Instructional Coaching Model
Design and Toolkit

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PART 1
SETTING OUR PURPOSE

Setting Our Purpose

The purpose of instructional coaching is to **shift schoolwide learning in order to positively impact student outcomes**. This purpose is met by setting well-defined goals for teaching and learning, and then employing a research-based coaching cycle to establish clear processes and expectations for school leaders, coaches, and teachers to meet those goals. Coaching creates a shared definition of effective practice and builds a culture of collaborative accountability for meeting the school's improvement goals.

Pedagogical coaching is a powerful lever for change because it is one of the few tools available to school leaders that directly touches upon the triad of content, teacher, and student.[1] Competencies reorganize and reconceptualize the content and so have a significant impact on all three of these elements. It follows, then, that if schools change *what* gets taught, they must also address *how* it gets taught by expanding and deepening teacher knowledge of practices that increase student engagement. This insight creates an imperative to focus on the work of improving student outcomes in the classroom. As Richard Elmore[2] writes,

> *"Schools don't improve through political and managerial incantation; they improve through the complex and demanding work of teaching and learning… Our best ideas about policy and management don't cause student learning to increase. At the very best, when they are working well, they create conditions that influence what goes on inside the instructional core. The primary work of schooling occurs inside classrooms, not in the organizations and institutions that surround the classroom."*

Shifting teacher practice is an all-hands-on-deck enterprise. Teachers alone, as they have so little time to undertake professional learning within the scope of their busy workdays, have little opportunity to learn the new skills and practices required in a student-centered, mastery-based learning environment. And a coach who visits a few classrooms once a week will not be able to provide consistent enough support by herself. School leaders also must take on the role of coaches, working closely with teachers and other coaches, to create a schoolwide learning community for staff and faculty members. Coaching work will be most powerful when there is a clear line and tight alignment of schoolwide improvement goals to the growth goals for school leaders, coaches, and teachers.

Responsive, student-centered pedagogy in flexible learning environments
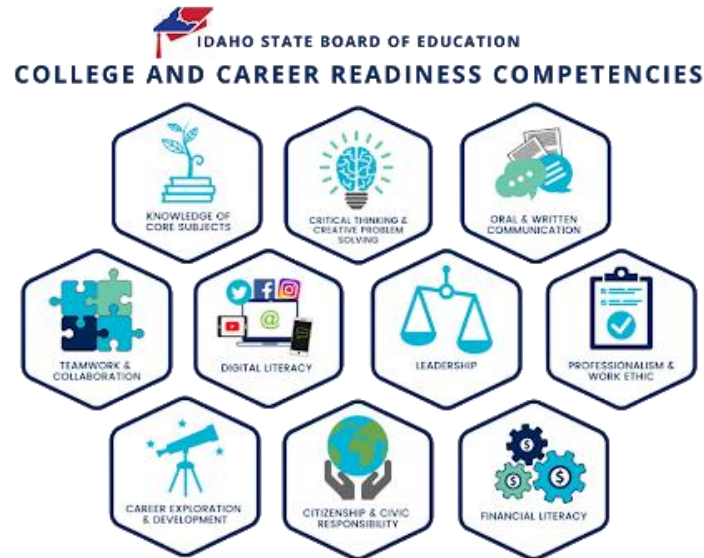
Mastery-based learning systems

Broadly speaking, mastery-based education is an approach to learning that ensures all learners develop explicitly defined, measurable, and transferable essential skills and knowledge at one level before advancing to the next as they continuously progress toward mastery. Those skills and knowledge are defined through

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[1] City, E. A., Elmore, R. F., Fiarman, S. E., and Teitel, L. *Instructional Rounds in Education:* a Network Approach to Improving Teaching and Learning. Cambridge, MA: Harvard Education Press. 2009.
[2] Elmore, R. *Improving the Instructional Core*. Draft manuscript. 2008.

the [Idaho College And Career Ready Competencies](#), high-level, rigorous learning objectives that hold academic, career, and personal relevance and importance for life both in and beyond school. Students have mastered competencies when they can do them often, in many situations, and with strong results.

- Mastery-based learning systems leverage instructional design, assessment design, and school design to personalize the learning experience, ensuring that all students receive the timely, differentiated supports they need to meet the competencies.

Competencies and personalization are inseparable. As Lopez, Patrick, and Sturgis write in *Quality and Equity by Design: Charting the Course for the Next Phase of Competency-Based Education* (2017), "Personalization without a competency-based system has the potential to perpetuate and in some instances even exacerbate inequity. Competency education without personalization means that students will not receive the instruction and support they need to learn."

Competencies have a powerful impact on the instructional core, providing transparent and stable targets for student learning and criteria for evaluating student achievement. They create conditions that allow for personalization while maintaining equity. Competencies define the guaranteed and viable curriculum, ensuring it is not lost in an effort to personalize. They also are the foundation on which feedback stands, providing the necessary "feed forward" so students know what they are expected to learn. They allow the student and teacher to collect evidence of learning and inform both the assessment of current level of performance and next steps for the teacher and student.

A well-designed mastery-based learning system is highly personalized. Students receive timely, differentiated supports based on their individual learning needs. Classrooms become a highly responsive and flexible learning environment in which students' needs are promptly identified and addressed, and structures are in place to support learning. A highly skilled team of practitioners who are expert diagnosticians, facilitators of learning, mentors, and advocates work with students to identify those needs and next steps for learning. However, in mastery-based education, this is not something done *to* students. Learner agency is central, and so learning goals are transparent, student metacognition is prompted regularly, and learners make important decisions about their learning needs and process.

