



Using MAP, Additional Data Sources and Instructional Strategies to Increase Student Learning

Presented by Dr. Fran Prolman
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Essential Questions

- What are the indicators of a standards-based classroom and a school focused on student learning?
- What do I need to consider as I plan for a standards-based environment?
- What is the connection between analysis of data, instruction, assessment, curriculum and time in a standards-based environment?
- What are the implications for a “No Secrets” classroom and my instructional practice?

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Essential Questions

- How can I expand my repertoire of instructional strategies to support a standards-based classroom?
- What are the implications for assessment and MAP data analysis within a standards-based environment?
- In what ways do differentiating instruction and data analysis support a standards-based environment?

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Objectives

Participants will:

- Define a standards-based classroom.
- Identify the indicators of a standards-based classroom and school.
- Analyze the MAP data analysis and planning process necessary for standards-based education.
- Describe the role that instruction, assessment, data analysis, curriculum and time play in a standards-based environment.
- Explain how a "No Secrets" classroom supports standards-based instructional practice.
- Expand your repertoire of differentiated instructional strategies that support an AERO/MAP standards-based classroom.

Three Guiding Questions in a Standards-Based School

What knowledge and skills will students be learning?

What experiences will be used to ensure that students learn?



What evidence will be gathered and used to ensure that students learn?

Keeping the Focus on Learning. Noteworthy Perspectives. By Gaddy, Dean, and Kendall. McREL. 2006. www.mcrel.org

What are the indicators in moving from the adoption or adaptation of standards to a fully implemented system that is focused on learning?

Indicators for a Standards-Based School

- Standards-Based Curriculum
- Standards-Based Assessment
- Standards-Based Instruction

Standards-Based Schools that Are Focused on Learning

FROM

- A focus on teaching
- An emphasis on what was taught
- Coverage of content

TO

- A focus on learning
- A focus on what students learned
- Demonstration of proficiency

Adapted from DuFour, DuFour, Eaker, *Professional Learning Communities at Work*, 2006, Solution Tree, Bloomington IN

Standards-Based Schools that Are Focused on Learning

FROM

- Providing individual teachers with a set of standards
- Individual teachers attempting to discover ways to improve results

TO

- Engaging teams in building shared knowledge with documents
- Teams helping each other to improve

Adapted from DuFour, DuFour, Eaker, *Professional Learning Communities at Work*, 2006, Solution Tree, Bloomington IN

Standards-Based Schools that Are Focused on Learning

FROM

- Teachers gathering data from their individually constructed tests in order to assign grades

TO

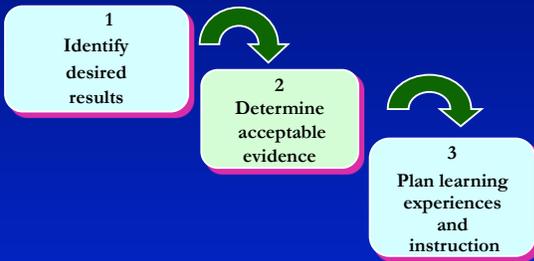
- Teams building a shared understanding from important assessments in order to inform their individual and collective practice

Adapted from DuFour, DuFour, Eaker, *Professional Learning Communities at Work*, 2006, Solution Tree, Bloomington IN

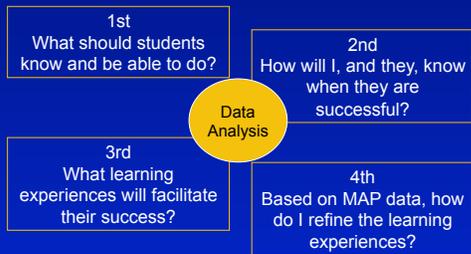


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Stages of Backward Design



SBE Planning Process



Adapted from *A Common Ground*, developed by Centennial BOCES, Longmont, Colorado.

Backward design may be thought of as purposeful *task analysis*: given a task to be accomplished, how do we get there?

What kinds of lessons and practices are needed if key performances are to be mastered?

A Shift Towards a “No Secrets Classroom”

- AERO Standards clearly communicated
- Enduring understandings and mastery objectives aligned to standards and communicated to students
- Embedded ongoing assessments to check for student learning
- Consistent analysis of student data to inform instructional modifications and choice of strategies
- Activities planned to support the standard and mastery of content

Using MAP and Other Data to Improve Learning



Using data itself does not improve teaching.

Improved teaching comes about when we implement curriculum, instruction, assessment and professional development practices that will strengthen student learning.

‘What do our data tell us?’

In the fall

- What are our strengths and weaknesses?
- What are our growth targets?
- What strategies will we use to accelerate growth for those most at risk?
- What strategies will we use to create appreciable growth for all others?

Midyear

- Are our students progressing?
- Are our strategies effective-----
how do we know?
- Reflect: What adjustments need to be made for next year?

