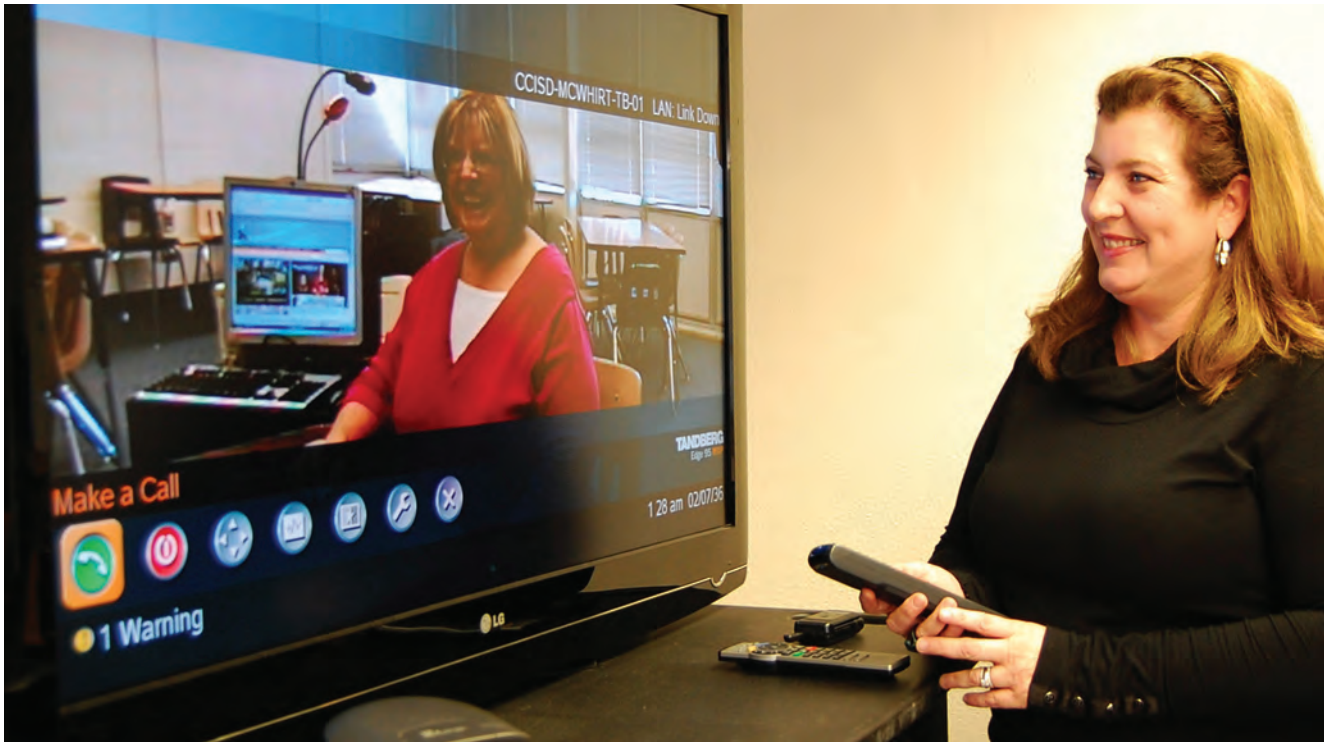

Photo by LAUREN JEFFCOAT

Allison Leonard brings up an image of Sue Chapman on her monitor. Leonard co-facilitates distance learning sessions at McWhirter Elementary Professional Development Laboratory School in Webster, Texas.

TIGHT BUDGET LOOSENS CREATIVITY

SCHOOL TURNS TO DISTANCE LEARNING TO STRETCH DEVELOPMENT DOLLARS

By Sue Chapman

At 8:15, mathematics coach Allison Leonard turns on the webcam and checks the document camera to make sure it is ready to go. At 8:17, Lori Squires, a mathematics staff developer, comes into view on the computer monitor and greets Leonard. They chat for a minute about the weather. It's raining in Texas, where Leonard is adjusting the volume on the speakers, but it's dry and sunny in Nevada, where Squires sits at her computer. Leonard and Squires review the agenda for the day. Squires will meet with three teams of teachers through distance learning this morning. Each session will last for approximately one hour.