Personalization is driven by meaningful assessment. In traditional systems, assessments are scheduled in advance, regardless of learners' readiness, and are drawn from traditional testing formats that involve selecting from predetermined answers. When "alternative assessment" is used, it is often in the form of projects that are fun and interesting, but not rigorous or connected to target skills or concepts. In these environments, assessment reinforces grades as punishment or as competition and fosters a one-and-done mentality toward schoolwork.
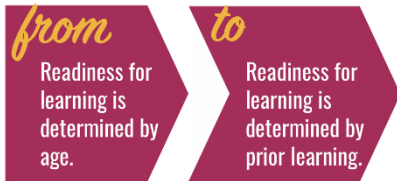
In mastery-based learning systems, performance-based assessments are the primary assessment format for tracking progress toward mastery. Engaging, challenging performance tasks require learners to apply new or developing knowledge and skills to a problem or task that is found in the "real world" and assessed by clear standards for success. Within and across assessments, teachers spiral opportunities to build skills through practice, feedback, and revision.

Advancement upon mastery, or "move on when ready," requires schools to make a deep commitment to meeting every learner where they are and to providing the supports and opportunities students need to successfully show mastery of key skills and concepts at each level. Within the classroom, this means designing (1) high-quality instruction that incorporates regular conferencing, feedback, and individualized supports, and (2) effective systems to track and monitor progress, while providing flexible pacing. Careful design creates student learning experiences purposefully structured to nurture self-regulation (metacognitive, behavioral, and motivational supports) and build agency, resulting in student work products that serve as concrete evidence of ongoing progress toward mastery.

Beyond classroom walls, this commitment to personalization should be reflected in grading and promotion that emphasize and recognize both growth and mastery. This means moving away from grading and promotion policies that:

- Penalize students who are working hard and demonstrating growth, but are not "on grade level"
- Conflate work and personal habits and dispositions with academic achievement
- Group students by age or fixed groupings, or that advance students based on time
- Are based on unrealistic or unfair expectations for "mastery," particularly for learners new to a mastery-based system

Key shifts in thinking

from Readiness for learning is determined by age. → **to** Readiness for learning is determined by prior learning.

Learner readiness for particular sets of content knowledge, concepts, or skills cannot (and should not) be determined by age. Avoid organizing content or concepts into tightly sequenced, age-based progressions. Base the introduction of new material not on age but on demonstrated readiness. (Vygotsky 1986)

from Learning is linear and progress is smooth. → **to** Learning is non-linear and progresses unevenly.

Progress toward mastery of new concepts is not a linear, time-bound process; it happens in fits and starts. To optimize learner's cognitive development, focus on creating highly flexible and highly responsive learning environments, as well as multiple entry points to new content, skills, or concepts. (Bloom 1974)

from Curriculum pacing guides. → **to** On-demand and just-in-time learning.

The pace of learning is determined by learner needs. Learners should have on-demand access to the materials, experts, and opportunities they'll need to accelerate their learning. Avoid the arbitrary limitations on learning that are created by industrial-era features of American public schools, such as age-based cohorts, time-based advancement, teacher-controlled curriculum, prescheduled assessments, and inflexible school schedules. (Zimmerman & Schunk 2011)

from Intelligence as a fixed asset → **to** Growth mindset

Learners' beliefs about their intelligence and ability matter greatly; they are predictive of student behavior in school, and they greatly influence engagement and motivation. Diligently counter policies, cultural dynamics, classroom or school system structures, or learning experiences that reinforce "fixed mindsets" about learning; instead, emphasize the importance of growth, hard work, and skill-building; create ongoing opportunities for revision, goal-setting, self-monitoring, and reflection. (Kuncel, Crede, & Thomas 2005)

from Isolation, fragmentation, and varied expectations → **to** Systems-based approaches to learning and teaching

Professional culture of collaboration, combined with clear expectations around policy and practice, create a consistently high-quality experience for learners. Use a systems-based approach to teaching and learning, breaking down silos around professional practice, and creating common systems of competencies, assessments, and expectations for students that promote the mission and vision. (DuFour 2004)

This is a multi-year shift in practice, where strong, collaborative coaching support will make an enormous difference.

PART 2
ESSENTIAL PRACTITIONER KNOWLEDGE

In this section, we briefly describe critical teacher knowledge to be developed or built upon through coaching. This knowledge is essential for delivering responsive, flexible, and high-impact teaching and learning experiences. The following section then describes the coaching cycle in detail, providing a conceptual framework, tools, and resources to support coaches as they work closely with teachers.

