Formative Assessment for Michigan Educators

The District Perspective

Michigan School Testing Conference
Thursday, February 23, 2012
Session E4
Session Topics

- How can a state respond to the formative assessment literacy need of Michigan educators?
- How has a district implemented the FAME model? 2 perspectives
- What has been the impact on teacher practice and evidence of student learning?
- How might your district or building join in the journey?
Michigan FAME Model

- **Coach/Learning Team Facilitator**
  - Teacher or Administrator

- **Learning Team**
  - Usually 6 – 8 team members
  - Composition of team varies depending on school/district formative assessment plan/initiative and needs
  - Voluntary; have an interest in exploring classroom practice

- **Coach and Learning Team attend FAME launch in the fall**
  - Meetings held within school/district during rest of year (when, meeting length, etc. varies)
Michigan FAME Model (cont’d)

- Team collaboratively decides meeting agenda and learning topics
- Resources available to participating schools/districts from FAME website
  - Also from other learning teams
- Permissible to use Title II, Part A funds
  - Must be in Consolidated Application and School/District Improvement Plan
  - Restrictions Apply (see Field Services Title II, Part A Frequently Asked Questions for more information)
Warren Woods Public Schools

- Year 1
  - Two teams
  - Team 1 - was a 6th grade team at the middle school, coached by a teacher
  - Team 2 - was a multi-building team, coached by an administrator

- Year 2
  - One team
  - High school teacher, three middle school teachers, one elementary teacher,
  - Coached by an administrator
How did we begin?

- We found interested teachers
- We meet once a month after school
- We determine the agenda & topics
- We share our experiences and ideas
Teacher Practice

- Focus on the following:
  - Determining the learning target
  - Self-Assessment
  - Peer Assessment
  - Feedback
  - Goal Setting
Learning Targets in Use
Goal Setting
Self-Assessment

I can identify the parts of a story!
FEEDBACK USE

I want you to notice I used capital letters in my writing today.
Formative Assessment tools

- 25 Word Summary
  - Peer Assessment
  - Formative Feedback

- Daily Tweet
  - Learning target reflection
  - Exit Card
Evidence of Learning

- Involved with Michigan State University’s research project
- Collecting data from teachers in the project and not in the project
- Collecting Student Surveys about what teachers do in the classroom
Where do we go from here?

- Our hope is to build the project throughout the district
  - Reaching out to department heads at all levels
  - Inviting new teachers to form a team next year
  - Working with building administrators
  - Building the capacity of all staff
Holt Public Schools

Year 1
- One team
- Multi-grade Team spanning 3 buildings
- All Math teachers

Year 2
- Continued the first team with 3 new members
- Added a new team multi-subject area and multi-building team coached by a teacher
Holt Public Schools

Year 3

- Continued original two teams
- Added PLC’s at the building level
- Building wide focus on student friendly standards
- More buildings and many more people
- Lot’s of new coaches (10) and a new team
How did we begin?

- Started to lay some groundwork
- We found/recruited interested teachers
- Had an intensive week long summer launch
- The participated in the launch
- Team plans the meetings
- Sharing portion
- Bring something/try something
Teacher Practice

- Clarify the learning targets
- Self-Assessment and Peer Assessment
- Valuable Feedback
- Rubrics and Exemplars
- Action Research
- Focus on Quality instead of completion
- Grading Changes
- Building Capacity
# Clarifying Learning Targets

## Unit Packet Table of Contents

<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>Activity Title</th>
<th>I Can Associated</th>
<th>Stamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9/8</td>
<td>Tides and Kayaks</td>
<td>I can give thorough explanations</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>9/9</td>
<td>Tides and Kayaks Follow Up</td>
<td>I can give thorough explanations</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>9/10</td>
<td>Maryland Water Temps</td>
<td>I can give thorough explanations</td>
<td>Collect</td>
</tr>
<tr>
<td>4</td>
<td>9/13</td>
<td>Radian Measure</td>
<td>I can explain what the radian measures</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I can locate positions on the circle in radians and/or degrees from standard units</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>9/13</td>
<td>Radian Practice</td>
<td>I can locate positions on the circle in radians and/or degrees from standard units</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>I can convert from radians to/from degrees</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>9/15</td>
<td>Fake Quiz</td>
<td>I can explain what the radian measures</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I can locate positions on the circle in radians and/or degrees from standard units</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I can convert from radians to/from degrees</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>9/16</td>
<td>A Circle Function</td>
<td>Stamp</td>
<td></td>
</tr>
</tbody>
</table>

