Visible Learning

Not Labeling students d=0.61

‘Labels Limit Learning’

Use multisensory, pluralistic strategies.

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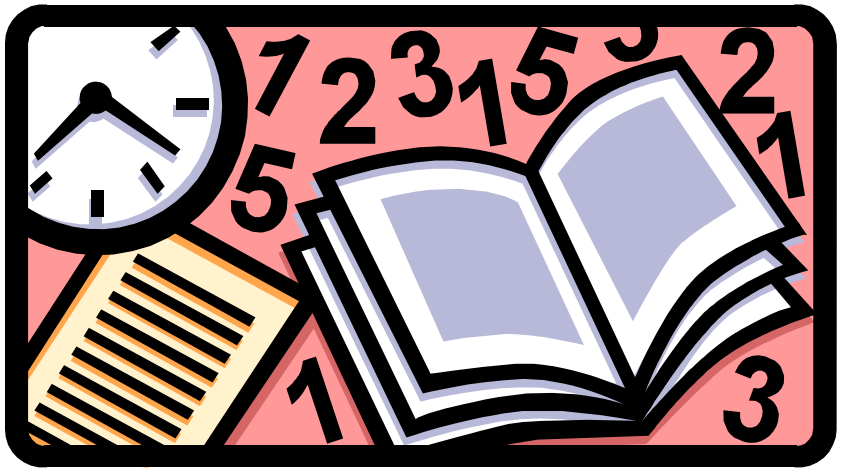
Gregory and Kuzmich 2014

One of the most significant changes we have seen...

…Assessment for Learning



Assessment for Learning

Is any assessment for which the first priority in its design and practice is to serve the purpose of promoting students' learning.

- Black et al, 2004

Assessment for Learning

…it should provide information that teachers and their students can use in assessing themselves and one another and in modifying the teaching and learning activities in which they are engaged. Such assessment becomes "formative assessment"

- Black et al, 2004

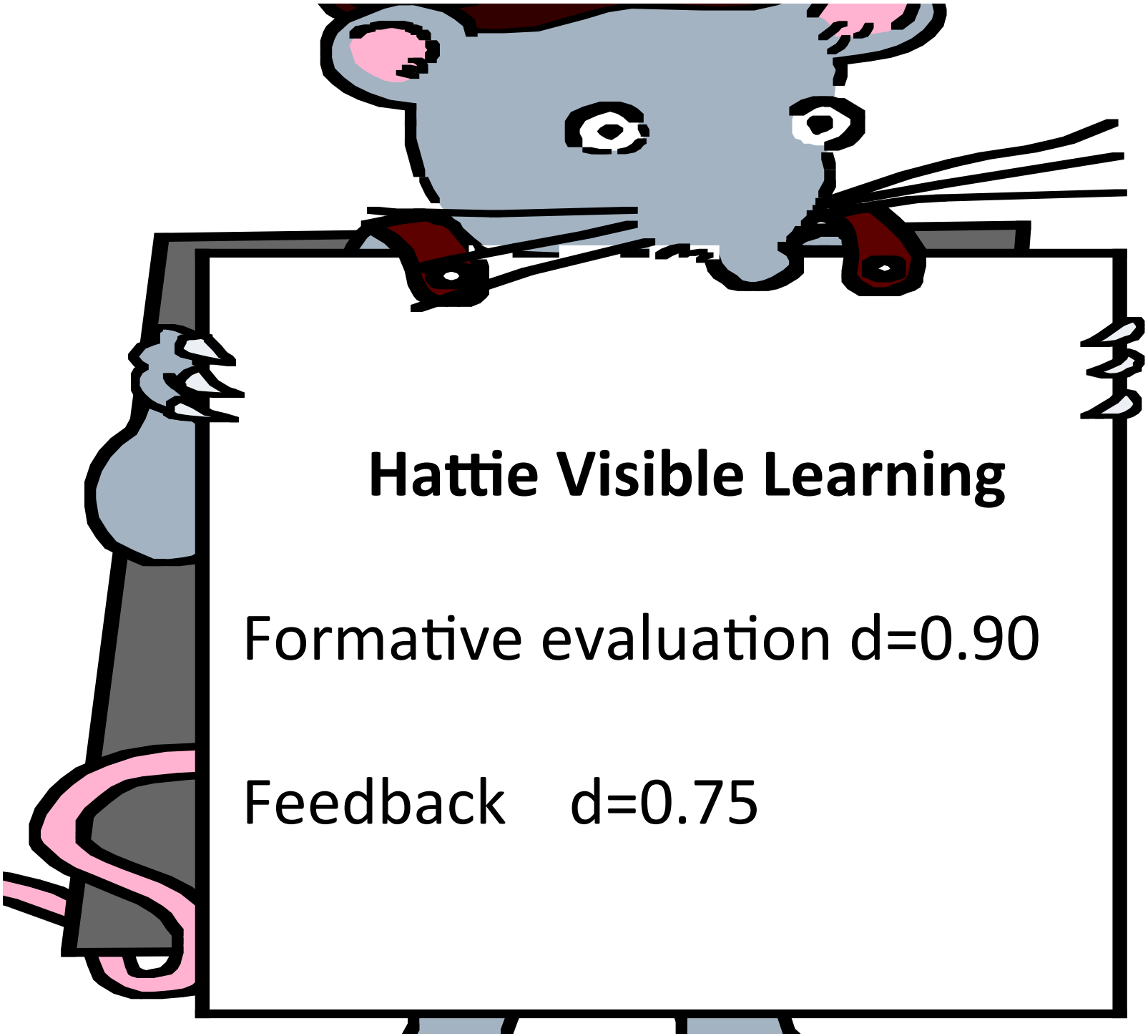
Why is pre-assessment important?

-
-
-
-
-
-
-

Why is pre-assessment important?

