

# Amelia Data Driven PDSA Instructional Improvement Process

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## Amelia Learning Process

### **Overview**

Dr. David M. Gangel  
Superintendent

## Vision Statement

The Amelia County Public Schools resolves to become the schools of choice for the community of Amelia where all students achieve at exemplary levels and emerge prepared for the future.

## Mission Statement

With high expectations and equitable professional services, the Amelia County Public Schools will build positive relationships with students and community and assure attainment of high academic achievement, which exceeds all state and federal standards and provides all students with a foundation for the future.

## PDSA Focus

To learn how to become more effective at helping all children to master all curriculum at exemplary levels.

## Amelia Learning Process Components

- ☑ State Standards of Learning (SOL)
- ☑ Pacing Guides (4 ½ Weeks Chunks of SOL)
- ☑ Target Tests (Released SOL Test Items and Tests for Higher Standards)
- ☑ Reports on Line System (ROS - AYP  
Disaggregate Data)
- ☑ Mastery or PDSA (2006-2007 Mastery 80%)
- ☑ Correlation of Target Tests and State Tests  
(Process Validity)

**Correlations Grade 4 Math Target Test Mean and SOL 2005-2006**

**Correlations Grade 8 Math Target Test Mean and SOL 2005-2006**

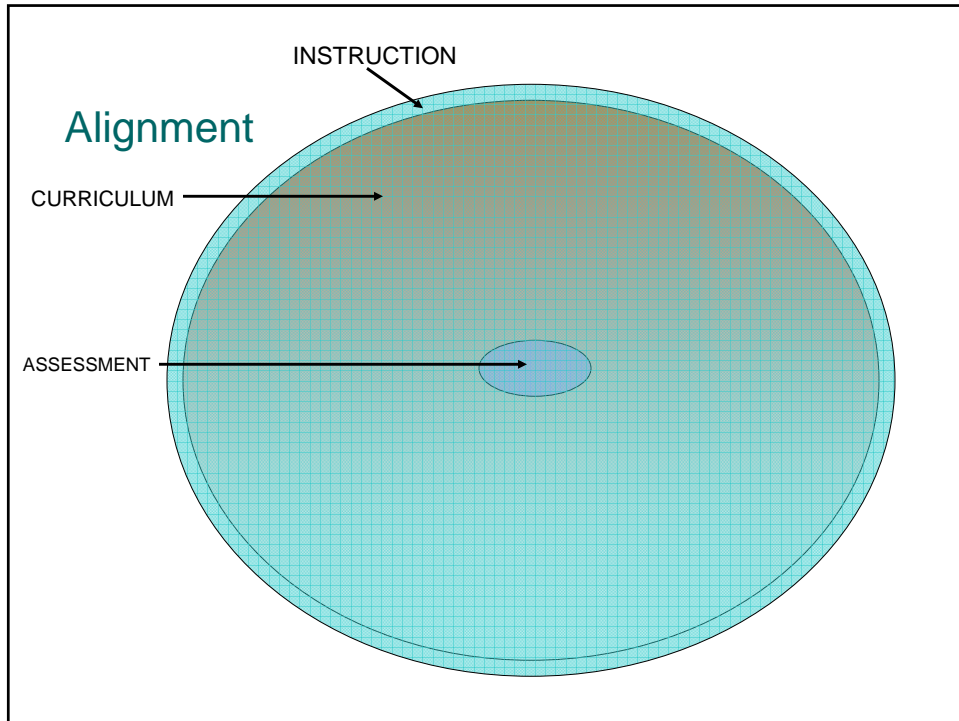
**Correlations Grade 9 Math Target Test Mean and SOL 2005-2006**

**Amelia Learning Process**

Before the School Annual Improvement Cycle

and

4 ½ Weeks Improvement Cycle



## Bloom's Taxonomy

Benjamin Bloom created this taxonomy for categorizing levels of abstraction of questions that commonly occur in educational settings.