Student-centered, Mastery Learning Practices
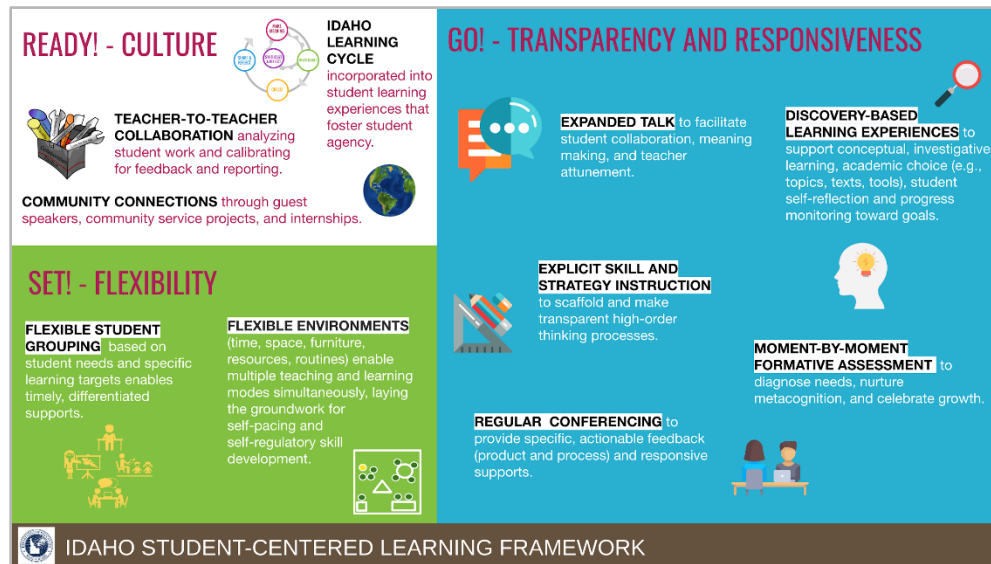
Student-centered learning is grounded in the principle that the fundamental question that guides teaching practice is not, "What am I going to teach?" but, "What does this student need in order to reach the goal successfully?"

Teaching for the success of all learners is highly complex and requires an exceptional degree of attunement, responsiveness, flexibility, commitment, and pedagogical craft. The instructional practices described in this section are intended to articulate a set of instructional "must-haves" for a personalized, student-centered learning community.

What follows is a brief overview of each stage of the full pedagogical framework.
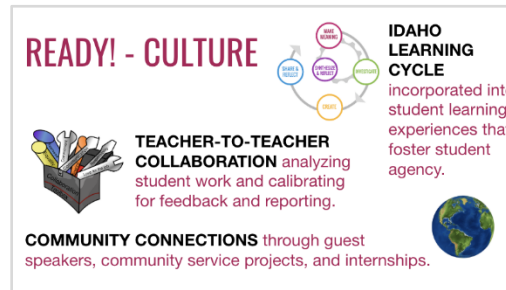
1. A strong culture supports student-centered classrooms

School culture is defined as the values, routines, expectations, rituals, policies, and practices that shape how a community functions. Everything a visitor would see on a walk-through of any school is culture made visible, from what hangs on the walls to the arrangement of desks to how members of the school community interact. School culture can be thought of as comprising two complementary aspects: student culture and staff culture. While the interplay between the two is complex, a strong staff culture precedes a strong student culture. As Nancy and Ted Sizer remind us in their book, *The Students Are Watching*, school leaders must be mindful of the fact that students take their cues from the adults in the building—how the adults interact with one another—and the values their actions reflect have an immeasurably profound impact on students. The culture that adults create for themselves is completely visible to the students and will be reflected, for better or worse, in the culture students experience and build for themselves.

The collegiality created by teacher-to-teacher collaboration deprivatizes professional practice and demonstrates a commitment to both professional learning and student learning. Roland S. Barth, in his seminal work *Improving Schools from Within*, describes what one would see in schools that value collegiality:

- Educators talking with one another about practice
- Educators sharing their craft knowledge
- Educators observing one another while they are engaged in practice
- Educators rooting for one another's success

While it is important to devote time to congeniality, for instance by recognizing important milestones in teachers' lives, it should not be confused with collegiality. Getting along with one another and working together to improve teaching and learning are not the same thing. Congeniality describes the tenor and tone of adult interactions; collegiality measures their depth. Collegiality can only be fostered in schools that attend to it. Instructional leaders expect, model, reward, and protect collegial practices.

Collegial practice can begin simply. Setting aside time during faculty meetings for teachers to share student work can open the door for deeper conversations

and lay the foundation for more advanced collegial work. Both veteran and new teachers should be encouraged to share and to seek feedback.

Schools that are ready to be more systematic about collegial practice will find that formal models for collegial practice abound in today's school improvement literature. Professional Learning Communities, Critical Friends Groups, inquiry groups, learning walks, and lesson study are all viable collegial practices. While some schools may adopt a specific model in its entirety, it is not necessary to do so, as the power of the models lies in establishing purpose and providing legitimate reasons for established groups of educators to come together to improve professional practice through collaboration. School leaders should enact the elements of one or several models to create a homegrown version that best suits the needs of the school's professionals to improve their practice.

Teachers who participate in collaborative examination of student work, coaching, and other collegial practices have first-hand experience of the **learning cycle**. This model of learning helps us visualize the cognitive processes that take place when learning is deep, meaningful, and memorable. Rather than filling students' heads (or teachers' heads!) with information that is soon forgotten, the learning cycle ensures that students master the competencies and content the 21st century requires.

- The learning cycle begins with **Make Meaning**. Learners take stock of what they already know, ask the questions that will guide their inquiry, explore exemplar final products, and develop a plan for how they will learn.
- In the **Investigate** phase of the learning cycle, students use their plan to learn new content and skills. They ask important questions, conduct research,

analyze texts and other resources, evaluate problem-solving methods, and develop and test hypotheses.

- Next, students **Create**, putting what they have learned into action. They might write a letter to the editor, build a prototype prosthetic arm, or design a museum exhibit. The possibilities are endless, but no matter what they choose, they'll be required to demonstrate that they have mastered the content and skills they need.
- Finally, students **Share and Reflect** on their learning. They publish, present, or otherwise show a real audience what they can do. They also reflect on their learning, describing what they learned, how they learned it, and why it was important.

