

Moving from a Time-Based System to a Performance-Based (Standards-Based) System

The time based system is over 100 years old.

The Requirements of a Time-Based System

Students:

1. Must be in-class the entire year.
2. Must behave appropriately.
3. Must complete the work assigned them.
4. Must figure out what each individual teacher expects of them.
5. Can be passed on without adequate knowledge if they are successful at 1–4.

Some Unintended Consequences of a Time-Based System

1. Students succeed if they can figure out and are willing to follow the rules.
2. Those students who do not figure out the rules or are unwilling to follow them get so far behind relatively quickly that they have a high probability of dropping out.

The Requirements of a Performance-Based System

Students:

1. Must demonstrate competence in important content knowledge.
2. Must behave appropriately if they wish to be involved in classes.
3. Must take some responsibility for their own learning.
4. Cannot be passed on until they demonstrate competence in important knowledge.

Some Intended Consequences of a Performance-Based System

1. Students do not have to figure out the rules from teacher to teacher.
2. To catch up or move ahead at an accelerated pace, students do not have to spend a specific amount of time in class. Rather, they must demonstrate competence in important content.
3. There are fewer dropouts and more students completing graduation.

NO GRADE LEVELS

Level 10

Level 9



Level 2

Level 1

**GRADE LEVEL BANDS
(Keep Course Structure)**

UPPER DIVISION (11-12)

LOWER DIVISION (9-10)

6-8

3-5

K-2

Where do you start?

Develop a scale (**rubric**) at each level (**or grade level**) for each reporting topic (**measurement topic**)

Measurement Topics for Lang Arts

- Comprehension (narrative & expository)
- Literary analysis
- Genre (reading)
- Vocab & word recognition
- Research & info organization
- Planning, drafting, & revising
- Genre (writing)
- Audience & purpose
- Publishing
- Language structure
- Conventions/editing
- Word analysis
- Speaking applications
- Critical listening/viewing/response

Measurement topics are then
organized into strands.

LANG ARTS STRANDS & TOPICS

- **READING**
 - Comprehension
 - Literary analysis
 - Genre
 - Vocab & word rec
- **WRITING**
 - Resaerch & info org
 - Planning /draft/revise
 - Genre
 - Audience & purpose
 - Publishing
- Language structure
- Conventions/editing
- Word analysis
- **COMMUNICATION**
 - Speaking applications
 - Critical listen/view/respond

Measurement Topics for Mathematics

- Number sense and number systems
- Addition and subtractions
- Multiplication and division
- Functions & equations
- Algebraic representation
- Lines ,angles, and geometric objects
- Transformation, congruency, & similarity
- Trigonometry
- Measurement systems
- Perimeter, area, volume
- Data organization
- Probability

MATH STRANDS & TOPICS

- **NUMBERS & OPS**
 - Number sense & systems
 - Addition & subtraction
 - Multiplication & division
- **ALGEBRA**
 - Functions & equations
 - Algebraic representations
- **GEOMETRY**
 - Lines, angles, objects
 - Transformations, congruency, similarity
 - Trigonometry
- **MEASUREMENT**
 - Measurement systems
 - Perimeter, area, volume
- **DATA ANALYSIS & PROBABILITY**
 - Data organization
 - Probability

Next step...

For each measurement topic at each level identify the specific information and skill that is the criterion for success at that level (i.e. identify the performance standard for each level).

Measurement Topic: Literary Analysis in Reading, Level 5

- While reading grade appropriate text...
 - Identify implied themes (e.g. observing that the implied theme in “The Emperor’s New Clothes” is the ability to resist peer pressure)
 - Describe the function and effect of common literary devices such as imagery, metaphor, and symbolism (e.g. observing that the purpose of imagery is to put a vivid image in the reader’s head)

Measurement Topic: Data Organization in Math, Level 4

- While addressing grade appropriate problems...
 - Collect data using observations or surveys and create tally charts to represent data (e.g. recording the results of an informal class survey on a tally chart)
 - Represent categorical data using tables and graphs (bar graphs, line graphs, line plots) (e.g., representing hair color of students in class on a bar graph)

Moving from one level to the next

Level	Requirement to move to next level
10	L10 performance standard
9	L9 performance standard
8	L8 performance standard
7	L7 performance standard
6	L6 performance standard
5	L5 performance standard
4	L4 performance standard
3	L3 performance standard
2	L2 performance standard
1	L1 performance standard

Create a scale or rubric for each reporting topic at each level

Why not just create a test for each topic?

Cizek (2007)

State test for a large Midwestern state: $rel = .87$

Subscales: estimation and mental computation, geometry, measurement, number and number relations, patterns, algebra, problem solving

Subscale reliabilities = .33 to .57

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Subscale reliabilities = .33 to .57

Reliability of differences scores = .015

...It ...might be that the dependability of conclusions about differences in sub-area performance is nearly zero.

In many cases, a teacher who flipped a coin to decide whether to provide the pupil with focused intervention in algebra (heads) or measurement (tails) would be making the decision about as accurately as the teacher who relied on an examination of sub-score differences for the two areas.

