CONTENT-FOCUSED COACHING
FOR CONTINUOUS IMPROVEMENT IN LITERACY AND MATHEMATICS
TEACHERS ON CONTENT-FOCUSED COACHING

“I have had coaching but not what I now know as true coaching…. I realized very early on that...I was being coached to find out for myself where I needed to make improvements and where my strengths were. And I would get off the phone [with the coach] and say, ‘Oh my gosh... she just got me to figure out what I was doing wrong.’”

“[Teachers] tend to focus on the negatives..... [The coach] was really good at pointing out both stuff that you needed to work and stuff that went really, really well.”

“[My students are] challenging each other. Well, I don’t agree with you. Well, why? Beforehand, I had some very angry little boys and little girls in my classroom. I have a boy that started the school year by flipping his desk.... And now he is engaged in these lessons and his hand is raised.... They’re challenged in a way that they haven’t been challenged before.”

Content-Focused Coaching is a registered trademark of the University of Pittsburgh.
The Institute for Learning (IFL) at the University of Pittsburgh has worked with districts across the country for over 20 years. We believe—and research shows—that for students to achieve at high levels, teachers need ongoing opportunities to learn from their own practice. To meet these needs, we developed Content-Focused Coaching® (CFC), a model of professional learning that both builds districts’ capacity and supports teachers every step of the way. CFC is job-embedded, unlike the one-shot workshops teachers typically are offered. It is centered on actual instructional practice, unlike more generic models of coaching. And it has proven to be effective in a range of schools and districts. A study of a CFC literacy program in a large district found gains in the quality of instruction and in student achievement on the state test (Matsumura, Garnier, & Spybrook, 2013). In a statewide project to increase math achievement through coaching, the Tennessee & IFL Mathematics Instructional Coaching Model, we saw significant improvement in teaching across the statewide network in only two years (Russell, Correnti, Stein, Bill, Booker, & Schwartz, 2016).

Recently, with the support of a research grant from the Institute of Education Sciences, we created an online version of CFC that builds on the success of face-to-face coaching. Web-based CFC is flexible for participants, affordable for districts, and available to individual teachers. Early results show improvements in instruction, and surveys indicate we have won teachers’ support for coaching “in the cloud.” We are now expanding both face-to-face and
online CFC to the middle and high school levels and to other content areas in schools nationwide.

CFC is designed to focus teachers and coaches on continuous improvement in student learning with the support of a professional learning community. Our Theory of Action states that when coaches and teachers gather examples of practice (their own and others), study those examples together, and seek out relevant research, they will improve their practice and increase student achievement.

KEY FEATURES

CFC differs from traditional coaching in its nature as well as in the specifics of the work. More than a way to help teachers learn strategies or implement a particular approach, CFC takes a stance toward teaching that shifts teachers’ understanding of what learning looks like and raises their expectations for what their students can do. CFC embodies the “Principles of Learning” (ifl.pitt.edu), which are distillations of years of research on the features of successful schools:

- Organizing for Effort
- Clear Expectations
- Fair and Credible Evaluations
- Recognition of Accomplishment
- Academic Rigor in a Thinking Curriculum
- Accountable Talk® practices
- Socializing Intelligence
- Self-management of Learning
- Learning as Apprenticeship

The teachers we work with bring the Principles of Learning into their classrooms. For example, they promote the idea that students become smarter through sustained and directed effort, and they treat discussion—Accountable Talk—as fundamental to learning. This can be seen in math classes when students are given tasks that require productive struggle and when their discussions focus on the

Accountable Talk is a registered trademark of the University of Pittsburgh.
underlying math concepts. It is evident in English Language Arts (ELA) classes when students explain their views on a text, consider their classmates’ views, and find meaning collaboratively in evidence-based discussions with their peers.

CFC also differs from other forms of coaching in its goals and its approach. Some districts use coaches in the short term to “fix” learning gaps that have been identified by data. Others use coaching to support teachers’ skills in using general instructional strategies. In both cases, coaching can be divorced from meaningful content. CFC, as its name suggests, places content at the center. To meet students’ needs, coaches help teachers link content knowledge to pedagogy and to research on learning, answering, respectively, the what, the how, and the why of instruction.