Subject: Mathematics
Goal Strand: Algebraic Methods, Patterns, and Functions
RIT Score Range: 201 - 210

Skills and Concepts to Enhance 191 - 200	Skills and Concepts to Develop 201 - 210	Skills and Concepts to Introduce 211 - 220
Patterns - Reasoning, Quantitative Analysis <ul style="list-style-type: none"> Extends a growing arithmetic pattern, defined by objects or diagrams* Completes a growing arithmetic pattern using models to identify the missing number(s)* Extends a decreasing arithmetic pattern* Extends patterns formed by letters* 	Patterns - Reasoning, Quantitative Analysis <ul style="list-style-type: none"> Extends a growing arithmetic pattern, defined by objects or diagrams* Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,3,4,5,7,...)* Extends a growing pattern of numbers - eightfold quadratic rule - recursive rule to add a more each time (such as 1,2,4,7,...)* Extends a pattern formed by nesting a geometric figure* 	Patterns - Reasoning, Quantitative Analysis <ul style="list-style-type: none"> Extends a repeating pattern of geometric shapes in a grid* Extends a growing geometric pattern - using numbers* Extends a pattern formed by two arithmetic growing patterns - odd and even terms (such as 1,5,6,7,...)* Extends, on complex, growing patterns defined by equations or number acts* Extends a growing pattern of numbers - explicit quadratic rule - recursive rule to add a more each time (such as 1,3,4,7,...)*
Functional Relationships <ul style="list-style-type: none"> Describes a real-life situation using information given in a linear equation* Uses mapping diagrams to represent functions* 	Functional Relationships <ul style="list-style-type: none"> Describes a real-life situation using information given in a linear equation* Uses mapping diagrams to represent functions* 	Functional Relationships <ul style="list-style-type: none"> Identifies rules and applies them to new patterns* Uses simple linear equations to represent problem situations* Determines the rule and completes a simple function machine output* Uses mapping diagrams to represent functions*
Linear, Non-Linear Equations and Functions <ul style="list-style-type: none"> Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balance)* Solves complex open linear sentences using diagrams and models (e.g., using balance)* Solves 1-step open sentences with missing addends (numbers 100 and under)* Solves 1-step open sentences with missing addends (numbers 100 and under)* Solves 1-step open sentences with missing addends (numbers 100 and under)* Solves 2-step open sentences with missing addends* 	Linear, Non-Linear Equations and Functions <ul style="list-style-type: none"> Solves complex open linear sentences using diagrams and models (e.g., using balance)* Solves 1-step open sentences with missing addends (numbers over 100)* Solves simple open sentences with missing addends (numbers 100 and under)* Solves 2-step open sentences with missing addends* Solves open sentences with basic facts calculations on both sides of the sentence. 	Linear, Non-Linear Equations and Functions <ul style="list-style-type: none"> Solves simple open sentences with missing factors (numbers over 100)* Solves open sentences using the distributive property of the sentence* Solves open sentences using calculations on both sides of the sentence* Solves 2-step open sentences with missing factors* Solves 1-step linear equations* Applies algebraic methods to solve theoretical problems* Solves problems involving simple functions*
New Vocabulary Words New Sign and Symbols: division, multiplication	New Vocabulary Words New Sign and Symbols: 1 order of operations, 1 exponent, - negative number, + positive number, = is equal to.	New Vocabulary Words New Sign and Symbols: sum, 0 cent sign, 2 dollar sign, * degree Fahrenheit, * next in sequence

Class by RIT - Reading

**Class Breakdown by Overall RIT Score for NWEA Sample District 2
 Mt. Hood High School - Spring 2010
 Tuch, Daniel L. and S090005 Tuch IntEnglish1 45(AB)**

The following table shows how the class is broken down by RIT and subject.

	< 191	191-200	201-210	211-220	221-230	231-240	241-250	
Mathematics		Z. A. Meppoff (192) D. A. Tappa (197) N. A. Lavonick (202) A. H. Parzahn (195)	P. T. Deakunt (203) M. A. Paine (201) H. Frankel (205)	V. M. Baggett (211) A. A. Greene-Freeman (213) W. R. Sur (214) C. A. Chant (215) E. E. Inatt (216)		R. E. Ippa (234) P. Meppoff (232) C. A. Chant (205)		
Reading	K. P. Hatfield (182) R. S. Thies (181) A. H. Parzahn (185) M. A. Paine (199) H. Zarnack (189)	D. A. Smith (196) P. T. Deakunt (198) M. A. Paine (199)	E. E. Inatt (201) Z. A. Meppoff (202) N. A. Lavonick (202) W. R. Sur (205) A. A. Greene-Freeman (207) A. Rutyani (209)	A. A. Greene-Freeman (211) C. A. Chant (214) M. R. Hinson (217)	V. M. Baggett (221) J. D. Garvey (222) D. A. Tappa (224)			R. E. Ippa (235)
Language Usage	D. A. Smith (177)		P. T. Deakunt (203)	A. A. Greene-Freeman (213)				

Class Breakdown By Goal for Reading

**Mt. Hood High School - Spring 2010
 Tuch, Daniel L. and S090005 Tuch IntEnglish1 45(AB)**

The following table shows how the class is broken down by RIT and goal.

