

# Becoming a Consumer of Coaching

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Research Partners



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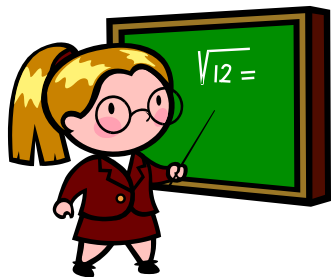
# SESSION AGENDA

- Description of Examining Mathematics Coaching (EMC) project
- Coaching practices
- Framework for consumers of coaching
- Tools to maximize coaching effectiveness

# MATHEMATICS COACHING

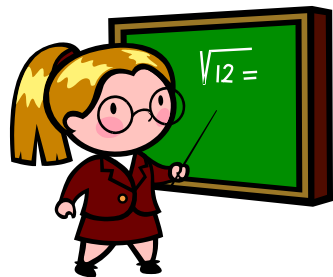
Mathematics classroom coaching is gaining popularity as a school-based effort to increase teacher effectiveness and student achievement.





# WHY STUDY COACHING?

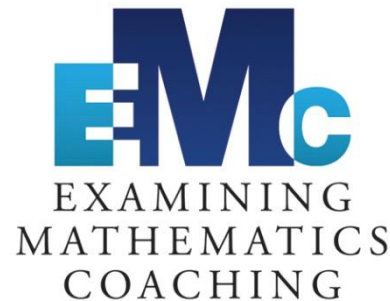
- Coaching is a promising model for enhancing mathematics teachers' abilities to provide quality mathematics education.
- Coaching can be implemented at any point in a teacher's career (as opposed to mentoring).



# WHY STUDY COACHING?

- There is limited understanding of coaching effectiveness, especially in mathematics.
- Moreover, no studies have demonstrated what types and depths of knowledge effective coaches hold.
- At the same time, implementing coaching involves considerable cost and logistical effort for schools and districts.

# EXAMINING MATHEMATICS COACHING PROJECT

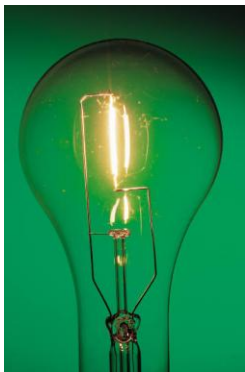


EMC is a five-year research and development project funded by NSF examining the effects of a coach's “knowledge for coaching” on a diverse population of K-8 teachers.



# MATHEMATICS COACHING DEFINED

With the person next to you, or with a couple of people around you, take a moment and share your thoughts about the skills a mathematics coach needs by completing the following sentence starter:



A mathematics coach is ...



# MATHEMATICS COACHING DEFINED

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 include the **why, what, and how** of teaching mathematics.





# Mathematics Coach: EMC Definition

A mathematics coach is...

**an on-site professional developer**





# Mathematics Coach: EMC Definition

A mathematics coach...

**enhances teacher quality through  
collaboration**



# Mathematics Coach: EMC Definition

A mathematics coach focuses on...

**research-based, reform-based, and  
standards-based instructional  
strategies**



# Mathematics Coach: EMC Definition

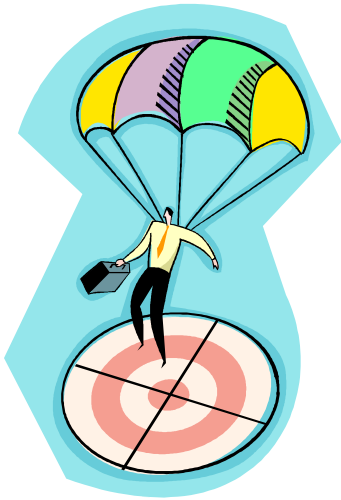
A mathematics coach focuses on...