How do teachers support students as they move through each of these outer stages of the learning cycle? This is where the inner circle comes into play. Each daily learning experience is designed to help learners Make Meaning of the new material, practice and apply new learning during the Investigate stage, Synthesize their new learning, and Reflect on their learning process.

As we'll see below, the learning cycle and coaching cycle are closely aligned.

Finally, **community connections** create an authentic context for student learning. Learning is not contained by the walls of the school. While it may not be possible to smash down the walls of the classroom—metaphorically, of course!—with every project, we can strive to make the walls more permeable by creating projects and learning experiences that connect to the larger world. Doing so means asking students to approach a question, investigation, or task the same way a professional would.

Students use real-world processes, tools, and quality standards as they do work that has a real impact on their world. Impactful projects empower students to do work that has meaning and that makes a difference. Such projects are grounded in the classroom but extend their reach beyond its walls. Their work is connected to their concerns, interests, and identities, as members of a family, a school, a community, and as Idahoans. Community connections help students recognize the value in their learning and create the opportunity for them to share their learning with audiences beyond just their classmates and teacher.

2. Student-centered classrooms support multiple modalities for learning and continually shift student groupings based on needs, interests, and strengths

SET! - FLEXIBILITY

FLEXIBLE STUDENT GROUPING based on student needs and specific learning targets enables timely, differentiated supports.

FLEXIBLE ENVIRONMENTS (time, space, furniture, resources, routines) enable multiple teaching and learning modes simultaneously, laying the groundwork for self-pacing and self-regulatory skill development.

One of the first big shifts involved in designing and implementing a mastery-based learning space is reconfiguring the environment: from teacher control to learner leadership, and from management to nurturance. This new orientation requires a rearrangement of the traditional classroom from a teacher-centric space to a space that distributes responsibility among all learners. Doing so frees the teacher to diagnose and to respond to student needs as they emerge. Providing students with timely, differentiated supports based on their individual learning needs cannot happen if the teacher is solely responsible for managing the learning of every student. We also know that a highly controlled learning environment does not prepare students to manage their own learning independently. The traditional configuration of teacher-controlled space and grouping is neither practical for learning nor empowering for learners.

To support personalized learning, learning spaces are often restructured to support multiple modes of learning simultaneously. This enables flexible pacing, fosters student autonomy, and creates opportunities for students to learn and create from "wherever" they are. One of the hallmarks of personalized learning is the purposeful use of multiple teaching and learning "modes"[3] or modalities that enable individualized instruction, self-pacing, and flexible grouping.

In highly personalized classrooms, there is no "front of the room." Furniture is arranged to support different modalities of learning simultaneously, such as small-group mini-lessons, one-on-one conferencing, peer-to-peer discussions, and independent work. Because students have on-demand access to the full sequence of modules, units and courses at all times, and strong classroom routines and norms are in place, everyone is engaged in learning. What's the powerful discovery here? As students develop the skills to take more ownership of their learning, adults have more time and space to meet learners where they are by

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[3] For a look at how Bronx Arena High School uses a range of teacher facilitation modes, see this video: https://youtu.be/C-xHF9ZV720.

individualizing instruction, opening up room for students to pursue their own passions and interests, and responding to specific needs in real time.

Another of the big shifts involved in designing and implementing mastery-based learning is reimagining teacher roles, as those that focus on information delivery and classroom management are replaced by a set of learner-centered practices. In such systems, teachers are culturally responsive facilitators of learning, expert diagnosticians, skilled designers, and dedicated student advocates. Fulfilling those roles can only happen when students are grouped and regrouped continuously according to their ever-changing needs as learners. Flexible grouping has myriad benefits for learners[4], including contributing to a sense of belonging, fostering agency, and improving achievement.

Teachers and students new to this approach often take time to introduce these practices one at a time. The paradigm shift requires a mindset change, with new habits, norms, and practices that allow power to be shared between adults and young people who often have little experience in this realm.

3. Student-centered classrooms employ pedagogy built upon transparent processes and responsive facilitation

A handful of foundational pedagogical practices are essential to creating personalized, competency-based classrooms. These practices ask teachers to reconceptualize their role from dispenser of knowledge to facilitator of learning experiences and modeler of skills, strategies, and processes essential to learning.

Responsive facilitation is grounded in becoming attuned to students' learning needs and interests, leveraging their interests to effectively respond to these needs in a personalized way. Transparency ensures that students not only understand the *what*, but also the *how* and the *why* of learning. The following five pedagogical practices are hallmarks of transparent, responsive learning environments:

- Discovery-based learning experiences
- Explicit skill and strategy instruction
- Moment-by-moment formative assessment
- Expanded talk
- Regular Conferencing
- Regular conferencing

