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High-leverage ideas

RESEARCH UPDATES BEST PRACTICES IN FOUR AREAS OF TEACHING THAT CAN POWER YOUR IMPROVEMENT

By Valerie von Frank

In 1984, when Apple came out with the Macintosh, the computer had 128 kilobytes of memory. This year, computers being sold for home use can store terabytes worth of information — the equivalent of a trillion bytes.

Jim Knight, research associate at the University of Kansas Center for Research on Learning, likes to use the phenomenal advances in the computer example when he explains education today.

"Every year, the computer gets better and better," said Knight, "but we have a lot of teaching practices produced in 1984 that look exactly the same today."

Nearly a decade ago, Knight began investigating what he terms "high-leverage" teaching practices, those that have the greatest effect on student learning. In what he emphasizes is an ongoing and evolving project, he has identified four key high-impact areas: classroom management, content planning, instruction, and assessment for learning. Drawing in addition on other national leaders in some of these foci, Knight is working with teacher leaders and instructional coaches throughout the country to define and refine best practices in schools and classrooms, with the goal of creating a simple framework, tied to teaching practices, that educators can use to take a comprehensive look at instruction.

What's inside

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He outlines each of the four areas in specific, data-driven terms. Each area has teaching practices that can be observed and tools to support it.

1. Classroom management

Knight said feedback from coaches raised the profile on this key issue, and the researchers partnered with Randy Sprick to help outline positive practices. Teachers with excellent classroom management skills:

- Provide structure by listing activities and transition times.
- Explicitly teach students their expectations. For example, students need to know what kinds of conversation are appropriate during transitions versus group activities or teaching or test taking.
- Praise more than they criticize students. Knight said youngsters are like plants in a window that lean toward sunlight. Kids respond by acting in ways that gain them more positive reinforcement.

The coach's role is to look for how teachers are working with students, to measure that, and to help teachers to improve by looking at the data collected. Coaches can observe teachers and ask:

- Are students engaged?
- How many disruptions to learning occur during class?
- How often does the teacher praise students compared with how often she corrects them?
- Do students know how they are expected to act during activities and transitions?

If a coach observes a teacher and finds that students are on task just half the time, for example, and the goal is 90% of time on task, the coach might use that observation to offer suggestions to the teacher: increase students' opportunities to respond, ask students more questions, be clearer on expectations, or consider activities that might be more engaging.

To improve the ratio of praise, the coach might suggest that the teacher watch for specific behaviors and aim for a specific number of positive statements, post a reminder to himself to remember to praise students, offer more unconditional praise at the beginning of the class, survey students' interests to look for areas to praise, or other ideas.

Another measure is the amount of time students take for transitions. If students spend five minutes transitioning from one activity to another and take that long four times in a day, that's 20 lost minutes of instructional time, Knight said.

The key is to gather information during an observation. "Usually just showing data can be a powerful tool to help teachers identify ways they can improve," Knight said.

2. Content planning

Knight, building on the work of Keith Lenz and his colleagues at the University of Kansas Center for Research on Learning, suggests that teachers will be more effective if they are intentional about what they teach. Becoming intentional can involve such activities as developing essential questions for a unit and then mapping lessons for students, Knight said. Teachers should vary their questions according to the levels in taxonomies such as those created by Bloom or Costa, with higher-level thinking questions that prompt students to go beyond regurgitating information.

Mapping the unit in bubbles, like a mind map, is a useful tool for laying out information to focus on what the teacher wants the students to know. These unit maps can help organize the teacher's planning, Knight said, and serve as a reminder to students of the content they've cov-

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WAYS TO COACH

Jim Knight says coaches help teachers with instruction through:

- Interviews;
- Small or large group presentations;
- One-to-one conversations;
- Modeling while the teacher gathers data;
- Observations of the teacher.