- **Tells us what they already know**
- **Gives us a benchmark to begin**
- **Identifies misconceptions**
- **Identify levels for differentiation**
- **Helps us plan more accurately for learning: jump starts and back fill**
- **Information for grouping**

Then why is it not widely practiced?


Hattie Visible Learning
Formative evaluation d=0.90
Feedback d=0.75

Collecting data

Getting to Know them	Pre-Assessments	Check for understanding
Surveys: Inventories Style preferences Environment Interests: topics or subjects Multiple intelligences P.M.I.	Concept webs Graphic organizers T charts Alphabet brainstorm KWL etc People Search W 5 Anticipation guides Rubric Quick writes Tickets out 4 Corners Questioning Graffiti T, F tests	Questioning Homework Tickets out Journaling Give one get one Quizzes Conferences Partner dialogue and eavesdropping Carousel brainstorming Demonstrations White boards SMART board Observations 3-2-1 Fist of 5 Thumbs up

Four Corner Name Tag

Something I know about

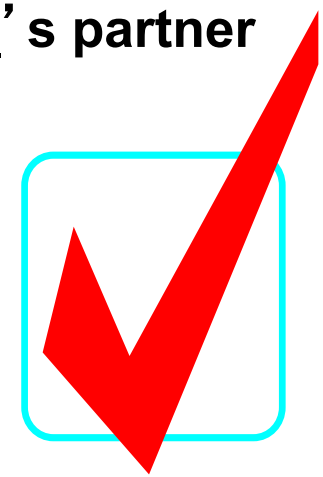
Reptiles... Insects…Mammals….

I’d be interested in…...

Name

I’d like to work on _____ in this project

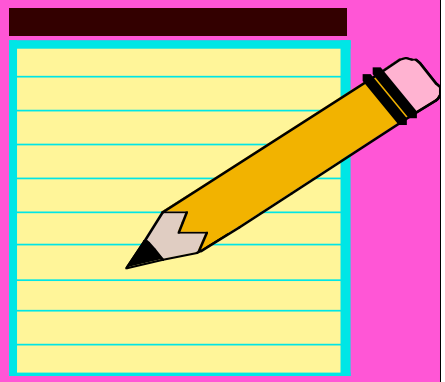
To work on this project I’d like to be _____’s or _____’s partner



3 Things you learned today

2 Things that connected for you

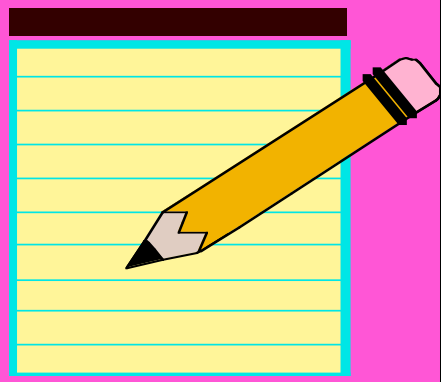
1 Question you still have



3 Things you do well

2 Things that you need to practice

1 Key ideas you learned



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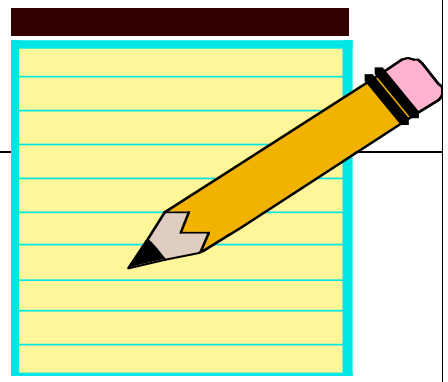

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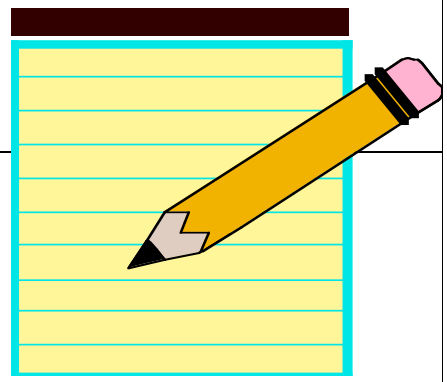
Plus



Minus

Interesting…..

Anticipation Guides

Before the reading I think	Why?	Consider these:	After the reading I think now	Evidence
		Insects have six legs		
		All insects can fly		
		Insects hibernate		
		Insects are poisonous		

Anticipation Guide for Antigone

Before the reading I think	Why?	Consider these:	After the reading I think now	Evidence
		Loyalty to your blood family is more important than loyalty to your friends		
		Getting a new job or a promotion tends to change the way a person behaves towards his/her co-workers		
		If the laws of the government conflict with your personal morals or religious beliefs, the law must be followed.		
		Relationships between siblings are always full of jealousy and conflict.		

Before the reading I think	Why?	Consider these:	After the reading I think now	Evidence

Content Specific Pre-assessment Ideas

Language Arts/English	Mathematics	Art	Science	Physical Education
Business & Technology	**Music**	**Family Consumer Science or Industrial Technology**	**Social Studies**	**Foreign Language**

Students given marks are likely to see it as a way to compare themselves with others; those given only comments see it as helping them to improve. The latter group outperforms the former.

(2003, Black, Harrison, Lee, Marshall & Wiliam)

Feedback Without Grading

- Student learning can be advanced through comments/feedback on oral and written work
- Comments should identify what has been done well and what still needs improvement and give guidance on how to make that improvement
- Opportunities for students to respond to comments should be planned as part of the overall learning process.