CFC is structured to help teachers create and sustain an intense focus on their students’ learning. The heart of the work is a cycle of designing a lesson, teaching the lesson, analyzing and reflecting on the results, and deciding what should be revised, much like the way athletes and surgeons improve their skills by studying their own performances. The coaching cycle begins with a teacher meeting with a coach one-on-one to plan a lesson. Initially, the coach teaches the lesson while the teacher observes. Later in the cycle, the coach observes the teacher. Afterward, they analyze evidence from the lesson, such as students’ written work or a video of a class discussion, and reflect on what it shows about student learning. In light of the evidence, they plan for future instruction. The cycle then begins again, generating new questions and challenges, in a model of continuous improvement.

Over time, with coaching support, teachers shift from a performance stance (where they expect their teaching to be evaluated) to a learning stance (where they expect to examine their teaching). This kind of deep, cultural change within teachers and schools is possible because of how the coach’s role is framed. A coach serves as a “thinking partner” who works collaboratively to achieve teachers’ goals for their students. Rather than evaluating teachers, the coach is explicitly co-accountable for student learning.

Research shows that how coaches are deployed, as well as how their role is defined, makes a difference in how effective they can be. When coaches are assigned only to
teachers with the lowest-performing students, teachers may be put on the defensive and may not be able to trust the coach. By contrast, CFC coaches meet with all teachers in a grade level or grade span, rather than singling out teachers who “need help,” emphasizing that the work of all teachers—and all roles within the system—involves continuous learning.

CFC invites teachers to look at their practice through a set of “cognitive tools” and routines that serve as lenses. Cognitive tools carry theory, reinforce the teacher-as-learner stance, and provide teachers with a common framework and vision. Tools and routines make expectations clear and show that the criteria for analyzing a teacher’s practice are objective and transparent. For example, CFC literacy coaches and teachers use the Questioning the Author approach to text comprehension (Beck & McKeown, 2006); to design text discussion lessons, they follow guidelines based on that approach. The guidelines help teachers visualize the overall lesson and make decisions in advance, such as where in the text to stop and initiate discussion, or what follow-up questions might help students elaborate on their ideas. In math, CFC coaches and teachers use a “Thinking Through a Lesson Plan Protocol” to plan lessons collaboratively. This tool and related planning routines enable teachers to plan questions and anticipate responses, so teachers are better prepared to engage students in thinking deeply about mathematics (Smith, Bill, & Hughes, 2008). Another tool is a set of questions that guides observers during a classroom visit, including, “What specific responses did students make that are evidence of the intended learning?” A fourth example of a tool is the framework that guides observers’ discussions, which promotes constructive comments rather than stray opinions. Observers are encouraged to use language such as: “I saw or I heard…This seems to be evidence of…This leads me to think that…I wonder….”

Coaches gradually release responsibility to teachers for their own learning. Teachers study the teaching of...
others, observe the coach using a new instructional technique in their own classrooms, co-teach with the coach, teach independently, and eventually serve as models for their peers. They develop powerful habits of reflective practice—using research-based principles of teaching and learning, supporting claims with evidence, choosing relevant examples and data—that they pass on to their students. In the near term, CFC provides an intensive, individualized professional learning experience for teachers within a school. In the longer term, teachers develop the knowledge and skills to become professional resources and leaders in their schools and districts.

VIRTUAL COACHING: THE NEW FRONTIER

Some districts and schools would find it impossible to implement at-elbow coaching like the CFC face-to-face models. Districts may lack the capacity to ensure that coaches have the skills to coach effectively. Coaches’ time might be spread thinly across multiple content areas and schools. Even when districts can afford school-based coaches, coaches may be pulled away from their work with teachers to handle administrative duties (Deussen, Coskie, Robinson, & Autio, 2007). Small schools may have only one teacher at a grade level in a content area, making a face-to-face coaching model impractical at best.

Web-based coaching addresses all of these issues. Virtual coaches are more affordable than face-to-face coaches, and their professional learning can be supported centrally. Virtual coaches cannot be told to cover for absent teachers or monitor the lunchroom—their work is directed solely toward improving teachers’ practice. Teachers in small schools and rural districts can connect online with a learning community of peers.

We created an online version of CFC in partnership with faculty jointly appointed to the School of Education and the Learning Research and Development Center at the University of Pittsburgh. Participating teachers begin the coaching process with a self-paced, eight-week, online workshop that teaches the foundational ideas and establishes a learning community for the group. In the eighth week, participants videotape themselves teaching a model lesson as a transition into the coaching work. Online coaching follows the same cycle as face-to-face coaching, but with a technological twist: teachers email lesson plans to discuss during pre-lesson phone conferences, upload video of their teaching to a secure Web site, and analyze evidence shown on the video clips during post-lesson conferences with the coach. A user-friendly platform links the teacher and the coach, and keeps the group connected for continuing study and support.

