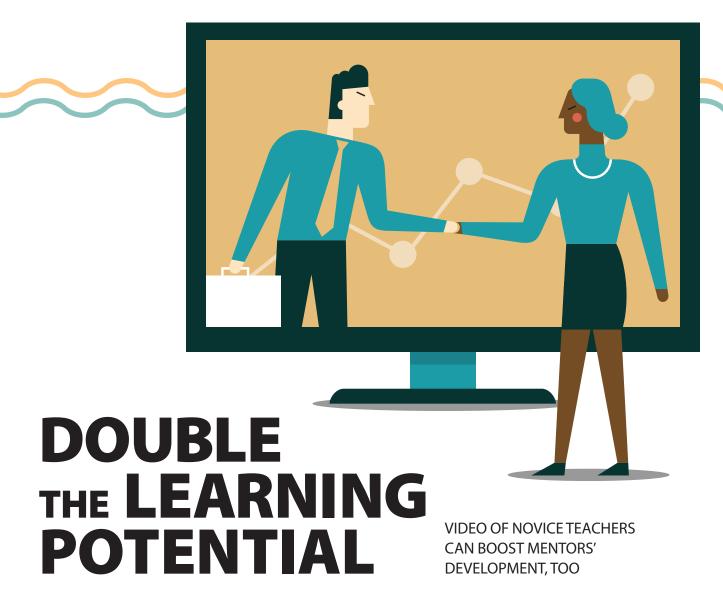
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BY TIMOTHY BOERST, MEGHAN SHAUGHNESSY, AND MERI TENNEY-MUIRHEAD

chool-based mentors are essential partners with teacher preparation programs in preparing novice teachers to have the knowledge, skills, and professional commitments they need to be strong teachers from day one. Research and experience have taught us that supporting the learning of a novice can also be pivotal to a mentor's professional learning (Feiman-Nemser, 2001; Lawson & Wood-Griffiths, 2019).

In many ways, the demands of mentoring, such as critical conversations with colleagues and reflecting, mirror the kinds of engagement that are at the heart of practice-based approaches to professional learning (e.g. Silver, 2009). Mentoring involves consideration of someone else's teaching at the same time that it demands opening up one's own teaching.

This requires deprivatizing and unpacking teaching practices that are

personal and familiar, but often not subject to scrutiny, and it also requires contemplation of aspects of someone else's teaching that include practices or content that are unfamiliar to the mentor or may not be transparent.

However, the nature of teaching often complicates and sometimes prohibits mentors' opportunities to learn through the experience. Support or mediation from outside the classroom is often useful in addressing common challenges

with communication, focus, and determination of next steps. In our experience, video of novices' teaching can serve as a pivotal resource in supporting the learning of both mentors and novices.

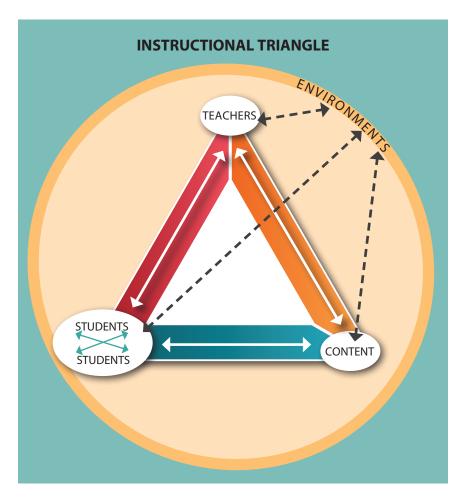
THE ROLE OF MENTORING

Mentoring centers on improving the classroom interactions of the novice teacher, students, and the content to be learned. These interactions occur within broader environments, such as the school, the community, and even the teacher education program of which the novice and mentor are a part.

Importantly, mentoring can also be thought of as structuring the environments in which novice teaching and the teaching of the mentor occur. These environments shape what happens inside of a classroom — and are in turn shaped by it. The relationship among these elements has been represented by the instructional triangle pictured in the diagram at right (Cohen et al., 2003; Lampert, 2001). The work of teaching occurs in the dynamic relationships depicted by the arrows to and from teachers.