With the kindergarten team, Squires will model a math assessment that teachers have never administered. One of the teachers is bringing a student to the session. The student will sit next to his teacher so he feels comfortable in this new setting. Squires will ask him to perform a series of tasks with manipulatives. She will also ask questions to

assess the student's understanding of foundational math concepts while the kindergarten teachers take notes about his responses. After the student returns to class, Squires will answer teachers' questions about assessment procedures. She'll prompt a discussion of what teachers noticed and guide them in considering what this assessment reveals about the child's current understandings and learning needs. Over the next few weeks, teachers will administer this same mathematics performance assessment to all of the students in their classes. Their next distance learning session with Squires will be used to share and discuss these results, just as the 1st- and 2nd-grade teachers are doing later this morning.

During today's sessions with the 1st- and 2nd-grade teams, Squires and Leonard will co-facilitate a discussion of the teachers' assessment results. Leonard has already emailed Squires class summary charts showing assessment results for students in each of the teachers' classes. At the beginning of the session, each teacher will present her summary chart to the group using the document camera and talk briefly about her reflections. Leonard will paraphrase the teachers' conclusions and ask clarifying and probing questions. Squires will take notes about patterns of results and other interesting findings. After the teacher presentations, Squires will talk with teachers about the implications of these results for whole-group minilessons, small-group instruction, and conferences with individual students as they work in math stations. She will introduce a station task teachers can use to continue monitoring students' learning progress. Squires will end the session by asking each teacher to share the specific actions she will take to support her students' learning as a result of this discussion of assessment results.

THE PROBLEM

During the 2010-11 school year, McWhirter Elementary Professional Development Laboratory School in Webster, Texas, faced a significant reduction in funds available for professional learning. We had several key professional development initiatives in progress and were challenged to figure out creative means of keeping these initiatives going with limited resources. One of these initiatives aimed to help kindergarten, 1st-, and 2nd- grade teachers deepen their understanding of mathematics teaching and learning. We had worked extensively with Lori Squires, a consultant from out of state, but knew that we could not afford to bring her on site as frequently during the coming school year.

THE PLAN

As we talked with Squires about our dilemma, she admitted that the extensive amount of time spent away from home was difficult and that she would welcome a way to continue her work with us without as much travel. We began to consider the idea of a yearlong professional learning plan involving both face-to-face sessions and technology-

RECOMMENDATIONS FOR DISTANCE LEARNING SESSIONS

1. **Establish a relationship** with the people involved. Learning requires risk taking, and teachers must trust the person who will be nudging them to consider new ideas and try new practices. Schedule at least one face-to-face session with a facilitator before beginning distance learning.

2. **Choose a topic of study** for distance learning that requires and benefits from active participation by teachers, such as discussion of assessment results, analysis of student work, collaborative planning, or discussion of an article read prior to the distance learning session.

3. **Short, focused sessions** work well for distance learning. These sessions can be conducted during a team's planning period or after school to avoid the cost of substitute teachers and loss of instructional time.

4. **Designate an individual** or individuals who will prepare and set up for distance learning sessions, facilitate the sessions, and coordinate follow-up activities. These roles provide valuable teacher leadership experiences and can build capacity for teacher-directed professional learning.

assisted distance learning. We also talked about how we might help our teachers begin to take more responsibility for their own professional learning. We wanted teachers to see each other as resources as they worked to deepen their understanding of the mathematics curriculum and refine their instructional practices. According to Hirsh and Killion, "When teachers work collaboratively, build on one another's experiences, and use those experiences as a source of learning, they have the potential to meet nearly every challenge they face related to teaching and learning" (2007, p. 87). We hypothesized that the use of distance learning in combination with a limited number of face-to-face sessions might help us release pieces of professional learning to our teachers and scaffold their development as teacher leaders.