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4 See Opitz, M.(1999) Flexible Grouping in Reading. Scholastic.
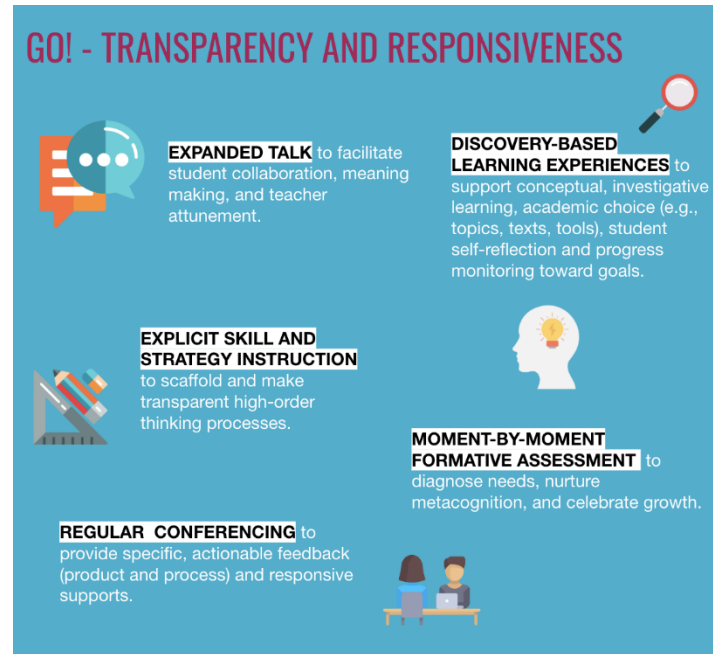
Discovery-based learning experiences begin with what students know, are driven by student inquiry, and sharpen metacognitive skills. They meet students where they are, and through engagement with thoughtfully curated resources, encourage students to chart a personal pathway toward competency.

Explicit skill and strategy instruction, often in the form of modeling and think-alouds, ensures that students learn how to apply skills and strategies to content and to the processes of learning themselves. Cognitive apprenticeship and gradual release of responsibility prepare students to undertake rigorous tasks and to take ownership of their own learning.

Moment-by-moment formative assessment keeps teacher and student focused on the intended outcome of the learning experience, creating a common understanding of the target, the student's progress, and the next steps for learning. Continuous monitoring of learning allows the student and teacher to adjust course and try alternate approaches in real time.

Expanded talk creates opportunities for students to listen carefully to others' thinking and to provide responses showing critical engagement with the task. By removing the written word as a potential barrier for meaning-making and synthesizing new learning, student discourse opens the door to deeper student understanding and provides teachers with a powerful data stream so they can diagnose and respond to student needs in real time.

Regular conferencing is a powerful instructional tool. It's useful for assessment and differentiation, building relationships with students, and gaining insight into students' perspective of learning experiences. Conferences can provide immediate feedback and set next steps for learning, offer guided practice for metacognition and reflection, and allow students to share their thoughts and feelings about their work and their learning.

Disciplinary Skills and Strategies

In addition to deep pedagogical knowledge and expertise related to personalized, student-centered learning, teachers also require deep subject-matter knowledge and knowledge of content-specific teaching methods (Ferguson & Womack, 1993; Monk & King, 1994). Cognitive research has helped delineate the types of knowledge and the strategic organization of knowledge that differentiate novice from experts, including: *Domain knowledge*, the concepts, facts, and procedures of a particular subject matter; and *Heuristic strategies,* the techniques and approaches for accomplishing tasks within the discipline to achieve expertise (Collins, Brown, Hollum, 1991).

The major implication for instructional coaching is that, through the coaching cycle, it is likely that teachers in personalized classrooms will need learning opportunities that deepen their knowledge of **content-specific strategies**. Mastering content-specific strategies then becomes the central focus of the work teachers undertake using personalized pedagogical practices: conferences, expanded talk, explicit skill instruction, etc. In the student-centered, mastery-based classroom, the key is that teachers **work with each student** on the specific strategy or skill they need, **when they need it** (just-in-time): for example, teachers don't introduce the scientific method when a student or a few students are trying to read a text on genetics (this is a moment to introduce a nonfiction reading strategy), but rather at the exact moment when students are trying to work on a lab that will help them develop and test a hypothesis about an aspect of genetics.

Teachers can still plan in advance; they just can't plan in advance for the whole class at the same time. Instead, they take the fact they know they will need a mini-lesson or discussion on reading a challenging text on genetics AND that they will need to help students understand the scientific method, and they develop mini-lessons, conferences, or small-group discussions that will support students on both of these. As students need one or the other support, teachers organize opportunities to support the specific students who need the specific support. They often make the decision in real time during a class period or the night before as they review data from the online course platform and identify what students are about to work on, where they might be struggling, etc.

On a parallel track, coaches are supporting teachers in developing new ways to teach the content-specific strategies. If content-area teachers are unsure which content-specific strategies to focus on with students, the list below can prove a helpful starting point for exploration and study. Note that there are significant similarities and replication across the disciplines. These can be viewed as high-leverage, cognitive strategies for independent learning and, as such, are highly transferable to multiple contexts and academic disciplines. Coaches can work closely with teachers to develop ways to explicitly teach these skills and strategies to students, while helping students understand the skill's applicability across learning experiences, both in and out of school.

CONTENT AREA SKILLS & STRATEGIES

SCIENCES[5]	SOCIAL STUDIES[6]	MATHEMATICS[7]	ENGLISH LANGUAGE ARTS[8]
Understanding Symbolic Representations, Values, and Terms	Understanding Representations	Understanding Symbolic Representations, Values and Terms	Understanding Symbolic Representations
Observing and Describing	Describing and Summarizing	Observing and Describing	Summarizing
	Chronological Sequencing	Visualizing	Visualizing
Asking Questions and Defining Problems	Developing Questions and Supporting Questions	Defining Problems	Questioning
Inferring and Predicting: Hypothesizing	Interpreting & Inferring	Conjecturing and Estimating	Predicting and Inferring
Gathering Data	Determining and Gathering Sources and Data	Gathering Information/Data	Determining Important Ideas/Gathering Textual Evidence
Organizing Information: Identifying Patterns and Classifying	Organizing Information: Identify and Explore Patterns, Interactions, and Relationships, Comparing	Organizing Information: Identifying Patterns, Comparing, Making Connections	Organizing Information: Comparing, Making Connections to Text, Self, and World