## Self Assessment

Understanding Check #1

Please rank yourself on each of the following I can statements.
4 means "I can do it perfectly every time."
1 means "I don't even know what this is."

1. I can determine the amplitude of a sinusoidal function from a table. 1 2 3 4
2. I can determine the vertical translation of a sinusoidal function from a table. 1 2 3 4
3. I can determine the period of a sinusoidal function from a table. 1 2 3 4
4. I can write a rule for a sinusoidal function with no change in period or phase shift. 1 2 3 4

Look over your Understanding Check. For all items that you made mistakes on, please determine what your mistake was and describe it. **DO NOT ERASE YOUR MISTAKES.** Finally, fix all of your mistakes on a new page so I can see that you have corrected everything.
### Clarifying Learning Targets

<table>
<thead>
<tr>
<th>Secure (S)</th>
<th>Developing (D)</th>
<th>Beginning (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• My work shows what I did and what I was thinking while I worked the problem</td>
<td>• I explained some of my steps in solving the problem</td>
<td>• I’m not sure how much detail I need in order to help someone understand what I did</td>
</tr>
<tr>
<td>• I’ve explained why my answer makes sense</td>
<td>• Someone might have to add some info for my explanation to be easy to follow</td>
<td>• I don’t know what to write</td>
</tr>
<tr>
<td>• I used mathematical terms correctly</td>
<td>• Some of the math terms I use make sense and help in my explanation</td>
<td>• I can’t figure out how to get my ideas in order</td>
</tr>
<tr>
<td>• I used pictures, symbols, and/or diagrams when they made my explanation clearer</td>
<td>• I explained my answer, but not my thinking</td>
<td>• I’m not sure I used math terms correctly</td>
</tr>
<tr>
<td>• My explanation was clear and organized</td>
<td>• My explanation started out well, but bogged down in the middle</td>
<td>• My explanation is mostly copying the original problem</td>
</tr>
<tr>
<td>• My explanation includes enough detail so no one has questions on what my work represents</td>
<td>• When I used pictures, symbols, and/or diagrams, they were incomplete or only helped my explanation a little bit</td>
<td>• The pictures, symbols, and/or diagrams I used would not help someone understand what I did</td>
</tr>
</tbody>
</table>
Clarifying Learning Targets

Graphing Parametric Equations Follow-Up

1. Write a description of the motion of the hammer.
   The hammer is thrown up and then falls down.

2. Write a description of the motion of the hammer.
   The hammer is thrown at a height of 60 ft, where time is 0 sec and velocity is 100 ft/sec. The hammer then reaches its highest height at 0.5 sec (where time is 0.5 sec), where height, drops, time increases, and velocity decreases.

3. Write a description of the motion of the hammer.
   For the first 1 sec, the hammer's height is increasing. Then, for the last 2 sec, the hammer's height is decreasing, and the velocity is increasing; the hammer is moving faster.