We consulted with our district's technology department about options for distance learning (see table on pp. 36-37). They scheduled a test run of the equipment. We found the experience of videoconferencing to be surprisingly easy and comfortable. Because of our long-standing relationship with Squires, the discussion had a personal quality. Teachers reported that they felt "as if we were all sitting around the table together" and Squires confided that, although we couldn't see them in the video, she was wearing her slippers.

Users will need a basic set of equipment to be able to use these services. At a minimum, the computer will need a webcam for video as well as a microphone and a speaker for voice. Some newer laptops have these built in; most desktops do not. Single users at a computer might find it easier to use a headset that contains a microphone and earphone speaker(s). Groups using a single computer will find it easier to use a centralized external microphone and a set of external speakers. Some setup might be needed to use the external microphone and/or speakers.

It's best to get all users through the sign-up process and software installation (where needed) for these services a week or so before you actually need to use them. Time permitting, make a trial run using all of the features that your group will need during the actual conference call. This is especially true if all contacts must be on the same service.

THE PROCESS

One of our specific professional learning goals for the year was to help teachers learn to give a series of mathematics performance assessments, analyze the results of these assessments, and then plan for instruction based on this analysis. In the book *Powerful Designs for Professional Learning,* Victoria Bernhardt advocates for team data analysis as a structure for professional learning. She states, "The more all staff members are involved in collecting and analyzing data, the more they will get involved in implementing the changes demanded by the results" (Bernhardt, 2008, p. 130). We decided that this focus on assessment for learning would be perfect for our distance-learning work, and we scheduled a series of one-hour sessions with Squires to coincide with the district's assessment schedule. For each of the assessments, Squires would use an initial session to model the assessment with several of our students. Following this initial session, teachers conducted the assessment with their own students. Within several weeks, the teachers submitted a summary chart of their assessment results to Leonard. Leonard then emailed these results to Squires so she could review them before the distance learning session. This next hour-long distance-learning session was spent collaboratively analyzing these assessment results with teachers and discussing ways in which the needs of individual students and groups of students might be met. This cycle was repeated several times for each grade level over the course of the school year.

In addition to this distance learning work, we also scheduled Squires for five face-to-face trainings across the year in collaboration with our math coach. Because we believed our teachers were ready for a more teacher-directed type of professional learning, we used a modified version of lesson study as the platform for these sessions. Lesson study is a form of instructional improvement originating in Japan in which teachers collaborate to plan a lesson, observe the implementation of this lesson together, discuss the lesson's impact on student learning, and then refine the lesson based on what they learned (Lewis & Hurd, 2011). Each McWhirter team met in advance of its session with Squires to collaboratively craft a mathematics lesson. Understandings gained as a result of the assessment analysis were applied during this planning process. For instance, during a distance learning session, teachers had discussed the types of questions that could be asked of individual students to prompt thinking and promote learning. Teachers then practiced craft-

LESSON STUDY CYCLE

1. Teams collaboratively plan a lesson prior to the arrival of the consultant.
2. Schedule for lesson study session with consultant:
   - Teachers provide an overview of the lesson for consultant. (15 minutes)
   - Lesson is taught in one teacher's classroom while others observe and take notes on student learning. (60 minutes)
   - Teachers debrief about the impact of the lesson on student learning and refine the lesson. (45 minutes)
3. All teachers who observed the original lesson teach the revised lesson to their classes within two days.
4. Teams meet to discuss the impact of the revised lesson on student learning.

ing such questions within the context of their lesson study planning. The teams agreed to wait to decide who would teach the lesson until Squires arrived so that their planning process could focus on meeting student needs rather than the preparation of a performance lesson. On the date of the face-to-face work with Squires, teachers' classes were covered by substitutes for a two-hour period so that all teachers could observe the lesson and to allow time to debrief about the impact of the lesson on student learning. (See "Lesson study cycle" on p. 34.) After the observation, teams discussed ways to improve the lesson. Each of the teachers who had observed the lesson agreed to teach this refined version of the lesson to her class within the next few days. Time was scheduled during team meetings to reflect on the impact of the revised lesson.