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[5] Padilla, M.J. "The Science Process Skills." Research Matters-To the Science Teacher. 1990. Accessed Sept. 15, 2019. https://www.narst.org/publications/research/skill.cfm Valentino, C. "Developing Science Skills." Houghton Mifflin Company. 2000. Accessed Sept. 15, 2019. https://www.eduplace.com/science/profdev/articles/valentino2.html Next Gen Science Standards: Areas of Practice, Cross-cutting concepts. Accessed Sept. 15, 2019 https://www.nextgenscience.org/

[6] Social Studies C3 Framework. Accessed Sept. 15, 2019. https://www.socialstudies.org/sites/default/files/2017/Jun/c3-framework-for-social-studies-rev0617.pdf

[7] NCTM Process Standards. 2000. Accessed Sept. 15, 2019 https://www.nctm.org/Standards-and-Positions/Principles-and-Standards/Process/ Cuoco et al. "Habits of Mind: An Organizing Principle for Mathematics Curriculum." Education Development Center. Accessed Sept. 15, 2019. https://www.promys.org/sites/promys.org/files/assets/Habits%20Of%20Mind%20by%20Al%20Cuoco.pdf Hodnett, B. "Skills Kids Need for Different Math Subjects." Understood for Learning & Attention Issues. Accessed Sept. 15, 2019. https://www.understood.org/en/learning-attention-issues/child-learning-disabilities/math-issues/skills-your-child-needs-for-different-math-subjects

[8] Stevenson, S. "Critical Thinking Skills for the Analysis of Texts." Pen and the Pad. Updated 2017. Accessed Sept. 15, 2019. https://penandthepad.com/critical-thinking-skills-analysis-texts-3319.html

CONTENT AREA SKILLS & STRATEGIES, continued

SCIENCES	SOCIAL STUDIES	MATHEMATICS	ENGLISH LANGUAGE ARTS
Analyzing Cause/Effect Relationships: Controlling Variables	Analyzing Cause/Effect Relationships: Studying Variables	Controlling Variables/ Identifying Relationships	Analyzing Cause/Effect Relationships and Narrative Causal Arc
Planning and Carrying Out Investigations/Experimenting	Planning and Carrying Out Inquiries	Tinkering, Experimenting, and Inventing	Close Reading and Summarizing
Analyzing and Interpreting Data	Evaluating Sources and Developing Claims		
Developing and Using Models	Using Abstract Principles	Modeling and Making Abstractions	Text/Narrative Structure and Elements
Constructing Explanations and Designing Solutions	Presenting Solutions, Taking Informed Action	Generalizing	Analyzing
Engaging in Argument From Evidence	Constructing and Critiquing Conclusions, and Argumentations	Adaptive & Proportional Reasoning and Proof	Forming an Opinion and Synthesizing
Communicating Information	Communicating Conclusions	Communicating Information and Analysis	Communicating Analysis

Ultimately, the teacher and coach should work to connect discipline-specific skills and strategies back to the competencies. For example, **organizing information** is a skill that cuts across all content areas, albeit with some nuanced differences. It is a part of indicators under **1.2 Knowledge of Core Subjects: Conduct Inquiry**. It is also an important part of developing a task plan described in the Level 5 indicator for **1.2 Knowledge of Core Subjects: Apply Knowledge and Skills to Authentic Tasks**. In fact, it falls, in one form or another, under almost all competencies. Helping teachers see these connections is the first step to teachers themselves helping students to see these connections.

Learning Sciences
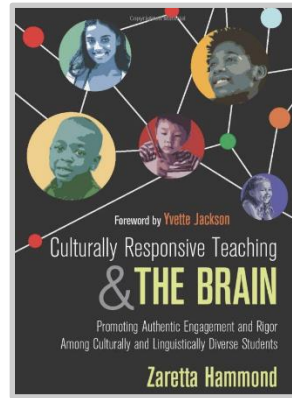
The learning sciences are rapidly discovering how the brain works as a highly effective, complex learning system. Zaretta Hammond's book, *Culturally Responsive Teaching and Brain* (2015), provides educators with an accessible description of the brain's active processing work: Active information processing in the brain is optimized when it is connected to our existing schema: experiences, beliefs and understandings, background knowledge, skills and strategies. If we are skilled at processing, storing and using information, we are able to engage in complex thinking and work. When thinking about the diverse students in Idaho's classrooms, one of the building blocks of meeting their needs is going to be teachers' capacity to support students in rapidly and effectively working with information. This means that teachers need to possess a sophisticated understanding of who their students are as humans, with unique experiences, cultural backgrounds, and background knowledge. The schematic hooks that new learning will "hang" upon is where the power of personalized learning has the most potential to truly support accelerated and deep learning.

NEUROPLASTICITY

Neuroplasticity is "the ability of the brain to form and reorganize synaptic connections, especially in response to learning or experience or following injury."

Learning is only possible because our brains have a built-in "plasticity" that supports us in all aspects of interacting with the world: emotional, intellectual, physical (both fine and gross-motor capacities), as well as the function of the body's systems (habit-formation, short- and long-term memory, etc.). The brain is continually adapting and responding to the data it receives from the world around and within us, whether we are engaged in an explicit learning project, experiencing a traumatic or pleasurable moment, or responding to a developing physical shift, such as adolescence or menopause, or the onset of diabetes or cancer. Brain plasticity is fundamental to our ability to learn, grow, understand our unique contexts, and adapt to those circumstances. As educators, decision-makers, parents, and friends, understanding neuroplasticity is fundamental to meeting students where they are and believing in their ability to grow.

