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WELL-STRUCTURED QUESTIONS... WHERE WILL THEY TAKE YOU?

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**NATIONAL COUNCIL OF SUPERVISORS OF
MATHEMATICS CONFERENCE**

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NCTM Teaching Principle

“...effective teaching involves observing students, listening carefully to their ideas, having mathematical goals, and using the information to make instructional decisions.”

Principles and Standards for School Mathematics, 2005

NCTM Teaching Principle

“Effective teaching requires continuing efforts to learn and improve...including learning about mathematics and pedagogy, benefitting from interactions with students and colleagues, and engaging in ongoing professional development and self-reflection.”

Principles and Standards for School Mathematics, 2005

NCTM Teaching Principle

“...opportunities to reflect on and refine instructional practice...engaging in reflective practice and continuous self-improvement are actions good teachers take everyday.”

Principles and Standards for School Mathematics, 2005

What can we do as leaders in our schools to implement and support effective professional learning opportunities for teachers?

Instructional Coaching

- Take a few moments to envision the characteristics of an effective instructional coach.
- Keeping this image in mind, describe your vision of an effective instructional coach to a nearby colleague.

Instructional Coaches:

- work with teachers to incorporate research-based instructional practices and model these practices with students thus providing “on-the-job learning”;
- use a partnership approach to assist teachers toward realizing their professional goals, respecting each teachers’ professionalism, and making connections to the person and/or situation to help guide future planning and decision making;

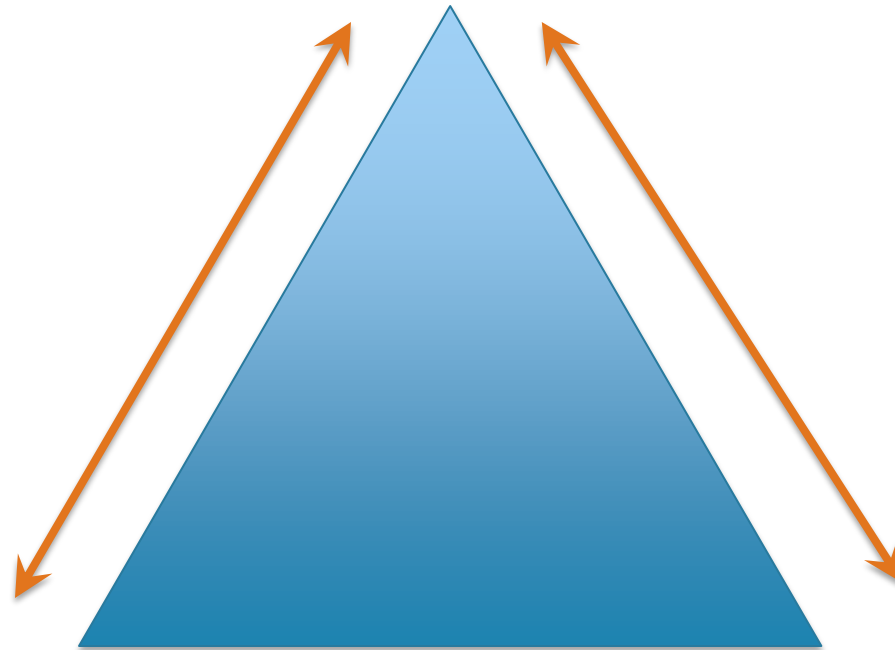
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- utilize strong communication skills to listen, empathize, build relationships, and develop trust; and
- function effectively in facilitating teachers' reflection about their classroom practice by focusing their efforts on conversations that lead to creative and practical application of research based practices.

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Mathematics
Content and Tasks



Student Engagement
and Learning

Teacher Decisions
and Actions

Vignette

- When you reflect on the conversation, summarize what you noticed about the exchange between the teacher and instructional coach.
- As you revisit the questions posed to the teacher, describe the structure of the questions.
- Take a moment to think about conversations you have engaged in your role in your district and compare and contrast this vignette to those experiences.

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Mrs. Foley needs to buy drinks for her daughter's birthday party.

She wants to buy both apple juice and grape juice.

Cans of apple juice are sold in 6 packs.

Cans of grape juice are sold in 4 packs.

Mrs. Foley needs to buy at least 26 but no more than 30 cans of juice.

How many packs of apple juice can she buy?

How many packs of grape juice can she buy?

Show or explain how you got your answer.

View video:

<https://mathsolutions.wistia.com/projects/wtmsx3txyj>

As you view the video,

- identify what the students know and what they are still working to understand.
- notice questions that were used to prompt student engagement or dialogue.
- consider how classroom discussion contributed to learning opportunities in the lesson.

Your Task

Thinking like an instructional coach, work with a partner to :

- share observations from the video;
- record your “thought bubble” thinking – ideas important to discuss with the teacher; and
- prepare a draft of well-structured questions that could be used during a debrief conversation with the teacher .

Processing

As you think about structuring questions with an *invitation to think*, a *cognitive process*, and a *specific topic*, speculate what the outcomes may be on teachers' thinking, self-reflection, and classroom instruction.

Structuring Questions

“A well-structured question is an invaluable tool in our repertoire to promote teacher learning.”

Costa and Garmston 2002



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