We began testing the model in 2015 with seven literacy teachers in one district, and added 15 teachers from another district the following year. In 2017, in a third district, we initiated a study with 25 participating teachers and 25 teachers serving as controls. Given the possibilities of technology, it may not be surprising that we were able to keep many of the hallmarks of

DISTRICTS THAT HAVE IMPLEMENTED CFC

- Austin, TX
- Bridgeport, CT
- Chapel Hill, NC
- Cleveland, OH
- Denver, CO
- El Paso, TX
- Grand Rapids, MI
- Guilford, CT
- Hartford, CT
- Los Angeles, CA
- Minneapolis, MN
- New York, NY
- Pittsburgh, PA
- Providence, RI
- State of Tennessee
face-to-face CFC: teachers study research on high leverage practices; analyze lessons, video examples, and student work; use cognitive tools as a framework to carry theory into practice; and develop habits of reflection. We were surprised, however, that teachers had little trouble trusting an online coach. We saw teachers and coaches form relationships and begin to build supportive networks across districts with people they are not likely ever to meet. Currently, the research team is working to reduce the amount of time teachers spend studying in the workshop before the coaching cycle begins and to provide teachers who need it with technical support.

**COACHING ACROSS A STATE**

Our collaboration with the Tennessee Department of Education supported the development of a scalable model for training coaches to provide face-to-face mathematics coaching (Russell, Stein, Correnti, Bill, Booker, & Schwartz, in press). By collaborating with a network of coaches from 30 school districts in Tennessee, we have zeroed in on high leverage math-specific coaching practices that support teacher learning. We have also studied how coaches make micro-adjustments to their practice in response to diverse local contexts and needs, and provided coaches with practical support for solving implementation problems, such as Plan-Do-Study-Act (PDSA) inquiry cycles (Russell et al., 2015). For example, a coach might use a PDSA process to brainstorm ideas and test a plan for getting around time constraints that prevented him or her from completing a coaching cycle with a teacher. Because successful implementation depends on how well a model can be adapted to a new context, this work has important implications for bringing instructional improvement to scale. In addition to identifying key coaching practices and how they can be adapted for local contexts, we have supported the emergence of a network of highly trained coaches who can help scale up the coaching model as they become resources for peers in their regions. We believe this model has strong promise for other states.

**RESULTS**

Coaching is one step removed from student learning. How do we know that investing resources into a coaching system will pay off for students? Several studies have measured the impact of CFC and more are underway.

The Institute of Education Sciences funded a major study (Matsumura, Garnier, & Spybrook, 2013) of our CFC face-to-face elementary literacy program in a large district that served primarily low-income minority students, many of whom were designated as English Learners (ELs). The study compared schools with CFC coaches to schools with literacy coaches who followed the district’s model in a four-year randomized control trial.
Observations in CFC classrooms showed significant growth in the quality of text discussions over time, while the comparison schools showed no growth. At the end of the second year, students in CFC schools made significant gains on the state reading test, with students designated as ELs making the largest gains. Again, the comparison schools did not show such improvement. Because low-income ELs are the fastest growing subgroup in the country (Kindler, 2002), these are results with national significance.

Early results for Web-based literacy coaching suggest that online coaches can have an impact on teacher practice in one semester of intensive work. An analysis of video clips showed that the overall rigor of literacy discussions in participants’ classrooms improved over time, with teachers posing more questions that guided students toward meaning, posing more cognitively demanding questions, and making more statements that connected students’ ideas.

We also collected data about teachers’ experience with online coaching through interviews and surveys. One teacher compared working with her district’s face-to-face coach—who would “come in and monitor a few lessons”—to the opportunity to revisit discussions with the online coach: “There is that video and you can see it over and over again as many times as you needed to.” Others reported receiving more help from the online coach than from their school-based coach. All agreed that participating in CFC raised their confidence in their own teaching—though the coach, working from video clips, never actually visited their classrooms, and their learning communities met in the virtual world.

In Tennessee, face-to-face math coaching has been shown to improve the quality of instruction in participating teachers’ classrooms. Based on expert raters’ observations, teachers have made significant gains in their capacity to use high-level tasks that
ask students to think and reason about math. We observed these positive changes among teachers who participated in only five coaching cycles across two years (Russell, Correnti, Stein, Bill, Booker, & Schwartz, 2016). We are currently examining the effects of coaching by comparing changes in instruction among teachers with coaches trained in the model and teachers with coaches who were not trained in the model.