The taxonomy provides a useful structure to:

- A. Develop curriculum pacing guides
- B. Deliver instruction
- C. Construct and Categorize test questions

## Bloom's Taxonomy

	Competence	Skill Demonstrated	Question Cues
Example	Knowledge	<ul style="list-style-type: none"> <li>✓Observation and recall of information</li> <li>✓Knowledge of dates, events, places</li> <li>✓Knowledge of major ideas</li> </ul>	List, define, tell describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where, etc.
Example	Application	<ul style="list-style-type: none"> <li>✓Use information</li> <li>✓Use methods, concepts, theories in new situations</li> <li>✓Solve problems using required skills of knowledge</li> </ul>	Apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover
Example	Synthesis	<ul style="list-style-type: none"> <li>✓Use old ideas to create new ones</li> <li>✓Generalize from given facts</li> <li>✓Relate knowledge from several areas</li> <li>✓Predict, draw conclusions</li> </ul>	Combine, integrate, modify, rearrange, substitute, plan, create, design, invent, what if?, compose, formulate, prepare, generalize, rewrite

Curriculum Pacing Chart  
 ACES 2006-2007  
 Subject: Math

**Categories of Instructional Strategies That Affect Student Achievement**

Category	Ave. Effect Size (ES)	Percentile Gain	No. of ESs	Standard Deviation (SD)
Identifying similarities and differences	1.61	45	31	.31
Summarizing and note taking	1.00	34	179	.50
Reinforcing effort and providing recognition	.80	29	21	.35
Homework and practice	.77	28	134	.36
Nonlinguistic representations	.75	27	246	.40
Cooperative learning	.73	27	122	.40
Setting objectives and providing feedback	.61	23	408	.28
Generating and testing hypothesis	.61	23	63	.79
Questions, cues, and advance organizers	.59	22	1,251	.26

*Classroom Instruction That Works* by Robert Marzano, Debra J. Pickering, Jane E. Pollock

## 3<sup>rd</sup> Quarter Interim Math 4 (05-06)

### Reports Online Disaggregate Data Into Multi-categories (AYP)

1. Teacher
2. Race
3. Gender
4. Economically Disadvantaged
5. LEP (Limited English Proficiency)
6. Title I
7. Local Use

ROS: Our Tests: 3<sup>rd</sup> Quarter Interim Math 4 (54v6z7): Amelia County  
Elementary  
05-06 (sch301): Multi-Category Report

Teacher Multi-Category																
			Test ≥	3 <sup>rd</sup> Quarter Interim Math 4												
			Std ≥	sol 4.2/4.3												
Category y	Value y	Test y	1# ≥	57 y	58 y	59 y	60 y	61 y	62 y	63 y	64 y	65 y	66 y	67 y	68 y	Total
Class	Teacher A 05-6	24	≥	63	88	58	71	50	50	67	50	92	75	29	50	61
Class	Teacher B 05-06	18	≥	72	78	61	44	39	39	67	67	83	78	39	58	57
Class	Teacher C 05-06	25	≥	84	100	96	100	100	100	92	92	100	96	96	88	94

ROS: Our Tests: 3<sup>rd</sup> Quarter Interim Math 4 (54v6z7): Amelia County  
Elementary  
05-06 (sch301): Multi-Category Report

Local Use Multi-Categories																
			Test ≥	3 <sup>rd</sup> Quarter Interim Math 4												
			Std ≥	sol 4.2/4.3												
Category y	Value y	Test y	1# ≥	57 y	58 y	59 y	60 y	61 y	62 y	63 y	64 y	65 y	66 y	67 y	68 y	Total
Local 1	Disabled	17	≥	53	71	24	53	18	18	41	29	82	59	24	47	76
Local 1	Non-Disabled	108	≥	78	92	84	72	68	72	83	75	89	86	66	72	93
Local 2	Veteran Teacher	85	≥	64	75	78	82	84	93	69	46	93	60	77	46	79
Local 2	Non-Veteran Teacher	40	≥	63	78	73	33	50	88	70	48	93	55	78	43	62

## PDSA Chart

School: ACES		Grade: 4		Subject: Math	
Overall:		Teacher	Teacher	Teacher	Teacher
3 <sup>rd</sup> Interim – 3/3	Overall Student Performance				
	SOL# or SOL Item #				
	Improvement Plan				
3 <sup>rd</sup> 9 Wks – Final 4/10	Results of Improvement				
	Action <input type="checkbox"/> Curriculum <input type="checkbox"/> Instruction <input type="checkbox"/> Assessment	Action <input type="checkbox"/> Curriculum <input type="checkbox"/> Instruction <input type="checkbox"/> Assessment	Action <input type="checkbox"/> Curriculum <input type="checkbox"/> Instruction <input type="checkbox"/> Assessment	Action <input type="checkbox"/> Curriculum <input type="checkbox"/> Instruction <input type="checkbox"/> Assessment	Action <input type="checkbox"/> Curriculum <input type="checkbox"/> Instruction <input type="checkbox"/> Assessment