(2003, Black, Harrison, Lee, Marshall & Wiliam)

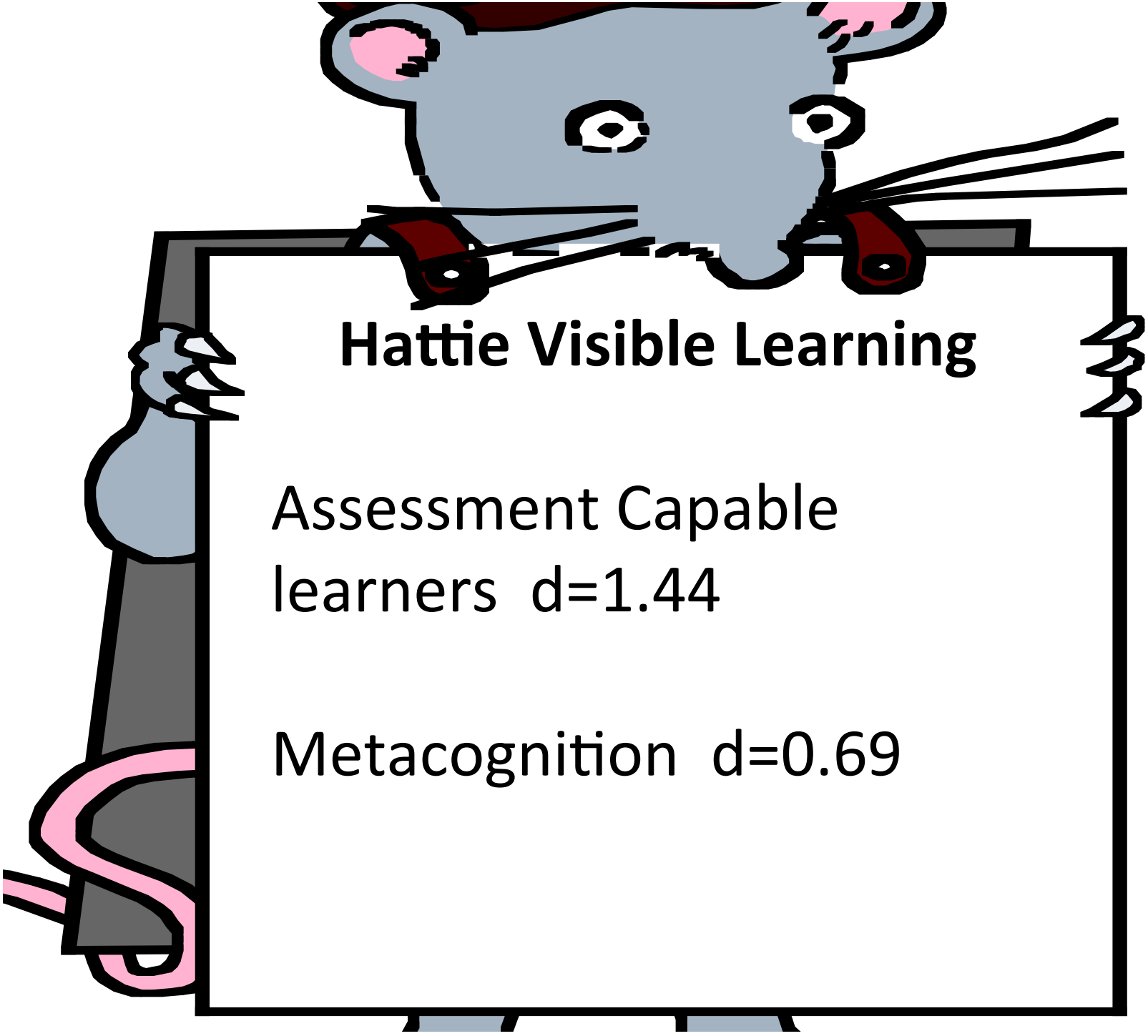
Figure 1.2: Customizing Your Feedback

Type of Student Needs and Behaviors	Starting Points for Teacher Feedback
Students who need to feel in control	Make certain feedback ends with a choice
Students who seem confused	• As you further explain the step the student is working on, clearly connect to the target • Use examples to make the parts to whole relationship evident • Try to ask questions about the personal impact of the issue or task
Students who seem anxious about specific learning tasks	• Reduce the surprise by referring back to the rubric or model • Break the steps of a task down into more achievable/quicker chunks
Students who seem embarrassed	• Eliminate any possible public conversation, keep it private • Allow students to chose from among a variety of acceptable methods to communicate learning
Students who cannot begin a project	• Structure and limit the choices and have students describe the one with the most advantages
Students who need frequent praise	• Teach them to self-evaluate using a checklist and bring you the list when multiple items have been checked off • Provide language for positive self-talk • Provide specific praise that celebrates a completed goal set by the student
Students who resist change in process or method	• Give them a connection to the previous process and a real world rationale for the change • Have students suggest a viable method or

Peer/Self Assessment

- ➥ Self assessment is key to learning
- ➥ Peer assessment is an important complement to self assessment if clear criteria is given to guide them
- ➥ Ideas to provide practice (e.g., traffic light icon)
- ➥ Rubrics