4. Write a description of the motion of the hammer.
   Initially, the hammer is thrown upward starting at a height of 50 feet and velocity of 30 feet/sec. The hammer reaches its highest point at around 0.9 sec at 209.014 feet (the velocity is close to 0.014 at that point). The hammer begins to descend (i.e., fall). Its height decreases at a constant rate until it hits the ground.
## Action Research

<table>
<thead>
<tr>
<th></th>
<th>Task 1 (n = 59)</th>
<th>Task 2 (n=59)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>Developing</td>
<td>Beginning</td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>35</td>
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<tr>
<td>Average: 1.13559322</td>
<td>Average: 1.93220339</td>
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</tbody>
</table>
Grading Change

Course: 06121A / GEOMETRY  
Sec: 01  Prd: 2  Room #: E121  

<table>
<thead>
<tr>
<th>Cat</th>
<th>Wk</th>
<th>Day</th>
<th>Due</th>
<th>Assignment</th>
<th>Earned</th>
<th>Possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSN</td>
<td>02</td>
<td>Fri</td>
<td>09/17</td>
<td>Math Autobiography</td>
<td>5.00</td>
<td>5.00</td>
</tr>
<tr>
<td>ASSN</td>
<td>04</td>
<td>Mon</td>
<td>09/27</td>
<td>Level of Engagement warm-up</td>
<td>2.00</td>
<td>2.00</td>
</tr>
<tr>
<td>ASSN</td>
<td>04</td>
<td>Fri</td>
<td>10/01</td>
<td>UndCk: Dimensions</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>ASSN</td>
<td>04</td>
<td>Fri</td>
<td>10/01</td>
<td>UndCk: 0-D</td>
<td>2.00</td>
<td>2.00</td>
</tr>
<tr>
<td>ASSN</td>
<td>04</td>
<td>Fri</td>
<td>10/01</td>
<td>UndCk: notation</td>
<td>3.00</td>
<td>3.00</td>
</tr>
<tr>
<td>ASSN</td>
<td>04</td>
<td>Fri</td>
<td>10/01</td>
<td>UndCk: measurement</td>
<td>1.50</td>
<td>2.00</td>
</tr>
<tr>
<td>ASSN</td>
<td>04</td>
<td>Fri</td>
<td>10/01</td>
<td>UndCk: coordinate graphing</td>
<td>2.00</td>
<td>2.00</td>
</tr>
<tr>
<td>ASSN</td>
<td>04</td>
<td>Fri</td>
<td>10/01</td>
<td>UndCk: coordinate distance</td>
<td>2.00</td>
<td>2.00</td>
</tr>
<tr>
<td>ASSN</td>
<td>04</td>
<td>Fri</td>
<td>10/01</td>
<td>UndCk: coordinate collinearity</td>
<td>2.00</td>
<td>2.00</td>
</tr>
<tr>
<td>ASSN</td>
<td>04</td>
<td>Fri</td>
<td>10/01</td>
<td>UndCk: coordinate midpt</td>
<td>0.00</td>
<td>2.00</td>
</tr>
<tr>
<td>ASSN</td>
<td>06</td>
<td>Thu</td>
<td>10/14</td>
<td>Dimensions Unit Packet</td>
<td>23.40</td>
<td>25.00</td>
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<tr>
<td>ASSN</td>
<td>06</td>
<td>Fri</td>
<td>10/15</td>
<td>Dimensions Unit Test</td>
<td>30.00</td>
<td>50.00</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Total for Assignments</strong></td>
<td>73.90</td>
<td>98.00</td>
</tr>
</tbody>
</table>

Attendance Totals:  
Excused: 2  
Unexcused: 0  
Tardies: 1

Once you check for accuracy, please take this home and share it with your parents and guardians.  
See me to set up a time if you have questions about your grade or progress.
Rethinking Intervention and Accommodation

- Specific Targets and Goals
- Activate Students as Owners of their own Knowledge
- Time is a variable, Learning is Fixed
- Opportunities to display knowledge
- Summer school Differences and After School Program
Rethinking Intervention and Accommodation