Learning is only possible because our brains have the adaptability of soft plastic, highly attuned and responsive to our own and our environment's evolving demands and needs. In personalized learning classrooms, it's critically important to continually monitor where students are on their learning path, assuming that their adaptable brains are responding and adapting to many different stimuli in the classroom and the world around them, and that all of this impacts their learning at any given moment in time.

THE STAGES OF INFORMATION PROCESSING[9]

Stage 1: Input
The brain decides which information to pay attention to, keeping track of data that it deems relevant or useful. For students who have had little access to background knowledge or academic content and skills, at this first stage, the brain might actually filter out critically important information only because it lacks the schema to rapidly understand it is important. In the input stage, the brain is taking new knowledge and storing it in short-term memory: the equivalent of a very small clipboard that can hold a few bits of information, and only for 15-20 seconds, before it decides to either discard it or move it into the Elaboration stage.

Stage 2: Elaboration
In this stage, the brain is working to take new information and make it meaningful and memorable. If this works well, one develops a deep understanding and becomes "information-filled." This stage only lasts 5-20 minutes, and it's the time when the brain takes some of the bits of information from the "clipboard" of the Input stage and moves it into short-term memory. This is the moment when the brain is looking for familiar patterns, which will be tremendously supported by culturally responsive processing tools that support rapid meaning-making. During this period of time, it's critical to remember that our brains can only actively process new information for 12-20 minutes! It then downshifts for about 10 minutes, like the gears in a car, as it moves from the highways to an off-ramp and then stops at a red light. This process repeats several times as the brain works to consolidate new information.

Stage 3: Application
During this stage, the brain is trying to establish a permanent new neural pathway, making it possible for the new information to shift into and be retrieved from long-term memory. The Application stage is approximately 24-48 hours that should be used to "revist, review, and apply" new learning so it becomes permanent.

The power of the brain is that as new neural pathways are created, working memory expands because we have access to an ever-expanding array of schema that can help us process information increasingly rapidly, but also at deeper levels. This increases the effectiveness of both the Input and Elaboration stages. Think of two students. They are both working on a close reading of a poem for their ELA course. The assignment is to underline the central themes and ideas in the poem. One student takes 20 minutes to highlight key words and phrases. The other student has highlighted almost every word and phrase. What's happening here? The second student's brain may have struggled at any or all of the information processing stages, trying to connect the ideas in the text to her

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[9] Hammond, Z. *Culturally Responsive Teaching and the Brain* (2015). Summary of Chapter 8, p. 122-138.

own experiences and knowledge, without being able to draw on academic background knowledge, experiences, and content-area skills and strategies that help her identify key ideas in a poem.

As coaches work with teachers in personalized learning classrooms there are a number of brain-friendly practices that can support students as they process information:

- *Input*: Get the brain's attention with a hook it can immediately use to guide information processing (a provocative question, an image, a quote, a controversial opinion, a connection to personal experience). In a personalized learning classroom, it will quickly become apparent that different students will attend to different types of input.

- *Elaborate (a)*: Chunk information into easily processed pieces (mini-lessons and conferences can be 5-10 minutes long, moving information to short-term memory). The brain can work with seven items at a time—a phone number, for example. If students seem lost in too much information, work with them in small groups or 1:1 to identify a few pieces of information that can be chunked so they can work with it initially. If you are building vocabulary, don't choose 10 random words; instead, choose a root word, prefix, or suffix, and have students identify and learn seven words that build off this anchor.

- *Elaborate (b):* Actively process new information by allowing the brain to cycle down and then re-engage. This is when the disciplinary skills, strategies, and practices described above are most effective: the brain is looking for patterns, organizing and classifying information, looking for similarities and differences, understanding the parts that make up the whole, identifying relationships, and identifying perspectives. Downtime is a critical part of this process, as is providing learning tools to help students make meaning. In a personalized learning classroom, the Elaboration cycle is actually possible to support. Teachers can allow students moments to zone out or slow down as they work with new material in their online coursework. They don't all have to process at the same pace, nor arrive at the same task at the same time.

- *Apply*: Review, practice, and apply new learning. Use the new information and connect it to a new context; otherwise, it disappears. Within 20 minutes, students remember only 60 percent of what they just learned! Within 24 hours, they can only recall 30 percent. If students have the opportunity to practice, with focus, at intervals over the 24-to-48-hour period following new learning, their recall will jump to 80 percent. In a personalized classroom, teachers can provide these opportunities to students. As students are preparing for one of the online quizzes, tests, or tasks embedded in the platforms, teachers can pair them up, asking them to help each other process the information, practice or retell it, and answer questions about it, twice during the period for 10 minutes each time. This can be repeated the next day, as well. If it becomes clear that students are actually ready to apply the new learning, then the teacher can meet with the students, redirect them to the Elaboration stage, and support their short-term memory processing efforts.

EFFICACY

Self-efficacy was originally defined by Albert Bandura as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of [mastery]." (Bandura, 1986, p. 391: originally described in Bandura's seminal 1977 article. Bandura is one of the "grandparents" of the field of psychology's effort to define and understand self-efficacy.)

The table below summarizes distinctions and connections between self-efficacy and a number of related and intertwined concepts that are critical within personalized classrooms.