ROLE OF THE MATH COACH

Allison Leonard, our mathematics coach, played a key role in coordinating and facilitating the distance learning and face-to-face professional learning sessions. We have found that the partnership of a consultant working with an instructional coach provides powerful support for teacher learning and can accelerate the implementation of specific initiatives. The consultant serves as the knowledgeable authority and expert guide. The coach encourages and supports teachers as they work to implement new practices suggested by the consultant. As Squires helped teachers build their instructional craft, she also supported Leonard in building her craft as a staff developer. Squires relied on Leonard to keep learning conversations going between sessions. She intentionally released portions of the facilitation of distance learning and face-to-face sessions to Leonard to develop her abilities and confidence as an instructional leader. We are conscious that our professional development budget will continue to dwindle over the next few years, and we want to build our internal capacity to keep professional learning thriving when we are no longer able to bring in external consultants.

THE RESULTS

Teacher learning

Our goals of increased professional knowledge and instructional skill in mathematics were realized beyond our expectations. This teacher learning is evidenced in classroom practice and professional conversations. On her end-of-year reflection, one teacher wrote, "The distance learning and lesson study really transformed my teaching. The strategies have helped me to know my students. I now know which students are missing key concepts and which students are at their edge of understanding." Another teacher reported, "This year I developed my understanding of how students are learning math concepts. I learned not just to recognize what they struggle with but what strengths they have and how I can move them along at a pace that is rigorous but also appropriate for each child. As a team, we focused our time on doing lesson studies together. We talked about how to adjust teaching points to specifically meet our class needs, how to assess and monitor our students' progress, and what we can do for struggling students within these lessons."

A second set of goals for this professional learning initiative was to build teacher leadership and to help our teachers become more self-directed in their professional learning. These goals were also achieved as demonstrated in the talk and actions of teachers and teacher teams. These teams are eager to continue the assessment analysis sessions on their own next year. They have asked to use lesson study in other subject areas, and they are initiating observations in each others' classrooms more frequently than ever before. One day this spring, I happened upon a group of 2nd-grade teachers having a discussion during their planning period. In the center of the table was a teachers' cell phone set on speakerphone. This teacher had uncovered something puzzling in her assessment of a student and had immediately emailed Squires with her questions. Squires suggested that they talk by phone. Other teachers on the team were also interested in these unexpected findings and asked to join in on the conversation.

McWhirter Elementary Professional Development Laboratory School
Webster, Texas

Enrollment: **950**
Staff: **100**
Racial/ethnic mix:

White:	**15%**
Black:	**15%**
Hispanic:	**67%**
Asian/Pacific Islander:	**1%**
Native American:	**0%**
Other:	**2%**

Limited English proficient: **52%**
Languages spoken: English, Spanish
Free/reduced lunch: **78%**
Special education: **10%**
Contact: **Sue Chapman**, instructional supervisor
E-mail: **slchapma@ccisd.net**

This spontaneous teleconference provided teachers with just-in-time professional learning that emerged from their own questions related to student learning. These teachers took the initiative to seek out answers to their questions and used technology in an elegantly simple way to expand their understanding of mathematics instruction.

Student learning

As a result of the mathematics distance learning and lesson study sessions conducted this year, student learning has improved dramatically and continues to climb. During the first semester of the year, 117 students in kindergarten, 1st, and 2nd grades were reported by their teachers to be performing below current grade-level standards in mathematics as measured by the district-required performance assessments.

By May, the number of students performing below grade level had shrunk to only 33. This number of below-level stu-

FREE DISTANCE LEARNING SERVICES

This selection of free services includes some that use Voice over Internet Protocol (VoIP) phones — phones that function like a traditional phone but use the Internet rather than phone lines to transmit data — as well as video and audio services that use your computer and its camera and microphone.