**mathematics content that includes  
the why, what, and how of teaching  
mathematics**

# EFFECTIVE COACHING PRACTICE

A coach should:

- Ask reflective questions
- Provide feedback
- Share materials and resources
- Maintain confidentiality
- Use a coaching cycle:
  - Gather information before the lesson
  - Observe a complete lesson
  - Collect and document evidence
  - Debrief and reflect after the lesson



# EMC COACHING MODEL

## Coaching Cycle

- **Pre-conference** of at least 15 minutes focused on planning for upcoming lesson with emphasis on teacher's stated goals, objectives, and needs
- **Observation** or model of a lesson
- **Post-conference** of at least 30 minutes reflecting on planned teacher actions

Coaching will focus on aspects of standards-based teaching as defined by NCTM process and content standards, not on generic pedagogy such as classroom management

# BOUNDARIES OF COACHING

A coach generally does not:

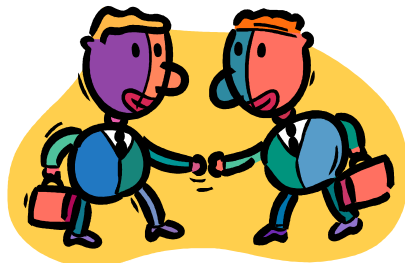
- Evaluate teachers.
- Take over during a lesson.
- Impose specific lessons or instructional strategies.
- Tutor struggling students.
- Perform the support services of an aide.

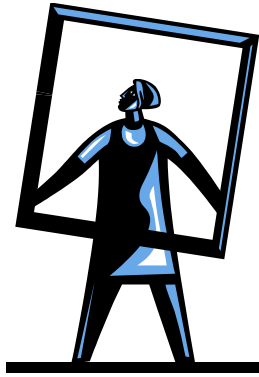




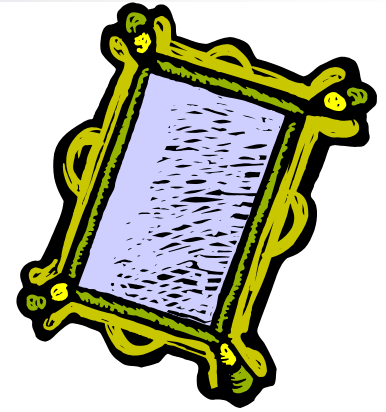
# COMPLEXITY OF COACHING

- Coaching is a collaborative process that is done with teachers, not to teachers.
- Coaching is a joint effort from both the coach and the teacher(s) involved.
- Coaching support is useful only if the teacher and coach are prepared, and willing to listen, internalize, and respond accordingly.





# WHAT'S MISSING FROM THE PICTURE?



- Burden of the **partnership, relationship,** and **collaboration** is on the coach only.
- Coaches are only as effective as their teachers will allow.



# BECOMING CONSUMERS OF COACHING

A commitment to creating a collaborative and rewarding coaching relationship will help maximize the benefits of coaching.

- A wise consumer of coaching makes the most of this educational investment.
- Consumers of coaching address the teacher's role in coaching process.

# BECOMING CONSUMERS OF COACHING



Discuss with a neighbor:

***What might be the expectations from teachers who are being coached in order to make coaching effective and collaborative?***

# CONSUMER OF COACHING FRAMEWORK



- Feedback
- Reflection
- Classroom expectations
- Content
- Structure
- Communicating needs

# FEEDBACK

- Effective coaching requires feedback.

*An effective consumer of coaching asks the coach for targeted feedback.*



# REFLECTION

- Coaching is a reflective process.

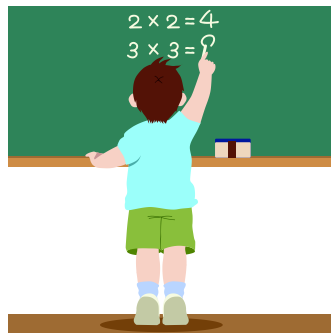
*An effective consumer of coaching is open to reflection and is an active participant in the reflective process.*



# CLASSROOM EXPECTATIONS

- Effective coaching requires teachers to communicate their expectations for coaches as the lesson transpires.