Day-to-day teaching interactions, shown in the triangle, and priorities and policies, represented by the surrounding environments circle, impact not only the learning and teaching, but also the opportunities that the novice and mentor have to learn from teaching.

Like an apprenticeship model used in many crafts and trades, having two adults (mentor and novice) working



full days together does not by itself ensure that the novice and mentor perform better or learn from each other. The classroom is a complex and busy place that often requires mentors and novices to be simultaneously engaged in supporting different students with different tasks or in different learning structures.

Prioritizing the learning needs of

students in the moment of teaching and the ways that classrooms are structured can sometimes pause or sideline professional learning aspirations. Because it can be difficult for both parties to consistently observe each other's teaching or readily find the opportunity to interact about teaching, mediation from outside the classroom, in the form of tools or

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professional consultation, can enhance the situational potential for learning for both the novice and mentor.

THE BENEFITS OF VIDEO

Video helps to address some of the situational complexity of learning from teaching (Brouwer, 2011; Sherin, 2000; Lampert & Ball, 1998). Video of novices' teaching can serve as a pivotal resource in supporting the learning of both mentors and novices.

It allows for access to teaching moments that were not witnessed firsthand and for later replaying and reviewing instances of teaching that are of interest. It provides a rich representation of the work that can be used to support dialog and description, as well as look for improvement over time.

To enable the use of video for these purposes, we have found it indispensable to have a platform that provides access, assures security, and provides the features and flexibility necessary for learning from video.

For the past eight years, we have used the Edthena platform to facilitate the learning of mentors and novices about the interactive work of teaching. Here are three examples of how specific functions within the video platform support professional learning for mentors and novices.

. Model instructional explanations through video-enhanced lesson plans.

Videos of a novice teacher engaging in an instructional practice can spur mentors to consider and articulate the characteristics of effective teaching practices. This is especially true with respect to practices that tend to be challenging for novices.

Professional developers and researchers have noted that the "bumps and bruises" of novice practice make visible aspects of the work of teaching that might "go unnoticed in the smoother practice of more experienced teachers" (Heaton, 2000, p. 16). Thus, mentors' engagement with video of

Mentors find themselves responsible for providing opportunities for novices to explain content while also ensuring that students gain understanding.

novice teaching practice can serve as an opportunity for reflection on the work of teaching at the same time that their feedback on the video will contribute to the development of the novices' practice.

For example, one core teaching skill that is often challenging for novices is explaining content. The specific challenges include knowing how to represent ideas in ways that have integrity from a content area perspective (Leinhardt, 2010; Leinhardt et al., 1991); gearing explanations to the students' levels and life experiences; and delivering explanations in ways that draw attention to core ideas.

Mentors find themselves responsible for providing opportunities for novices to explain content while also ensuring that students gain understanding. In other words, they are simultaneously responsible for the learning of the novices and the students.

Many teacher preparation programs and mentor teachers rely on lesson plans to drive novices' instruction. However, written lesson plans rarely include specific explanations of content that novices intend to use.

Video-enhanced lesson plans are one means to fill this gap. A video-enhanced lesson plan includes a video of a novice rehearsing an explanation that is likely to be needed during a lesson. This video is easier for the novice to produce than fully scripting an explanation in a lesson plan, and it integrates talk and representation in ways that better approximate what the novice will actually do in their teaching.

Through Edthena, mentors can easily access and provide feedback on these videos, including comments tied

to specific moments in the intended teaching, with respect to how accurately the explanation reflects disciplinary ideas, how well the explanation is geared toward the students in the class, and how well the explanation emphasizes key aspects of content.

The commenting interface enables mentors to indicate the nature of the comment as a question, suggestion, strength, or note. Question comments are used to signal the need for a response from the novice, either in person or through a reply in the platform. Suggestion comments are used as pointers for enhancing the explanation. Strength comments signal aspects of the work that seem particularly useful or likely to be effective. Note comments convey information to a novice, including supporting the novice's developing content knowledge for teaching.