Name, web address	Cost	Windows	Mac	Voice	Video	Notes:
Callcentric www.callcentric.com	Free between Callcentric members	Yes	Yes	Yes	No	Basic VoIP phone to VoIP phone service. Users can use a VoIP phone connected to their router using a telephone adapter or use the Callcentric software program to make calls.
FaceFlow www.faceflow.com	Free	Yes	Yes	Within Video	Yes	Video chat live with up to four people for free. No download required because you use your browser. Quickly video chat online with a friend by simply sharing a link.
Google Talk www.google.com/talk/	Free	Yes	No	Yes	No	Chat/text from your desktop. Send and receive files. Requires software download.
Google + http://plus.google.com/	Free	Yes	Yes	Yes	Yes	Works within Gmail and iGoogle. Requires a plug-in download.
iChat http://support.apple.com/kb/HT2515	Free	No	Yes	Yes	Yes	Works with your AIM account and makes it easy to stay in touch with others using text and video, whether they're on a Mac or a PC.
JAJAH www.jajah.com/products/web	Free between JAJAH users	Yes	Yes	Yes	No	From the web, you can initiate a call, no download, no software installation required. Use any phone. Select your own phone number, then select the phone number you want to call, press the green call button: Your phone will ring then the other phone will ring; answer and start talking. Can be used for conference calls and scheduled calls.

dents is substantially less than the 49 students reported as performing below grade-level standards at the end of last school year. These teacher teams met their yearlong SMART goal in mathematics: By May 2011, at least 90% of all McWhirter students in kindergarten, 1st, and 2nd grades will be performing on grade level in mathematics as measured by district-established standards.

In reflecting on the impact of this professional learning initiative on her students' learning, one teacher shared the following: "The assessments are fabulous, and math time is running a lot smoother in my classroom this year. Everything I have learned has been a tremendous tool for me as I work with my children. I see that they are learning and growing just the way they should be. I am so proud of them."

LOOKING AHEAD

During the upcoming school year, we intend to explore additional uses for distance learning. We expect to continue using both video distance learning and teleconferencing to support professional learning in mathematics and other subject areas. A portion of our professional learning budget has been dedicated for teacher-initiated distance learning sessions with Squires and other consultants. We also hope to use distance learning to allow our teachers to collaborate with faculty members from the local university and teacher teams from other schools in our district.

According to Dennis Sparks, "Most goals can be achieved in many ways. This awareness frees us from 'one-right-way' thinking and a dependence on 'experts' to 'advise' us. It also engages

Name, web address	Cost	Windows	Mac	Voice	Video	Notes:
ooVoo www.oovoo.com/home.aspx	Free	Yes	Yes	Yes	Yes	Call up to six people at one time. Record and store audio and video calls. Requires software download. If someone on your list doesn't have a video camera, he or she can still have a one-way video chat and hear your voice over this service.
Skype www.skype.com/intl/en/home?intcmp=wlogo	Free for one-to-one Skype users	Yes	Yes	Yes	Yes	Requires software download. Premium service (monthly cost or a one-day-pass) for group video service.
Vbuzzer www.vbuzzer.com/conferencing/web_conferencing.php	Free for conferences of up to four parties with instant messages, voice chat, and videoconferencing capabilities.	Yes	Yes	Yes	Yes	Hold multimedia conference calls within your web browser with no special installation or configuration needed. To use videoconferencing, JavaScript must be enabled as well as Adobe Flash Player 9.
Voipbuster www.voipbuster.com/en	Free between VoipBuster users	Yes	No	Yes	No	Requires software download.
WalkieTalkie www.domain17.net/walkietalkie	Free between WalkieTalkie users	Yes	Yes	Yes	No	Requires software download. High-quality, very low-latency audio. No sign-up or registration necessary, just pick a username and start calling

our creative capacities and promotes responsibility for selecting the most powerful strategies" (2007, p. 16). By rethinking the use of existing resources, educators may be able to find creative means of sustaining professional learning initiatives on diminished budgets. Creative solutions to the challenge of decreased funding can help schools and districts build internal capacity by allowing staff to recognize their own potential for leadership and self-directed, collaborative learning.

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