*An effective consumer of coaching tells their coach what kind of classroom interaction he/she desires.*

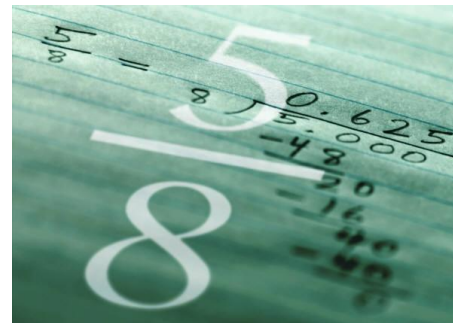
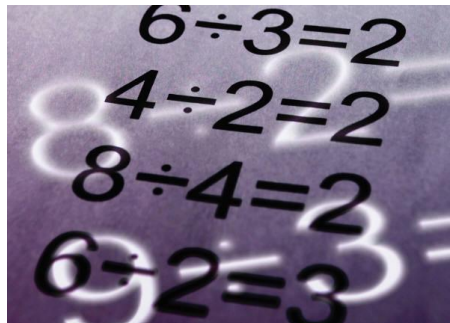




# CONTENT

- Effective coaching is content-based.

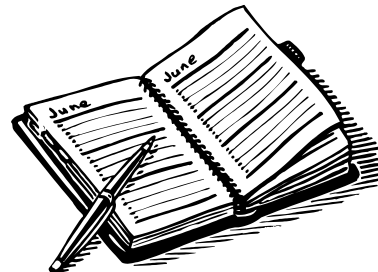
*An effective consumer of coaching is willing to examine her or his own mathematics content knowledge.*



# STRUCTURE

- Effective coaching is structured and involves at least three components: a pre-lesson conference, a lesson observation, and a post-lesson conference.

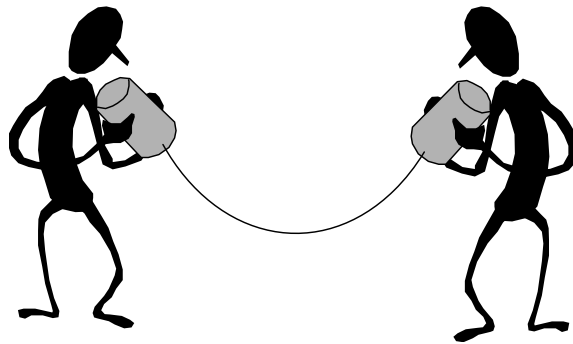
*Effective consumers of coaching help coaches schedule the 3-part cycle.*



# COMMUNICATING NEEDS

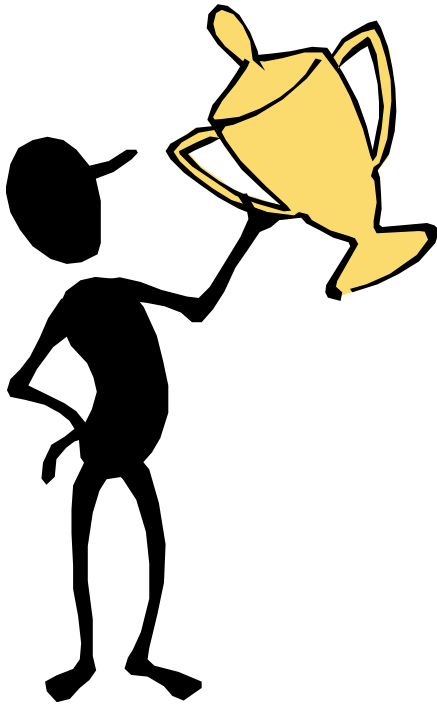
- Effective coaching requires teachers to communicate their needs.