This process supports the mentor's learning as well as the novice's. It allows the mentor to dig more deeply into a particular instructional practice (e.g. what makes a good explanation) and content (what are the big ideas that need to be explicit, what resources do students bring that can be built upon during an explanation). It therefore enables mentors to take a step back and reflect on their own teaching practice in ways that require them to justify and question their own instructional approaches.

Further, the Edthena platform provides access to statistics that mentors can use to analyze the frequency with which they are using different types of comments and reflect on how to improve their mentoring.

Provide collective feedback via video commenting.

Mentors are not always able to directly observe the work that a novice is doing with students. While moment-to-moment observation is not necessary, there are times when the novice would benefit from sharing teaching that was not initially seen by the mentor.

Because novices in our teacher

preparation program routinely record their teaching, they often have video from these instances that can be shared. Novices can easily share the video through customizable groups that can be made within Edthena so that the triad comprised of the novice, mentor, and university field instructor have a protected space in which to view and interact around these videos.

The platform supports conversations about teaching in the video, using the time-stamped commenting feature described previously, where participants can raise questions, offer multiple perspectives on teaching, frame problems of practice, and share potential routes of addressing them. Having three people in the conversation enriches the opportunities to talk about the complexities of teaching practice. The mentor brings expertise crucial for this conversation about the students. the school curriculum, and other facets of the environment in which teaching occurs.

These conversations serve as robust learning opportunities for mentors in several ways. First, comments by novices and university field instructors often raise different facets of the work of teaching, such as those represented by the components of the instructional triangle, and different views on instructional options and decision-making (e.g. I would have done X, but the novice is doing Y. What are the affordances and constraints of each of these approaches?).

The university field instructor, who is less familiar with the specific children in the classroom, can ask questions that prompt the mentor to connect instructional decision-making to the reproduction of patterns of inequities in classrooms or the disruption of them.

Second, mentors have access to the questions, notes, strengths, and suggestions a university field instructor provides to the novice. This means that they have access to an image of mentoring that could provide new ways of thinking or new moves to try. They can see what it might look like Videos provide fodder for mentors to debate what the elements of teaching could look like or sound like and the composite parts of larger teaching practices.

to tell a novice that a particular move is problematic (and why) or that a particular move was productive (and why). They can see how to support novices in considering alternatives without telling them what to do.

A third, but related, point is that these conversations require mentors to simultaneously communicate with someone who has less expertise then they do (the novice) and someone who may have more (or at least different) expertise with respect to some aspects of teaching (the university field instructor).

This requires mentors to analyze and describe teaching for different audiences, which promotes a kind of flexibility that could prove useful when communicating about teaching with other audiences and for varied purposes.

Apply a teaching framework to video(s).

Novice teachers are a part of a teacher education program, and the staff of that program are responsible for monitoring the progress of novices in light of program goals. This includes providing ongoing formative feedback with periodic summative appraisals.

Because mentors play a vital role in providing feedback, it is crucial to engage in collective work with them that establishes common lenses through which to view teaching and shared language for describing teaching. Edthena enables a program to select and upload frameworks into the platform that can be used to tag aspects of the work of teaching.

This capacity is coupled with the ability to curate collections of videos, nominated by Edthena users within an

organization, that are likely to surface elements of teaching for discussion.

Bringing mentors and university instructors and leaders together to apply the framework to example videos provides a rich context for sensemaking about teaching, as well as describing and appraising teaching. For instance, viewing videos of novices supporting small groups often sparks discussion about how to engage students in ways that respect students' agency in their own learning while at the same time scaffolding interactions to support the meaningful engagement of all students in the group.

On the surface, this activity appears to be centered on honing skills that will position mentors to support the learning of novices and provide the teacher education program with reliable data. While it does serve these functions, there are multiple aspects of the activity that constitute professional development opportunities for the mentor.