An important aspect of coaching, Knight said, is respecting teachers' professionalism and partnering with them to affirm their agreement with any aspects of the coaching plan or tools, or to modify actions so the tools work for the teacher. "Teachers don't want a ready-made checklist that somebody cooked up somewhere; they want a voice in what it looks like," Knight said, so the coach gets the teacher's agreement on each aspect of tools they use. "Reflection is the heart of the coaching conversation."

ered before beginning a new lesson. As the unit progresses, teachers elaborate on the map, he said. He likened these maps to a Global Positioning System that tells where you are and how to get where you are going.

Knight said coaches can use a checklist with teachers of what good questions look like and help teachers build concept maps or visual unit organizers.

NSDC'S BELIEF

Every student learns when every educator engages in effective professional learning.

3. Instruction

Knight makes a distinction between two kinds of learning: mechanical and metaphorical learning. Mechanical learning occurs when students learn information that has very clear, correct answers, such as two times two equals four or the names of the five Great Lakes. Mechanical learning, he said, is best taught through an intensive-explicit or direct instruction approach.

Other content, he said, doesn't have one right answer. There are multiple ways to solve a problem or answer the question, "Is this a beautiful poem?" He said this kind of learning is best taught through constructivist practices.

"What happens in schools sometimes is teachers adopt one way or the other way; they say everything is constructivist or everything is direct instruction," Knight said. "The trouble with everything being constructivist is there may be some really important information the kids absolutely have to master, and they don't. The flip side is that if you do everything direct instruction, you take the beauty and the joy and the fun and the complexity out of the content." Teachers should vary their instruction based on the content.

For "mechanical" information, teaching involves intensive explicit instruction to help the student master the information and move on. Teachers use:

- Pretests of students' knowledge;
- A student "contract" outlining the students' commitment to learning;
- Clear explanation of what students need to know;
- Modeling of processes to be learned;
- Numerous practice attempts;
- Frequent checks for understanding;
- Constructive feedback;
- Many opportunities to respond;
- Precise monitoring of students' progress.

The constructivist approach for "metaphorical knowledge" provides learning opportunities that empower students to make their own sense of what they are learning. Constructivist teaching practices include:

- Cooperative learning;
- Experiential and project-based learning;
- High-level questioning;
- Journaling and other thinking devices.

4. Assessment for learning

Knight, who said he was greatly influenced by the work of Richard Stiggins, said he believes instruction is more effective and students are more motivated when teachers and students know precisely how well each student is doing in a course.

To accomplish this, instructional coaches guide teachers through a planning process which involves (a) identifying essential questions (this usually happens during the content planning phase); (b) determining the correct answers to those questions (which might involve developing short propositional statements or rubrics); and (c) creating checks for understanding so that teachers and students know how well they are performing.

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INVITING TEACHERS AND COACHES

Using a wikipedia approach to the project, Jim Knight is developing tools that coaches can use to enhance teachers' practices in the four areas. "You don't ever say, 'Well, I'm done learning now,' " he said. So he invites teachers and instructional coaches to use the tools and provide feedback based on their experiences to improve the tools for other users. Log on to www.instructionalcoach.org to download many of the teaching/coaching tools described here, along with many other tools that teachers and coaches might find useful. Knight solicits feedback through Twitter and e-mail at jimknight@mac.com.

Checks for understanding might then be:

- Student responses during class, from a thumbs-up or answers on whiteboards;
- Questioning in class;
- Brief or extended writing assignments;
- Paraphrasing comments;
- Student performance;
- Student products;
- Interviewing students.

"The coach helps the teacher create the questions, answer the questions, and come up with the checks for understanding," Knight said. "Teachers should be able to look at the class and know where every student is and every student should know where they are in terms of progress in class."

Learning in action

These four areas came out of conversations with teachers and coaches, Knight said. "These areas have emerged organically," he said. "We didn't set out to create a model. We began through reflective practice and tried things out. Everything we say is translated into a practical teaching practice, and there's a tool for it. … It's not really finished; it's just that this is where we are right now. And this is all still evolving and will continue to evolve.

"We can continually improve, become better and better," Knight said. "But better doesn't have to mean more complicated; it means either easier or more powerful." ◆

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