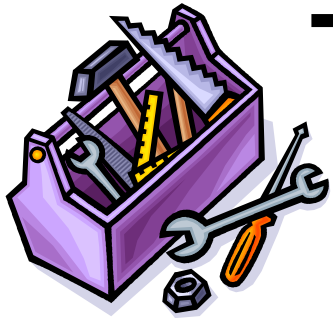
*An effective consumer of coaching tells the coach what he/she needs.*



# CONSUMERS OF COACHING ARE ABLE TO:

- assess their own needs;
- assess their performance;
- ask for help from others;
- provide context as needed;
- listen to and hear ideas;
- overcome anxious feelings;
- assess and communicate needs;
- assist in scheduling.





# TOOLS TO SUPPORT COACHING

The Examining Mathematics Coaching (EMC) project has developed and refined tools to help coaches and teachers in the coaching process.

- Coaching Skills Inventory
- Teacher Needs Inventory
- Reflections (Coach and Teacher)

# EMC

## COACHING SKILLS INVENTORY

...is intended to measure  
a coach's perspective  
on his/her own  
level of effectiveness or confidence  
with various coaching responsibilities.





# EMC

## COACHING SKILLS INVENTORY

Areas explored include:

- Coach/Teacher relationships
- Coaching skills
- Mathematics content
- Mathematics-specific pedagogy
- General pedagogy
- Background & practices as an educator

# EMC COACHING SKILLS INVENTORY

## I. Coach/Teacher Relationships

	Not at All Effective				Very Effective
	1	2	3	4	5
1. How effective do you feel observing lessons and giving teachers feedback?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. How effective do you feel creating environments where teachers reflect openly on their instructional practices?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. How effective do you feel helping teachers set goals and objectives aimed at improving their instruction?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. How effective do you feel creating an environment of open discussion and constructive criticism with teachers?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



# EMC

## TEACHER NEEDS INVENTORY

...is designed to help the teacher take ownership of the coaching process.

The responses are used by the coach as a tool to help focus the coaching and increase effectiveness.





# EMC

## TEACHER NEEDS INVENTORY

Areas explored include:

- Teaching conceptual/inquiry-based lessons
- Classroom environment
- Conceptual understanding of mathematics
- Mathematics content knowledge
- Classroom management

# EMC TEACHER NEEDS INVENTORY

## IV. MATHEMATICS CONTENT KNOWLEDGE

	Not at all Confident					Regarding this topic, ...		
	1	2	3	4	5	<i>I would not like to partner with my coach.</i>	<i>I'm not sure I would like to partner with my coach.</i>	<i>I would like to partner with my coach.</i>
15. How confident are you with the mathematics you teach?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. How confident are you with the mathematics beyond the mathematics that you teach, meaning the next grade level?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. How confident do you feel planning lessons that include fraction concepts?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. How confident do you feel planning lessons that include number sense and operations?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# EMC TEACHER NEEDS INVENTORY

How confident do you feel using cooperative learning?

Not at all  
confident

Very  
confident

1

2

3

4

5

---

I would not like to partner with coach on this topic.	Not sure if I would like to partner with coach on this topic.	I would like to partner with coach on this topic.
[ ]	[ ]	[ ]

# Teacher 1

- Responses exhibit the expected pattern: high part a (b) then low part b (a).
- But look at items 20 and 21.

20. How confident do you feel with classroom management?

Not at All Confident					Very Confident	
1	2	3	4	5		

I would not like to partner with my coach on this topic.	I'm not sure if I would like to partner with my coach on this topic.	I would like to partner with my coach on this topic.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. How confident do you feel managing a classroom where students are engaged in inquiry-based or discovery-based tasks?

Not at All Confident					Very Confident	
1	2	3	4	5		

I would not like to partner with my coach on this topic.	I'm not sure if I would like to partner with my coach on this topic.	I would like to partner with my coach on this topic.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# Teacher 1

- This response is consistent with the teacher's response on item 1b.

1. How confident do you feel incorporating investigative, inquiry-based or discovery-based mathematics learning into your lessons?