Videos provide fodder for mentors to debate what the elements of teaching could look like or sound like and the composite parts of larger teaching practices. While the videos are of novices, conversations often extend into the mentor teachers' own teaching and the connection of framework elements to that teaching.

These experiences help mentors develop more nuanced ways of seeing and describing teaching — their own teaching as well as the teaching of novices. This is more than a reflective exercise. Mentors can think together about the next steps that could be taken to enhance teaching. This not only prepares mentors to use the commitments function within the Edthena interface that connects framework elements to future goals, but also encourages ways of thinking about destinations and routes for instructional improvement that could also apply to their own teaching.

INTENTIONALITY

Like any other resource used to

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support professional learning, the productivity of a video platform depends on the norms and routines used and continuously renewed by the collaborators who interact around and through it. To get the most out of it, mentors, novices, and university faculty should be intentional and transparent about why and how they use video.

It is also important to recognize that, just as teaching is shaped by and shapes the environments in which it happens, video platforms can shape the focus of professional dialogue (through frameworks available in the platform) and the tone (the comment type options that are available) of interactions. It can also provide metadata that support reflection and improvement of its use.

The examples shared here show that the video platform can bring tools, structures, and norms supporting professional learning together. There is much that teachers can learn from engagement as mentors, and well-designed video platforms provide a way of harnessing that potential.

REFERENCES

Brouwer, N. (2011). Imaging teacher learning: A literature review

on the use of digital video for preservice teacher education and professional development. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Cohen, D.K., Raudenbush, S., & Ball, D.L. (2003). Resources, instruction, and research. *Educational Evaluation and Policy Analysis*, 25(2), 119-142.

Feiman-Nemser, S. (2001). Helping novices learn to teach: Lessons from an exemplary support teacher. *Journal of Teacher Education, 52*(1), 17-30.

Heaton, R. (2000). Teaching mathematics to the new standards: Relearning the dance. Teachers College Press.

Lampert, M. (2001). *Teaching problems and the problems of teaching.* Yale University Press.

Lampert, M. & Ball, D.L. (1998). Teaching, multimedia and mathematics: Investigations of real practice. Teachers College Press.

Lawson, S. & Wood-Griffiths, S. (2019). Mentoring design and technology teachers in the secondary school.
Routledge.

Leinhardt, G. (2010).

Introduction: Explaining instructional explanations. In M.K. Stein & L. Kucan (Eds.), *Instructional explanations in the disciplines* (pp. 1-5). Springer.

Leinhardt, G., Putnam, R.T., Stein, M.K., & Baxter, J. (1991). Where subject knowledge matters. In J. Brophy (Ed.), *Advances in research on teaching* (Vol. 2, pp. 87-113). JAI Press.

Sherin, M. (2000). Viewing teaching on videotape. *Educational leadership*, *57*(8), 36-38.

Silver, E.A. (2009). Toward a more complete understanding of practice-based professional development for mathematics teachers. In R. Even & D.L. Ball (Eds.), *The professional education and development of teachers of mathematics: The 15th ICMI Study.* Springer.

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How tech can build teams

Continued from p.49 pandemic, we leveraged technology that has since become commonplace. We hope that our work can serve as an illustration of how to maintain high-quality professional learning in an online space.

REFERENCES

Dede, C., Ketelhut, D., Whitehouse, P., Breit, L., & McCloskey, E. (2009). A research agenda for online teacher professional development. *Journal of Teacher Education*, 60(1), 8-19.

Francis, K. & Jacobsen, M. (2013). Synchronous online

collaborative professional development for elementary mathematics teachers. The International Review of Research in Open and Distributed Learning, 14(3), 319-343.

Hrastinski, S. (2008).

Asynchronous and synchronous e-learning. *Educause Quarterly*, 31(4), 51-55.

Learning Forward. (2011). Standards for Professional Learning. Oxford, OH: Author.

Mayadas, F. (1997). Asynchronous learning networks: A Sloan Foundation perspective. *Journal of Asynchronous Learning Networks, 1*(1), 1-16.

Mizell, H. (2010). Why professional

development matters. Oxford, OH: Learning Forward.

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