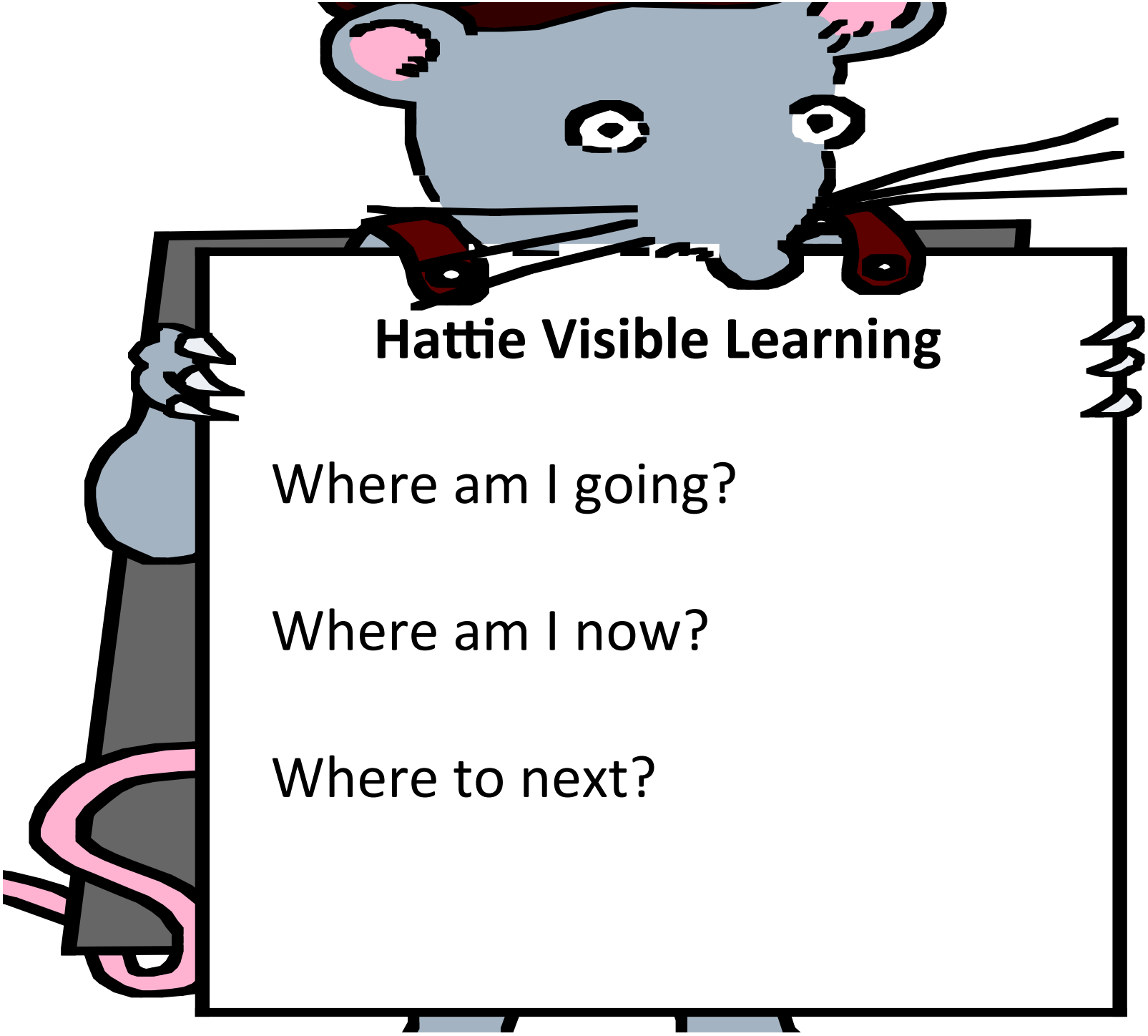
(2003, Black, Harrison, Lee, Marshall & Wiliam)



Hattie Visible Learning

Assessment Capable learners d=1.44

Metacognition d=0.69



Hattie Visible Learning

Where am I going?

Where am I now?

Where to next?

Cueing Techniques
Beyer

- **What am I doing?**
- **Why am I doing it?**
- **What other way can I do it?**
- **Can I repeat the process?**
- **How would I help somebody else to do it?**

Mrs. Potter's Questions

James Bellanca

- **What were you trying to do?**
- **What do you think went well?**
- **What would you do differently?**
- **What help do you need?**

Thinking Journals

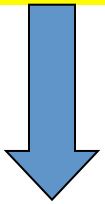
- **I wonder……**
- **What puzzles me…..**
- **What I am curious about……**
- **This reminds me of…….**
- **What interests me here……**
- **I feel….**
- **What would happen if……**

Metacognitive Strategy

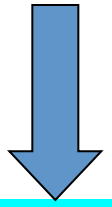
- **Why would you use……?**
- **Where would you use……?**
- **How would you use……?**
- **How would you adapt/modify……..?**

Adjusting Assignments

Decide and state a desired outcomes.

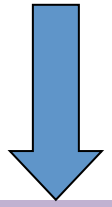


Think about the levels of your students. Where and with what are they successful?



Focus on the desired outcome and think of an activity that would challenge your students who are at grade level with prior knowledge and skills. Design that activity

Continue to focus on the same desired outcome and design an activity for students who just beginning to develop the concept or skill one more complex activity



