

# Orientation for Coaches

Research Partners



Funding By The National Science Foundation

Discovery Research K-12 Program, Award No. 0918326



# EMC Coaching Definition

A mathematics coach is an on-site professional developer who enhances teacher quality through collaboration, focusing on research-based, reform-based, and standards-based instructional strategies and mathematics content that includes the why, what, and how of teaching mathematics.

# Coaching . . .

- It is a big investment from a teacher to engage in coaching cycle.
  - Time commitment
  - Emotional risk-taking
- Coaching can have an enormous impact on teacher practice.



# Coaching Cycle for EMC Project

- The coaching cycle will be completed eight times per year with each of three teachers.
- Four of the eight coaching cycles will focus on Number Sense and Operations.
  - This may look different at different grade levels, ranging from arithmetic to fractions and ratios to proportional reasoning.



# Coaching Cycle for EMC Project

There are three distinct parts to each coaching cycle designed to examine mathematics instruction.

- Pre-Lesson Conference (~15 minutes)
- Lesson Observation (entire class period)
- Post-Lesson Conference (~30 minutes)



# Pre-Lesson Conference

**Purpose: to develop a shared view of the upcoming lesson**

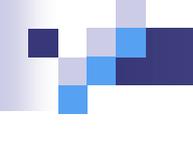
- Mathematical content and goal
- Instructional tools and strategies
- Potential challenges for students
- Areas of special focus for coach
- Evidence coach should collect



# Pre-Lesson Conference

## Encourage the teacher to share/discuss:

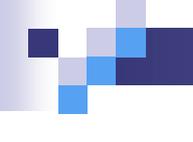
- What mathematics should students know and understand as a result of lesson?
- What should you watch for as evidence of student understanding?
- What challenges, questions, or concerns should you focus on?



# Pre-Lesson Conference

## Make the teacher aware that:

- This is an observation for the teacher's benefit, **not** an evaluation of any kind.
- It's all right to deviate from original plan if a "teachable" moment arises.



# Pre-Lesson Conference

## Logistics

- Allow at least 15 minutes to discuss the upcoming lesson.
- Use e-mail, phone, or a drop-in visit to schedule the pre-lesson conference.
- If possible, schedule all three parts of the cycle (pre-lesson conference, classroom observation, post-lesson conference) as a whole.



# Lesson Observation

Your role is to be a data collector.

- Focus on the issue(s) you discussed with the teacher in the pre-lesson conference.
- Document the relevant mathematics content and strategies used to teach it.
- Collect evidence of student learning.



# Lesson Observation

Good observation is essential for a worthwhile post-lesson conference.

Take detailed notes using some form of organizer.

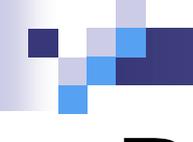
- Decide beforehand whether you will share notes with teacher – this will affect what is written.
- Note all relevant aspects of the classroom and instruction that affect the lesson.



# Post-Lesson Conference

## Purpose:

- Analyze evidence together to interpret what students know and are able to do as a result of the lesson.
- Reflect on teacher moves that uncovered or advanced students' mathematical understanding.



# Post-Lesson Conference

## Logistics

- At least 30 minutes will be needed.
- Ideally, meet immediately following the classroom observation. Otherwise, schedule a time close to the observation.
- Face to face interaction is best for this stage.



# Coach & Teacher Reflection Instrument (CTRI)

- The CTRI collects information about coaching relationships, mathematics content discussed, and impact of coaching on instruction.
- Coaches and teachers individually complete instrument online in May of each year (2010-2014).



# Thank You!

Have we answered your questions about:

- The EMC project?
- The EMC coaching model?
- EMC research tools and expectations?
- How you will benefit from participating?

We look forward to working with you over  
the next five years!





## **Contact Us:**

**James Burroughs, EMC Project Director**  
**Phones: (406) 994-3911 or (877)572-5032**

**Email: [emc@math.montana.edu](mailto:emc@math.montana.edu)**

**Web: [www.math.montana.edu/~emc/](http://www.math.montana.edu/~emc/)**