Not at All Confident				Very Confident
1	2	3	4	5

I would not like to partner with my coach on this topic.	I'm not sure if I would like to partner with my coach on this topic.	I would like to partner with my coach on this topic.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



# Teacher 1

Teacher's responses suggest that the coaching sessions could focus on inquiry and discovery lessons.



# Teacher 2

- Response pattern suggests an openness to all coaching efforts.
- Variation in self-reported confidence levels, but consistently lower confidence with “richness” of mathematics items (e.g., 3, 9, 10, 11, 12, 13, 16, & 17).

3. How confident do you feel engaging students in mathematical abstraction and sense-making (including symbol use, theory building, and justification and reasoning)?

Not at All Confident					Very Confident	
1	2	3	4	5		

I would not like to partner with my coach on this topic.	I'm not sure if I would like to partner with my coach on this topic.	I would like to partner with my coach on this topic.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

9. How confident are you with the mathematical reasoning behind the mathematics you teach – meaning the understanding of *why* we teach it, *how* it relates to other mathematics topics, and *why* it is valid?

Not at All Confident					Very Confident	
1	2	3	4	5		

I would not like to partner with my coach on this topic.	I'm not sure if I would like to partner with my coach on this topic.	I would like to partner with my coach on this topic.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



# Teacher 2

Teacher's responses would be a springboard for conversations, planning, and reflections about the richness of the mathematics in the teacher's classroom.

# EMC COACH & TEACHER REFLECTIONS

... are tools for monitoring and logging coaching interactions.

- Quantity, quality, and duration of coaching sessions
- Coaches' and teachers' perceptions of coaching's impact on instruction



# EMC COACH & TEACHER REFLECTIONS

Areas explored include:

- Interactions with the coach / teacher
- Frequency of various activities:
  - pre-lesson conference,
  - observation,
  - post-lesson conference,
  - modeling a lesson, etc.



# EMC COACH & TEACHER REFLECTIONS

Areas also explored:

- Mathematics content
- Mathematical concept and inquiry
- Classroom environment/culture
- Reflection and planning
- Impact on teacher practice



# EMC COACH REFLECTION & IMPACT

## Mathematics Content

	Not at All				To a Great Extent
	1	2	3	4	5
a. The teacher and I discussed significant and worthwhile mathematical content.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. The teacher and I discussed mathematical content at the grade level(s) she/he teaches.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. The teacher and I discussed ways to increase the level of cognitive demand of the mathematical content being taught.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. The teacher and I discussed mathematical content beyond the grade level(s) she/he teaches.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# EMC TEACHER REFLECTION & IMPACT

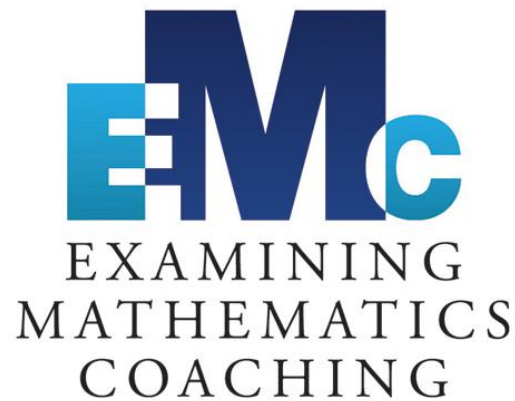
## Reflection and Planning

	Not at All				To a Great Extent
	1	2	3	4	5
o. My coach and I set goals and objectives aimed at implementing ideas and addressing issues we discussed.	0	0	0	0	0
p. My coach and I were reflective about my students' learning.	0	0	0	0	0
q. My coach and I were reflective about my teaching practices.	0	0	0	0	0



# BECOMING A CONSUMER OF MATHEMATICS COACHING: EXPECTATIONS AND RESPONSIBILITIES

- Questions ???
  - Insights ...
    - Ideas ...
- Comments ...



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