Match your students to the appropriate leveled response based on data

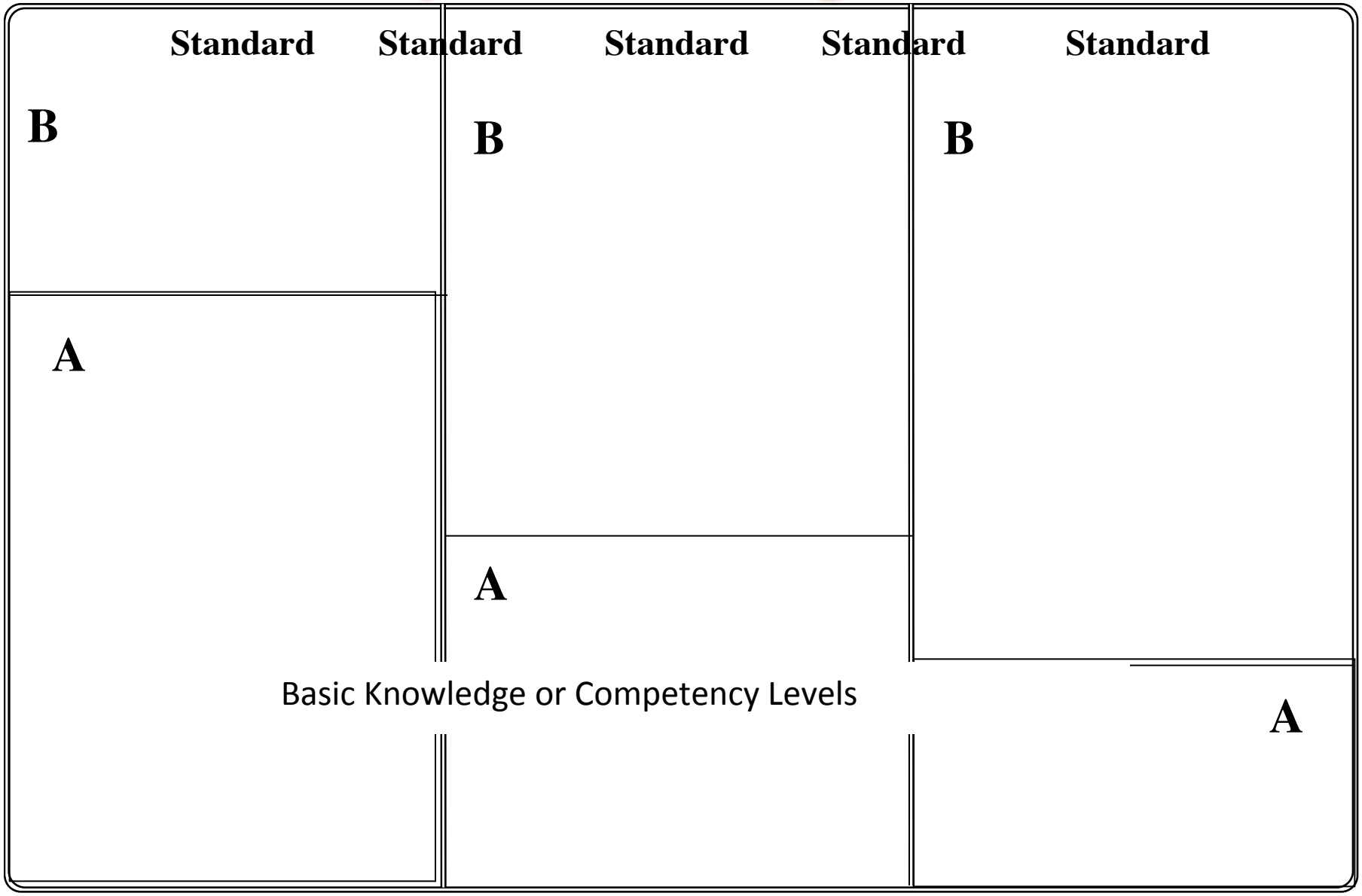
Assess students' responses for accuracy. Determine if anyone might be successful completing a more complex response activity. Allow them to try it!

What can be varied?

Page 135- 141

Differentiated	How?	What do I do?
DCM **Content and Materials:**	Sometimes students will exhibit a particular interest in some aspects of the unit of study and will want to go deeper into this area Reading materials may be differentiated based on the needs of the readers. Content may be accessed from a variety of materials and resources from books to Internet.	
DCT **Communication/technology:**	Students may select from a variety of communication methods from role-play to essay to presentation depending on their needs or their interests. Technology may be integrated based on students' needs or expertise.	
DMI **Multiple intelligences:**	Projects, problem solving, centers may be created that reflect the different multiple intelligences. This allows students to find a comfort area or area of strength or perhaps an area that needs attention and bolstering.	
DR Readiness:	Students may be grouped by readiness or sometimes ability to deal with a learning situation that is just beyond their level of expertise.	
DI Interest/Choice:	Students are allowed to choose an assignment based on their interests or choice. Contracts, projects and Tic Tac Toe boards are useful in facilitating	
DP Process:	Students may use different methods to process information. Activities are varied and engaging so that information and skills are rehearsed and applied in a variety of ways to increase retention and understanding.	

Adjustable Assignments



Note: This is not about number of students or time

Gregory and Chapman, 2001

Do you know your rights?

Amendment IV "The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

How has the new Homeland Security Act impacted the Bill of Rights? Is it an abridgement of our rights?

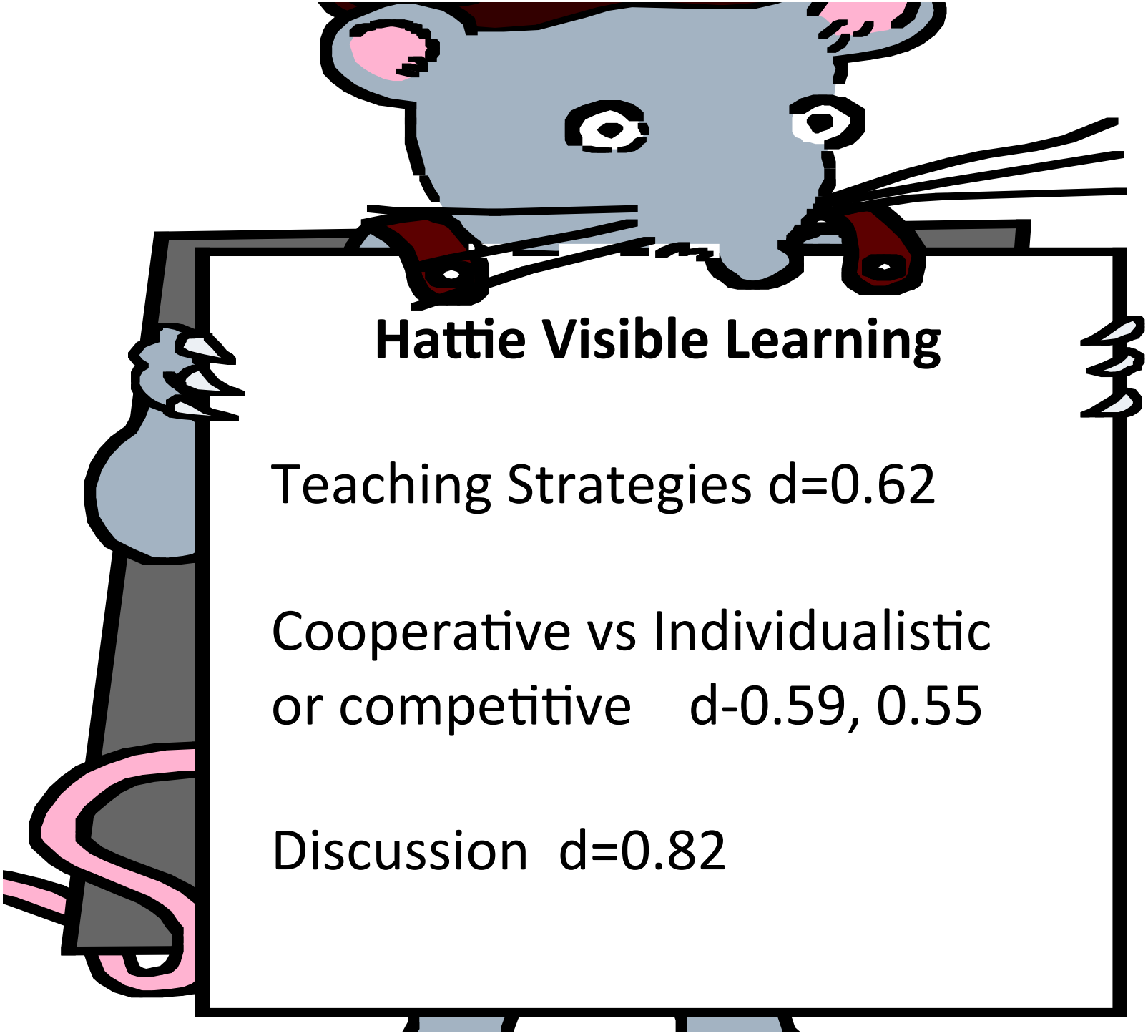
What do judges accept as reasonable cause for searching automobiles without a warrant? Does this limit our rights?