ROS: Our Tests: 3<sup>rd</sup> Quarter Interim Math 4 (54v6z7): Amelia County Elementary  
05-06 (sch301): Multi-Category Report

LEP and Title I Multi-Categories																	
		Test $\geq$		3 <sup>rd</sup> Quarter Interim Math 4													
		Std $\geq$		sol 4.2/4.3													
Category $\Sigma$	Value $\Sigma$	Test $\Sigma$	1# $\geq$	57 $\Sigma$	58 $\Sigma$	59 $\Sigma$	60 $\Sigma$	61 $\Sigma$	62 $\Sigma$	63 $\Sigma$	64 $\Sigma$	65 $\Sigma$	66 $\Sigma$	67 $\Sigma$	68 $\Sigma$	Total	
LEP	LEP		$\geq$														
LEP	Non-LEP	125	$\geq$	74	89	76	70	61	65	78	69	88	82	60	69	72	
Title I	Non-Title I	100	$\geq$	79	89	79	76	67	66	79	75	90	87	66	67	75	
Title I	T1 Reading & Math	25	$\geq$	56	88	64	44	36	60	72	44	80	64	36	76	56	

ROS: Our Tests: 3<sup>rd</sup> Quarter Interim Math 4 (54v6z7): Amelia County  
Elementary  
05-06 (sch301): Multi-Category Report

Gender and Economically Disadvantaged Multi-Categories																
		Test $\geq$	3 <sup>rd</sup> Quarter Interim Math 4													
		Std $\geq$	sol 4.2/4.3													
Category $\gamma$	Value $\gamma$	Test $\gamma$	1# $\geq$	57 $\gamma$	58 $\gamma$	59 $\gamma$	60 $\gamma$	61 $\gamma$	62 $\gamma$	63 $\gamma$	64 $\gamma$	65 $\gamma$	66 $\gamma$	67 $\gamma$	68 $\gamma$	Total
Gender	Female	61	$\geq$	75	92	79	75	67	66	82	70	85	84	62	74	75
Gender	Male	64	$\geq$	73	86	73	64	55	64	73	67	91	81	58	64	68
F/R Lunch	Free	54	$\geq$	74	83	70	56	46	56	70	61	85	70	48	67	64
F/R Lunch	Regular Price	71	$\geq$	75	93	80	80	72	72	83	75	90	92	69	70	77

ROS: Our Tests: 3<sup>rd</sup> Quarter Interim Math 4 (54v6z7): Amelia County  
Elementary  
05-06 (sch301): Multi-Category Report

Race Multi-Category																
		Test $\geq$	3 <sup>rd</sup> Quarter Interim Math 4													
		Std $\geq$	sol 4.2/4.3													
Category $\gamma$	Value $\gamma$	Test $\gamma$	1# $\geq$	57 $\gamma$	58 $\gamma$	59 $\gamma$	60 $\gamma$	61 $\gamma$	62 $\gamma$	63 $\gamma$	64 $\gamma$	65 $\gamma$	66 $\gamma$	67 $\gamma$	68 $\gamma$	Total
Race	Black, Non-Hispanic	37	$\geq$	62	89	68	49	46	59	76	59	86	70	54	70	64
Race	Hispanic	1	$\geq$	100	100	100	0	0	0	100	100	100	0	0	100	56
Race	White, Non-Hispanic	87	$\geq$	79	89	79	79	68	68	78	72	89	89	63	68	75