Test Name: Reading Survey w/ Goals 6+ CO V2.1

	< 191	191-200	201-210	211-220	221-230	231-240
Apply Thinking Skills to Read			S. A. Smith (198) E. E. Inatt (201) R. Hinson (201)	A. I. Rosopoo (209) J. A. Rutyani (201) V. M. Baggett (202) R. Sur (205) D. A. Tappa (224)		C. A. Chant (216) M. R. Hinson (217) R. E. Ippa (238)
Locate/Identify/Use Info	R. S. Thies (183) A. H. Parzahn (185) A. H. Parzahn (185) K. P. Hatfield (182)	M. A. Paine (199) E. E. Inatt (201) Z. A. Meppoff (202)	P. T. Deakunt (199) M. Hinson (201) A. Rutyani (209)	W. R. Sur (205) A. I. Rosopoo (209) C. A. Chant (216) M. R. Hinson (217)	A. A. Greene-Freeman (214) V. M. Baggett (221) J. D. Garvey (222) D. A. Tappa (224)	R. E. Ippa (235)
Read/Recognize Literature	A. H. Parzahn (185) R. S. Thies (183)	M. A. Paine (199) A. H. Parzahn (191) P. T. Deakunt (199) Z. A. Meppoff (202) J. R. Wilson (201)	M. A. Paine (199) A. H. Parzahn (191) P. T. Deakunt (199) A. Rutyani (209) C. A. Chant (216)	Z. A. Meppoff (202) A. A. Greene-Freeman (214) V. M. Hinson (217) V. M. Baggett (221) J. D. Garvey (222)		D. A. Tappa (224) R. E. Ippa (235)
Read a Variety of Material	K. P. Hatfield (182) R. S. Thies (183) A. H. Parzahn (185)	A. H. Parzahn (185) A. I. Rosopoo (209) Z. A. Meppoff (202)	S. A. Smith (198) P. T. Deakunt (199) E. E. Inatt (201) W. R. Sur (205)	A. Rutyani (209) C. A. Chant (216)	V. M. Baggett (221) J. D. Garvey (222) D. A. Tappa (224)	

Formative Assessment Tools

To use at the beginning of a unit	To use during the lesson
To use at the end of a lesson	To use prior to a summative assessment

Principles of Differentiation

1. Focus on essential to know concepts and skills as identified by AERO standards.
2. Identify student readiness/background knowledge levels, interests and learning/processing styles.
3. Provide sources of information at different reading levels, in different languages, and in varying formats to match different learning styles.
4. Engage all students in meaningful tasks which provide skill building and meaning making.
5. Provide teacher knowledge of content, pedagogy, and productive learning environments.

Principles of Differentiation

6. Balance student and teacher choice of working conditions, sources of information, and demonstrating that learning.
7. Group students in flexible ways individually, in small groups as a whole class. Base the groups on a variety of factors, including readiness levels and interests.
8. Give students prior, precise criteria for success for reports, tasks, performances and products. Rubrics and exemplars accompany the criteria.
9. Collaborate with colleagues and reflect about the impact of your instructional decisions.

Questions for my Planning

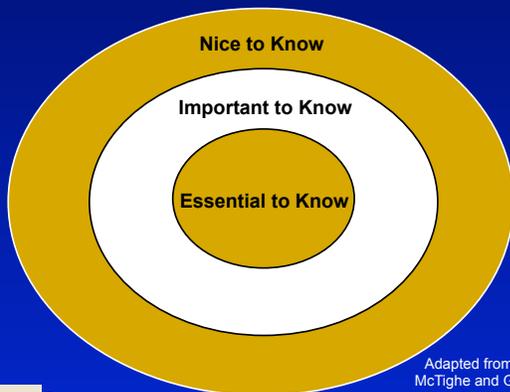
1. What should *students know and be able to do* with what they know as a result of this lesson?
2. How will *students show what they know and what they can do* with what they know? What will be the *assessment criteria* and what form will it take?
3. What do I need to do to differentiate instruction so that the learning experiences are productive for all students?
4. What is the MAP data suggesting?

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Questions for my planning, continued

5. What else could I do to extend the thinking of students ready to go beyond the basic lesson? What other external resources could they use?
6. What have I learned from pre-assessments about your struggling learners? What support systems could I include?
7. How might I re-teach or help students who are struggling with mastering this concept?