What procedures does our local police department have to follow when conducting a search and seizure operation?

Data Driven Differentiation In the Standards-Based Classroom

Creating the Climate	Knowing the Learner	Assessing the Learner	Curriculum	Adjustable Assignments	Instructional Strategies
Building Connections •Risk Taking •Theaters of the Mind •Resilience •Nurture **Foster and Sustain Growth** •Feedback •Reflective Learning •Rituals •Respect •Cultural History •States of Mind •Celebration •Higher Level Thinking	**Learning Styles** •Strengths •Needs •Attitudes •Preferences **8 Multiple Intelligences** **Intelligent Behavior** •Persistence •Listening •Metacognition •Flexibility •Accuracy & Precision •Posing Questions & Problems •Experience & New Application •Sensory •Creativity •Efficacy	**Diagnostic Thinking** •Pre-Assessment •Formative Assessment •Formal versus Informal Data Collection •Performance Assessments **Analyze Formative Data** •Grouping •Selecting Differentiation Strategies •Critical Thinking **The Role of Other Forms of Assessment** •Using Summative Data •Self Assessment	**Curriculum Mapping** •Standards-Based •Focus and Target •Expectations **Unit Planning** •Standards •Benchmarks or Objectives •Key Concepts •Skills •Critical Questions •The Role of Critical Thinking •Relevance •Final Assessment •Rubric •Pre-Assessment •Chunking a Unit •Transition Points	**T.A.P.S.** **Total group** **Alone** **Pairs** **Small group** **Adjustable grids** •Compacting •Adjusting for Competency •Content & Materials •Communication & Technology •Multiple Intelligences •Readiness •Interest & Choice •Process & Rehearsal	**Best Practices Strategies for:** •Sensory Memory •Short Term Memory •Long Term Memory **Research-Based Strategies:** •Inductive Thinking •Note Taking and Summarizing •Homework •Non-linguistic Representations •Cooperative Group Learning •Lesson Planning

Gregory and Kuzmich 2014



Hattie Visible Learning

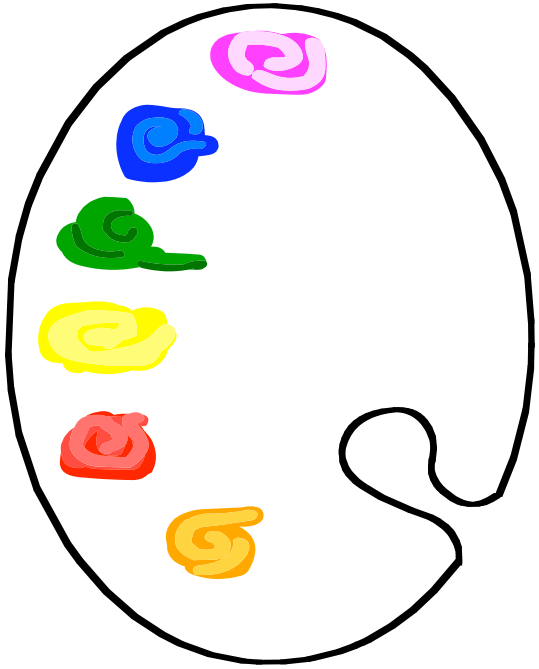
Teaching Strategies d=0.62

Cooperative vs Individualistic or competitive d-0.59, 0.55

Discussion d=0.82

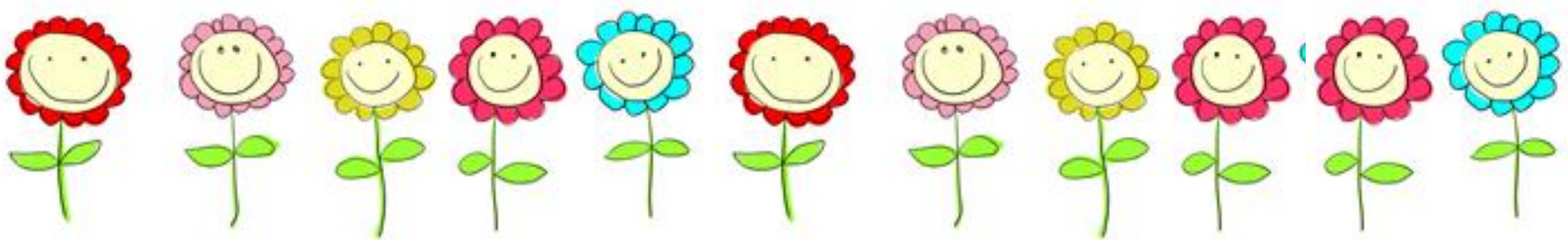
Instructional Variety

- **To thoughtful teachers, learning preferences and styles are *"not a method of restrictive teaching, but a reminder of the benefits of explicit mixed modality pedagogy."***
- ***(John Geake, 2009)***