### PDSA Chart – 3<sup>rd</sup> Interim

School: ACES		Grade: 4		Subject: Math	
Overall: 81%		Teacher	Teacher	Teacher	Teacher
		All	All	All	All
3 <sup>rd</sup> Interim – 3/3	<b>Overall Student Performance</b>	72%	76%	81%	85%
	SOL# or SOL Item #	4.2 Fractions Ques. 67 (60%) Ques. 68 (69%) Ques. 69 (69%) Ques. 70 (61%) Ques. 71 (61%)	4.8 Division Ques. 17 (68%) Ques. 19 (66%) Ques. 20 (34%)	4.9 Add & Subtract Fractions Ques. 77 (41%)	4.21 In/Out Division Problem Ques. 53 (60%)
	Improvement Plan	.Equivalency of fractions -remediate with flashcards, cross multiplication, around the world -30 second multiplication game	Word problems Ques. #20 word problem plus estimation -Practice one step solutions -Use concrete objects & estimation	Key words – “difference” instead of subtract -Review & use in class -Bellringers	-Will continue to review it but came up from 35% from last 4 1/2 week test!
3 <sup>rd</sup> 9 Wks – Final 4/10	<b>Results of Improvement</b>				
	Action <input type="checkbox"/> Curriculum <input type="checkbox"/> Instruction <input type="checkbox"/> Assessment	Action <input type="checkbox"/> Curriculum <input type="checkbox"/> Instruction <input type="checkbox"/> Assessment	Action <input type="checkbox"/> Curriculum <input type="checkbox"/> Instruction <input type="checkbox"/> Assessment	Action <input type="checkbox"/> Curriculum <input type="checkbox"/> Instruction <input type="checkbox"/> Assessment	Action <input type="checkbox"/> Curriculum <input type="checkbox"/> Instruction <input type="checkbox"/> Assessment

### PDSA Chart – Results of Improvement

School: ACES		Grade: 4		Subject: Math	
Overall: 81%		Teacher	Teacher	Teacher	Teacher
		All	All	All	All
3 <sup>rd</sup> Interim – 3/3	<b>Overall Student Performance</b>	72%	76%	81%	85%
	SOL# or SOL Item #	4.2 Fractions Ques. 67 (60%) Ques. 68 (69%) Ques. 69 (69%) Ques. 70 (61%) Ques. 71 (61%)	4.8 Division Ques. 17 (68%) Ques. 19 (66%) Ques. 20 (34%)	4.9 Add & Subtract Fractions Ques. 77 (41%)	4.21 In/Out Division Problem Ques. 53 (60%)
	Improvement Plan	.Equivalency of fractions -remediate with flashcards, cross multiplication, around the world -30 second multiplication game	Word problems Ques. #20 word problem plus estimation -Practice one step solutions -Use concrete objects & estimation	Key words – “difference” instead of subtract -Review & use in class -Bellringers	-Will continue to review it but came up from 35% from last 4 1/2 week test!
3 <sup>rd</sup> 9 Wks – Final 4/10	<b>Results of Improvement</b>	<b>Re-taught Tested on 3<sup>rd</sup> Final 81%</b>	<b>Ongoing practice Student worksheets 68%, 71% &amp; 75%</b>	<b>3<sup>rd</sup> Final 87%</b>	<b>Still reviewing – will be re-taught last 9 weeks</b>
	Action <input type="checkbox"/> Curriculum <input type="checkbox"/> Instruction <input type="checkbox"/> Assessment	Action <input type="checkbox"/> Curriculum <input checked="" type="checkbox"/> Instruction <input type="checkbox"/> Assessment	Action <input type="checkbox"/> Curriculum <input checked="" type="checkbox"/> Instruction <input type="checkbox"/> Assessment	Action <input checked="" type="checkbox"/> Curriculum <input checked="" type="checkbox"/> Instruction <input type="checkbox"/> Assessment	Action <input checked="" type="checkbox"/> Curriculum <input type="checkbox"/> Instruction <input checked="" type="checkbox"/> Assessment

2005-2006  
Math

SOL Test Results 2003-2006

<b>Grade 3</b>				
	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>English</b>	69.18	53.98	73.77	87.12
<b>Math</b>	76.71	88.66	87.16	91.66
<b>History</b>	78.47	79.83	85.60	93.23
<b>Science</b>	80.56	78.76	84.92	90.90
<b>Grade 4</b>				
<b>Reading</b>				85.95
<b>Math</b>				84.16
<b>Grade 5</b>				
<b>Writing</b>	60.95	79.13	79.19	90.19
<b>Reading/Literature/Research</b>	73.83	75.45	85.03	93.04
<b>Math</b>	57.01	67.05	76.64	91.30
<b>History</b>	60.38	67.89	81.76	91.30
<b>Science</b>	63.21	73.64	78.43	93.04
<b>Computer/Technology</b>	NA	NA	NA	NA

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