Accommodate the Negative

<table>
<thead>
<tr>
<th>Standards</th>
<th>I understand this concept completely</th>
<th>I understand this concept but made small errors or omissions</th>
<th>I was able to begin the problem in a large number of instances</th>
<th>I was not able to begin the problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations with rational numbers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can order integers and rational numbers</td>
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<td></td>
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<tr>
<td>I can add integers and rational numbers</td>
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<tr>
<td>I can subtract integers and rational numbers</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>I can multiply integers and rational numbers</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>I can divide integers and rational numbers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can decide whether to add or subtract in a context</td>
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<tr>
<td>I can choose problems and find a line of fit for a real time of 30 in</td>
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</tr>
<tr>
<td>Number Properties</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can use the distributive property to solve an equation with numbers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can use the distributive property to evaluate an expression with numbers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can use order of operations to correctly solve with more than one operation</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>I understand the commutative property for various operations at work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standards</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can order integers and rational numbers</td>
<td>Negative numbers: ( -\frac{1}{2}, -2, -1 ) ( ), integers: ( -4, -3, 0, 1 ) ( ), rational numbers: ( -2, -\frac{3}{2}, 0, 3 ) ( ), rational numbers: ( -2, -\frac{3}{4}, 0, 3 ) ( )</td>
</tr>
<tr>
<td>I can add integers and rational numbers</td>
<td>( -4 - 1 = -5 ) ( ), integers: ( -4 - 1 = -5 ) ( ), rational numbers: ( -2 - \frac{3}{4} = -\frac{11}{4} ) ( ), rational numbers: ( -2 - \frac{3}{4} = -\frac{11}{4} ) ( )</td>
</tr>
<tr>
<td>I can subtract integers and rational numbers</td>
<td>( 1 + 2 = 3 ) ( ), integers: ( 1 + 2 = 3 ) ( ), rational numbers: ( 1 + \frac{3}{4} = 1\frac{3}{4} ) ( ), rational numbers: ( 1 + \frac{3}{4} = 1\frac{3}{4} ) ( )</td>
</tr>
<tr>
<td>I can decide whether to add or subtract in a context</td>
<td>Johnson owed his sister ( $6.00 ). He earned $4.00) delivering papers. What is his net worth?</td>
</tr>
<tr>
<td></td>
<td>One-color chip (black) represents positive numbers and another chip (red) represents negative numbers.</td>
</tr>
<tr>
<td></td>
<td>Collections of black and red dots on a board represent the combination of positive and negative. The result, or net worth, is that he is ( “in the red” ), or ( “in debt” ). This problem may be represented with the number sentence: ( 12 - 18 ). To calculate ( 15 - 7 ), the result is the same as ( 15 - 7 ).</td>
</tr>
<tr>
<td></td>
<td>To calculate ( 12 - 18 ), the result is the same as if you subtract ( 8 ) in the problem, ( 12 - 8 ). To calculate ( 15 - 7 ), the result is the same as ( 15 - 7 ).</td>
</tr>
<tr>
<td>I can multiply integers and rational numbers</td>
<td>( 8 \times (-3) ) ( ), this can be represented as ( 8 ) jumps of ( “-6” ) on the number line. ( “-6 + -6 + -6 + -6 + -6 + -6 + -6 = -48” ) ( ), or ( “-6 \times 6 = -36” ) ( )</td>
</tr>
<tr>
<td>I can divide integers and rational numbers</td>
<td>We know that ( 5 \div 2 = 2.5 ). Write the related division sentence: ( 10 \div 5 = 2 ) and ( 15 \div 5 = 3 ). From this relationship students can determine the answer to a division problem.</td>
</tr>
<tr>
<td>I can decide whether to multiply or divide in a context</td>
<td>Multiplication can be explored using a number line modeled and “counting” occurrences of fixed-size movement along the number line. Direction of movement introduces negative and positive numbers. For example: ( Hahn passes the 0 point running 5 meters per second to the right. Where is he 10 seconds later? ) ( ) ( Aandra passes the 0 point running to the left or 5 meters per second. Where is she 8 seconds later? ) ( )</td>
</tr>
</tbody>
</table>
Where do we go from here?

• Continue to grow and improve
  ◦ Administrators trained as coaches and members of teams
  ◦ Grading system pilots
  ◦ Get really good
  ◦ More Subject Area and Cross Discipline Teams
  ◦ People are interested in joining
Presenters

- Sean Carmody, Curriculum & Instruction Specialist
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