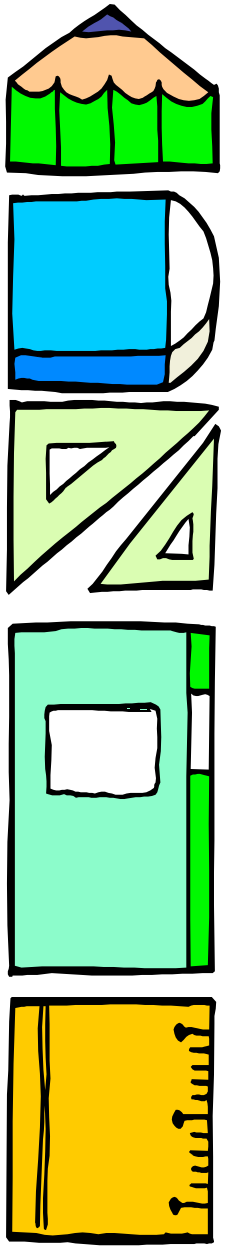


Teach me in the ways I learn best!

Students may grasp new concepts more easily if they have opportunities to process the information in a way that makes sense to them - and comes more easily to them.

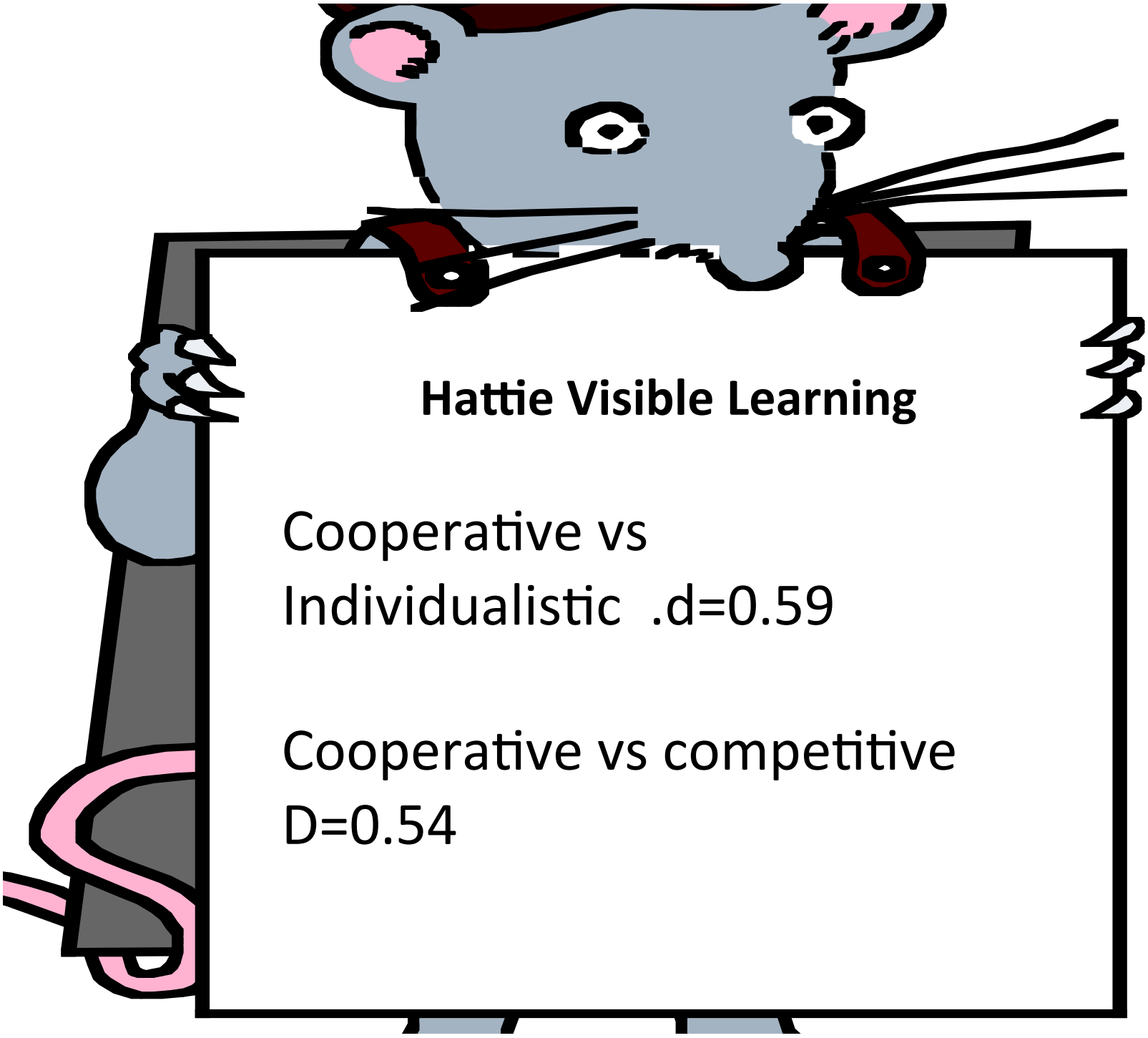


Classroom Instruction That Works: Best Practices



Category
Setting objectives and providing feedback
Reinforcing effort and providing recognition
Cooperative learning
Questions, cues, and advance organizers
Nonlinguistic representations
Summarizing and note taking
Homework and practice
Identifying similarities and differences
Generating and testing hypotheses