CULTURES OF LEARNING

The CFC at-elbow models create cultures of learning in schools and districts. The face-to-face work takes place at the district and school levels as well as at the level of the single lesson in one classroom. District leaders, including principals, participate in the coaches’ training to promote a common understanding of what the coaches’ work entails. Coaches meet weekly in small groups, and monthly for district-wide professional learning. In schools, coaches meet regularly with the principal, and weekly with grade-level teams within a content area to study research on effective practices.

When teachers examine their practice within a supportive learning community, whether it is face-to-face or online, they raise their expectations for their students as well as for themselves. They ask more open-ended questions, promote student-to-student discussion, and choose tasks with a high cognitive demand. Over and over, teachers see students rise to the challenge. “They’re looking more for evidence before just saying their answers,” one teacher said. “They will look back in the text and make sure that they can support their answer before just shouting something out, and they’re building and debating with each other more often.”

A math teacher noted that students who learned to use Accountable Talk in math class also took it up as a tool in other content areas when something arose that they did not understand. Teachers in both face-to-face and online CFC models report that students participate more, share more ideas, and hold deeper conversations, learning skills of argumentation that transfer into more thoughtful problem solving in math classes and more thoughtful writing in ELA, compared to the past. Often, on a classroom visit during the first at-elbow coaching cycle, a coach or researcher will notice that the desks have been rearranged from rows into a U-shape or a circle, to better facilitate student talk.

MAKING CFC WORK IN SCHOOLS AND DISTRICTS

In practical ways, the IFL helps districts set up a CFC system that works. First, we created a coach hiring toolkit (McCarthy, Bickel, & Artz, 2010). Research shows a link between the effectiveness of coaching and how coaches are described, chosen, and prepared
(Coburn & Russell, 2008). Our hiring toolkit clearly defines the coach’s role.

Second, we offer a *course of study* to prepare CFC coaches for their jobs. The CFC curriculum is designed around strands of content in the form of modules: understanding the foundational ideas, using cognitive tools, facilitating a learning group, conferring with individual teachers, using high leverage practices in the content areas, teaching English Learners, and implementing the model overall. Districts choose modules that meet their specific needs.

Third, based on our work with districts, we have identified the following *set of conditions* that both develops from and supports the effective implementation of CFC:

- District leadership understands and can explain how CFC fits with the vision and mission of the district.
- All role groups in the district are familiar with the Principles of Learning.
- The district has a clearly defined curriculum.
- The district has a coherent, differentiated professional development plan for coaches and teachers.
- The district has or hires coaches who have content area expertise.
- The coach job description includes facilitating teacher learning groups and conferring with individual teachers.
- The district provides time for ongoing professional development for coaches.
- The district schedule permits teachers to participate in ongoing learning groups and to confer with coaches one-on-one.
- Principals develop cooperative working relationships with their coaches.
- The district identifies someone who oversees CFC.

Overall, district leaders, principals, coaches, and teachers create a collaborative culture in which adult and student learning are valued and supported.

**REFERENCES**


TEACHERS ON CONTENT-FOCUSED COACHING

“Honestly in the beginning I felt like I’m never going to be able to do this.... But I was motivated by what I was seeing happening in the classroom. [My students] were starting to little by little each week engage more and use more of those talk moves and I also felt like it was helping me in my planning and teaching.”

“[The online workshop] gave me a good basis for understanding. But I thought that the coaching piece was absolutely the most powerful piece.... You get to see not only what you need to improve on—because that’s kind of the whole point—but you also get to see what you’re doing really well.”

“Professional development I’ve participated in seems like it just scratches the surface on important strategies or techniques. This workshop allowed us to really participate and apply what we were learning, such as a college course would instead of the professional development I’ve taken since leaving the university. The rigor was at a higher level than in-person workshops and there were many aspects which added to the rigor—reading articles, watching the videos, applying and receiving feedback.”

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For more than 20 years, the Institute for Learning has supported the improvement of education and achievement of all students, especially those traditionally underserved. Through decades of research we’ve come to understand what it takes for all students to become effective, enthusiastic, and independent learners, and for educators at every level to inspire, foster, and sustain high levels of achievement in their students. Today we provide educators with resources designed to work together to support both teaching and learning in the classroom across all content areas.

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