250 Studies with Classroom Assessments:
SD = 12 points
Reliability = .45

Rel = .45	70	52	88
Rel = .55	70	54	86
Rel = .65	70	56	84
Rel = .75	70	58	82

A generic template for scale (rubric) design

4	
3	The student's responses demonstrate no major errors or omissions regarding any of the information and/or processes (THAT WERE EXPLICITLY TAUGHT)
2	
1	
0	

4	
3	The student's responses demonstrate no major errors or omissions regarding any of the information and/or processes
2	The student's responses indicate major errors or omissions regarding the more complex ideas and processes; however they do not indicate major errors or omissions relative to the simpler details and processes
1	
0	

4	
3	The student's responses demonstrate no major errors or omissions regarding any of the information and/or processes
2	The student's responses indicate major errors or omissions regarding the more complex ideas and processes; however they do not indicate major errors or omissions relative to the simpler details and processes
1	The student provides responses that indicate a distinct lack of understanding of the knowledge. However, with help, the student demonstrates partial understanding of some of the knowledge.
0	

4	
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2	The student's responses indicate major errors or omissions regarding the more complex ideas and processes; however they do not indicate major errors or omissions relative to the simpler details and processes
1	The student provides responses that indicate a distinct lack of understanding of the knowledge. However, with help, the student demonstrates partial understanding of some of the knowledge.
0	The student provides little or no response. Even with help the student does not exhibit a partial understanding of the knowledge.

4	In addition to exhibiting level 3 performance, the student's responses demonstrate in-depth inferences and applications that go beyond what was taught in class
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1	The student provides responses that indicate a distinct lack of understanding of the knowledge. However, with help, the student demonstrates partial understanding of some of the knowledge.
0	The student provides little or no response. Even with help the student does not exhibit a partial understanding of the knowledge.

Scale

4	In addition to exhibiting level 3 performance, in-depth inferences and applications that go BEYOND what was taught in class.
3	No major errors or omissions regarding any of the information and/or processes (SIMPLE OR COMPLEX) that were explicitly taught
2	No major errors or omissions regarding the SIMPLER details and processes BUT major errors or omissions regarding the more complex ideas and processes
1	With HELP , a partial knowledge of some of the simpler and complex details and processes
0	Even with help, no understanding or skill demonstrated.

Level 8: Atmospheric Processes & Water Cycle

4	
3	An understanding of: <ul style="list-style-type: none">•How the water cycle processes (condensation, precipitation, surface run-off, percolation, evaporation) impact climate changes•The effects of temperature and pressure in different layers of Earth's atmosphere
2	
1	
0	

Topic Grade 8: Atmospheric Processes & Water Cycle

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2	<ul style="list-style-type: none"> •Recognize and recall basic terms such as: climactic patterns, atmospheric layers, stratosphere, troposphere. •Recognize or recall isolated details such as: <ul style="list-style-type: none"> –Precipitation is one of the processes of the water cycle –The troposphere is one of the lowest portions of the earth's atmosphere

Level 8: Atmospheric Processes & Water Cycle

4	Infer relationships regarding atmospheric processes and the water cycle
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1	
0	

Moving from one level to the next

Level	Requirement to move to next level
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9	Score 3.0 on L9 rubric
8	Score 3.0 on L8 rubric
7	Score 3.0 on L7 rubric
6	Score 3.0 on L6 rubric
5	Score 3.0 on L5 rubric
4	Score 3.0 on L4 rubric
3	Score 3.0 on L3 rubric
2	Score 3.0 on L2 rubric
1	Score 3.0 on L1 rubric

With a well articulated scale, teachers can design assessments right from the scale.

Three Types of Items Uses When Designing Assessments

- **Score 2 items:** *Simpler details and processes that have been explicitly taught.*
- **Score 3 items:** *Complex ideas and processes that have been explicitly taught (**Performance Standard**).*
- **Score 4 items:** *Inferences and applications that go beyond what was taught*

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Score 2.0 Items for Science Test on Atmospheric Processes & Water Cycle

- Briefly define the following terms: climactic pattern, atmospheric layers, stratosphere
- Identify which of the following statements are true:
 - The atmosphere is between the troposphere and the stratosphere
 - The Earth's atmosphere helps protect life on Earth by absorbing ultraviolet radiation.
 - The temperature of the Earth's atmosphere varies with altitude.

Level 8: Atmospheric Processes & Water Cycle

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2	
1	
0	

Score 3.0 Items for Science Test on Atmospheric Processes & Water Cycle

- Explain how evaporation affects the climactic pattern in areas around large bodies of water, like the shoreline communities of Lake Michigan
- Assume that a weather balloon traveled up into the stratosphere. Explain what would happen as it progresses through the various layers of the atmosphere

Level 8: Atmospheric Processes & Water Cycle

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1	
0	

Score4.0 Item for Science Test on Atmospheric Processes & Water Cycle

- Complete the following analogy and explain why it is accurate: condensation is to evaporation as _____ is to _____.

A broader view of assessment

Three types of assessment that should be used in classrooms:

1. Obtrusive
2. Unobtrusive
3. Student-Generated

Three types of assessment that should be used in classrooms:

1. Obtrusive
2. Unobtrusive
3. Student-Generated

Current Status in a Standards-Based System

Level	Math	Science	Lang Arts	SS
10				
9				
8				
7				
6				
5				
4				
3				
2				
1				

Graduation in a Standards-Based System

Level	Math	Science	Lang Arts	SS
10				
9				
8				
7				
6				
5				
4				
3				
2				
1				

Current Status in a Time-Based System

Grade	Math	Science	Lang Arts	SS
12				
11				
10				
9				
8				
7				
6	Blue	Orange	Green	Pink
5	Blue	Orange	Green	Pink
4	Blue	Orange	Green	Pink
3	Blue	Orange	Green	Pink
2	Blue	Orange	Green	Pink
1	Blue	Orange	Green	Pink

Graduation in a Time-Based System

Grade	Math Grade Level	Math Status	Lang Arts Grade Level	Lang Arts Status
12	Blue		Green	
11	Blue		Green	
10	Blue		Green	
9	Blue		Green	Green
8	Blue		Green	Green
7	Blue	Blue	Green	Green
6	Blue	Blue	Green	Green
5	Blue	Blue	Green	Green
4	Blue	Blue	Green	Green
3	Blue	Blue	Green	Green
2	Blue	Blue	Green	Green
1	Blue	Blue	Green	Green