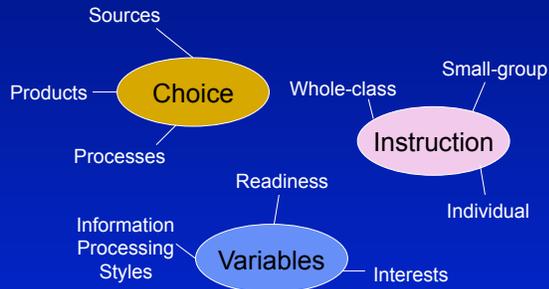
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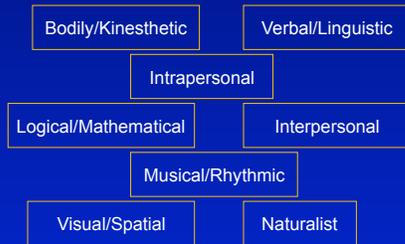
Adapted from Jay
McTighe and Grant
Wiggins

Differentiating Instruction



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Howard Gardner's Multiple Intelligence Theory



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Specific strategies to consider:

Build your repertoire!

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Beginning Middle End

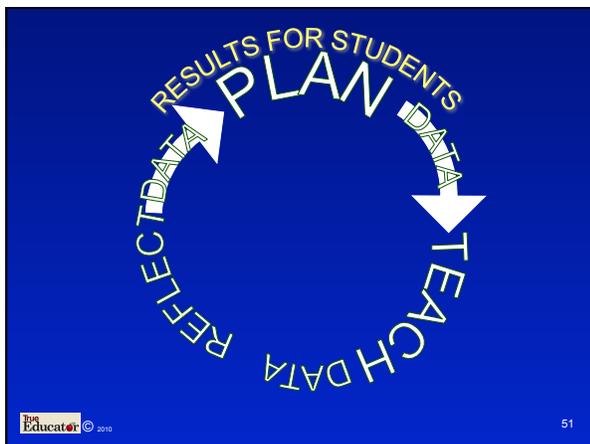
Beginning	Middle	End
Framing the Learning	Checking for Understanding	Evidence of Student Learning
<ul style="list-style-type: none"> • Mastery Objectives • Activators • Rubrics • Criteria for Success • "No Secrets" Classroom 	<ul style="list-style-type: none"> • White boards • Signal cards • Sentence stems • Descriptive Feedback 	<ul style="list-style-type: none"> • Summarizing strategies • Visual Thinking Tools • Interactive Notetaking • Products review

Feedback	Other Responses
I don't see any supporting details in the thesis statement	Weak thesis statement.
These L's look like V's.	Messy.
Does not contain an explanation of the chemical interactions.	B-
This lab report summarizes the steps you took. It reflects all parts of the rubric.	You were very thorough! This is the best lab you have ever handed in. Keep it up!
Your back foot is not coming up high enough to clear the hurdle.	Shoddy jump.

Feedback	Other Responses
The pianissimo was louder than the forte	That was terrible! I can't stand to listen to any more!
The first sentence tells the reader the main idea.	Clear.
Each of your arguments is supported by evidence from the text.	This is an excellent argument.
These two adjectives don't have gender agreements with the noun.	Don't you know by now which nouns are masculine and which are feminine?

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Beginning	Middle	End
Framing the Learning	Checking for Understanding	Evidence of Student Learning
<ul style="list-style-type: none"> • Mastery Objectives • Activators • Rubrics • Criteria for Success • "No Secrets" Classroom 	<ul style="list-style-type: none"> • White boards • Signal cards • Sentence stems • Descriptive Feedback 	<ul style="list-style-type: none"> • Summarizing strategies • Visual Thinking Tools • Interactive Notetaking • Products review



Quick Sort Tool

	Lesson Objective		
	Exceeds	Meets	Not Yet
Number of Students in Each Category			
Notes on Errors, Misconceptions, Gaps, Insights			

Individual Student Display and Analysis Tool

Student Name	Exceeds	Meets	Not Yet	Notes on Errors, Misconceptions, Gaps, Insights

Criteria Analysis

Name:

Grade and Subject:

Date of lesson:

Objective for the lesson: *By the end of the lesson students will be able to...*

Formative assessment (product or performance):

Criteria for success for the formative assessment work collected includes:

A	
B	
C	
D	
E	

Criteria Analysis Data Display Tool

Student Name	Criteria for Success				
	A	B	C	D	E

Criteria Analysis: Analysis of Data Display

Name: _____

- Based on your data display, what patterns emerged?
 - By criterion
 - By student
 - By groups of students
- Identify the criteria for which there were a significant number of not-yet performances and formulate root-cause questions that will help you to reflect on the instructional issues and strategies for reteaching.

Criteria for Which There Were a Number of Not-Yet Performances	Root-Cause Questions

I used to.....

But now I.....



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