Dean et al. 2012 ., Classroom Instruction that Works, 2nd edition ASCD

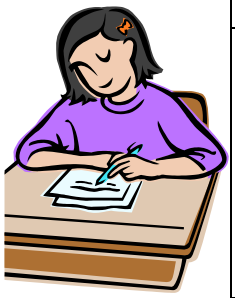


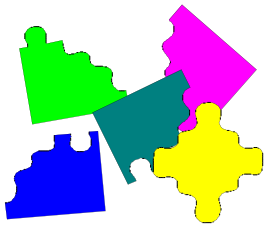
Hattie Visible Learning

Cooperative vs Individualistic .d=0.59

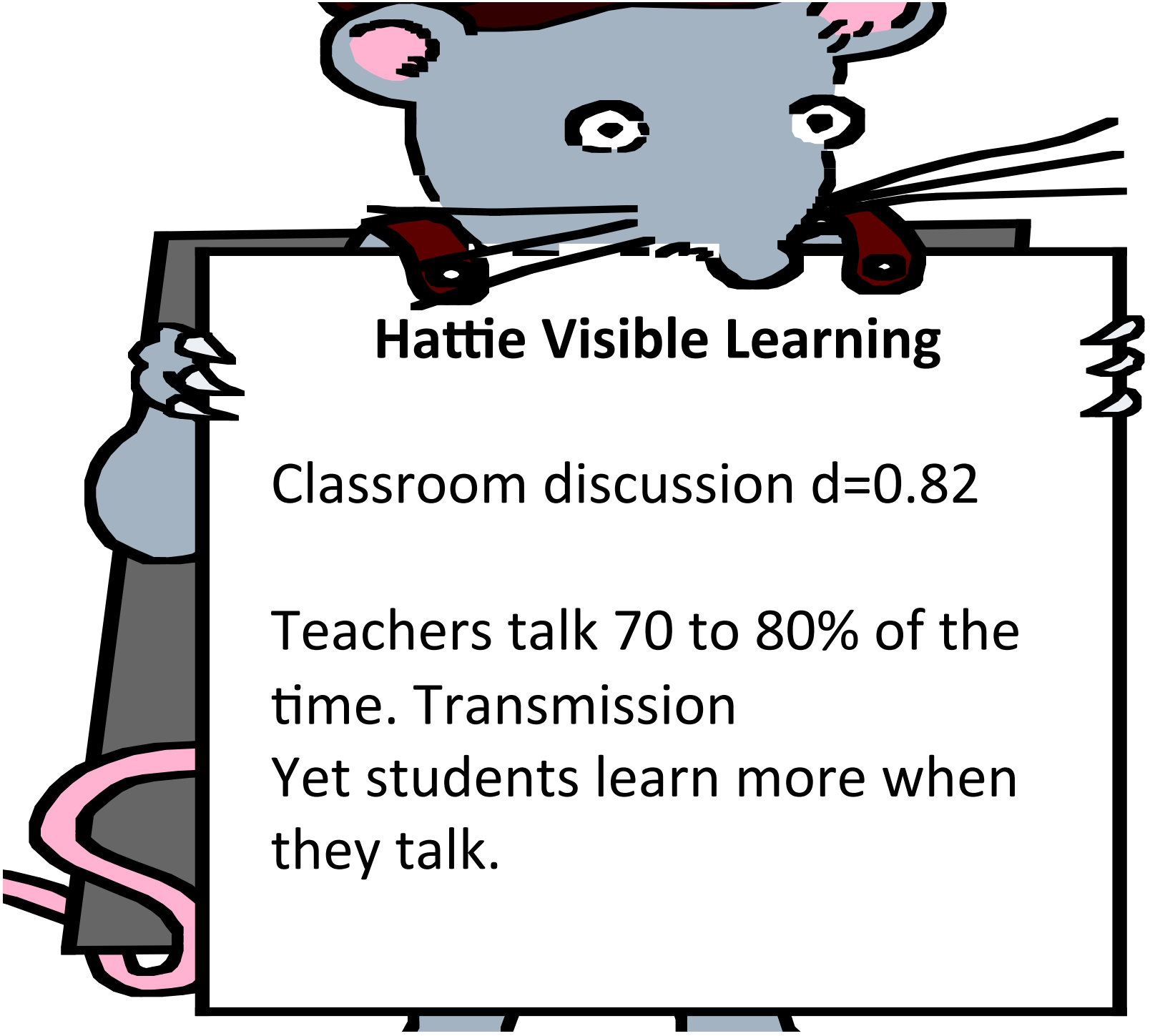
Cooperative vs competitive D=0.54

T.A.P.S. Suggestions for Use





Total Whole class instruction All students doing the same thing	Pre-assessment Presenting new information Modeling new skills Guest speaker Viewing a video Using a jigsaw strategy Guest speaker Text book(s) assignment
Alone All students working alone may have a variety of tasks based on interest or readiness	Pre-assessment Journal entry Portfolio assessing Self-assessment Independent study Note taking and summarizing Reflection Tickets out
Paired All students have a partner Random selection (card, color, etc) Teacher selection Students choose a partner Task or interest oriented	Brainstorming Checking homework Checking for understanding Processing information Peer editing Peer evaluation Researching Interest in similar topic Planning for homework
Small groups Homogeneous for skill development Heterogeneous for cooperative groups Random or structured by teacher or students Interest or task oriented	Problem solving Group projects Learning centers Cooperative group learning assignments Portfolio conferences Group investigation Carousel brainstorming Graffiti brainstorming



Hattie Visible Learning

Classroom discussion d=0.82

Teachers talk 70 to 80% of the time. Transmission
Yet students learn more when they talk.

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Gregory and Kuzmich 2014