Concept	Description	SELF-EFFICACY
SELF-ESTEEM	A way of **being**: the feeling that we are acceptable exactly as we are.	A belief in our capacities for **doing** (such as meeting challenges ahead) that ultimately supports our increasing competence.
SELF-REGULATION	Self-generated thoughts, feelings, and actions that become **a strategy for achieving our learning goals** (Schunk & Zimmerman, 2007, cited in Ackerman, 2019).	A **belief that we have the capacity** to successfully achieve our goals (thereby becoming increasingly competent). This belief can positively influence our self-regulation (our capacity to strategize).
MOTIVATION	The **desire** to achieve.	A belief in our own **capacity to achieve**. Self-esteem and motivation can create a cycle that positively affects our self-efficacy: Success and achievement often increase both our motivation and our belief in our capacity to become competent.
RESILIENCE	The capacity to **bounce back from failure**.	A **belief that "failure" is not a sign of one's permanent lack of capacity** but rather an indicator of the need for more practice and learning in order to achieve competence.
CONFIDENCE	"Confidence is a nondescript term that refers to **strength of belief** but does not necessarily specify what the certainty is about" (Bandura, 1997, p. 382).	Perceived self-efficacy refers to [our] **belief in [our] agentive capabilities**, that [we] can produce given levels of attainment" (Bandura, 1997, p. 382). Self-efficacy and confidence can create a positive cycle: the more confident we are, the more likely we are to effectively use the strategies and tools we possess to support our success. With increased success, we engage in additional experiences that are likely to increase our self-efficacy, ultimately increasing our overall competence.
GROWTH MINDSET	A belief that one's intelligence is not "fixed" but rather can grow and adapt through motivated effort. A growth mindset views obstacles and "failures" as opportunities to learn (a demonstration of resilience), while a fixed mindset views the same experiences as evidence that one lacks the intelligence to succeed. A growth mindset is grounded in the belief that effort and perseverance can lead to the development of competence.	Growth mindset and self-efficacy also create a positive cycle, where our mindset about our capacity to increase our ability supports our belief in our capacity to achieve competence through the use of goals, self-regulation, strategies, and effort. This positive cycle then increases confidence, resilience, and self-esteem, motivating us to continue learning.

The complexity of these intertwined neuroscientific concepts makes it challenging to develop strong neuroscience-based, adaptable, actionable profiles of our students. The life of the classroom is hectic and demanding, learning and development are incredibly mysterious processes, and much of what influences students' self-efficacy occurs beyond our view, in other contexts: family, friend groups, activities, etc.; history of experiences; and learners' currently held beliefs, mindset, and mental models about themselves across all of these contexts and experiences. When students look at challenging academic tasks, their brains are constantly engaged in careful evaluations, attempting to assess if they have the skills and capacities to successfully take it on. As their brains decide, they're bringing to bear a wealth of data collected over students' lifetimes, across many contexts. Because of this, **no two brains will come up with exactly the same self-efficacy calculus**. In personalized classrooms, teachers have the opportunity to build relationships with students that will help teachers and students understand each student's sense of self-efficacy in nuanced ways and experiment with approaches that support students in strengthening their self-efficacy.

Mitigating the Impact of Cognitive Bias

While there are many barriers to teacher improvement, some of the most complex are deeply embedded in our patterned ways of thinking, perceiving, and remembering. As first introduced by psychologists Kahneman, Slovic, and Tversky (1982), cognitive biases are heuristics, or mental shortcuts, that humans make to support decision-making and avoid information processing overload.

> *"Real learning gets to the heart of what it means to be human. Through learning we recreate ourselves. Through learning we become able to do something we were never able to do. Through learning we perceive the world and our relationship to it. Through learning we extend our capacity to create, to be part of the generative process of life. There is within each of us a deep hunger for this type of learning."*
>
> — Peter Senge (1990)

It is important to recognize that these cognitive biases are rooted in a biological need to assess risk and avoid threat. To this end, it is essential not only to bring awareness to these cognitive biases but also to mitigate the underlying "fear architecture" of our brains, the amygdala, which can activate avoidance behaviors (National Scientific Council on the Developing Child, 2018).

In recent years, coaching experts, such as Jim Knight in *The Impact Cycle*, have shed light on the ways in which these **cognitive biases directly impact teacher learning during coaching engagements**. Knight describes how these "perceptual errors" can stand in the way of us "seeing reality" in one's own teaching practice, therefore undermining the ability to establish goals that are grounded in a true picture of reality (p. 29). Several highly relevant cognitive biases are listed in the table below.

Common Cognitive Biases or "Perceptual Errors"
Stereotypes: The tendency to prejudge people as having the characteristics of a group (often negative), which blinds us to the unique characteristics of individuals.   *Confirmation Bias:* The natural tendency to color our perceptions of reality by consciously or unconsciously seeking data that support our assumptions about the world around us.   *Habituation:* The tendency to become desensitized to any experience, positive or negative, that we experience repeatedly.   *Primacy (or "Anchoring") Effect:* The tendency in our first experiences with someone or something to be biased in favor of a particular impression of that person or thing.   *Recency Effect:* The tendency in our last experiences with someone or something to be biased in favor of a particular impression of that person or thing.   *Reactive Devaluation*: The tendency to devalue an idea because it originated from a perceived adversary or opponent.   *Status Quo Bias*: The tendency to prefer the current state of affairs over change.   —Knight, "Cognitive Bias," n.d. 2017

Coaches and teachers can collaborate to identify cognitive biases and to practice using strategies to mitigate bias, which adds a critical and powerful dimension to the coaching cycle.

Part 2 Conclusion

The Instructional Coaching Improvement Cycle supports teachers and leaders in effectively using pedagogical practices for personalization in order to support students in developing strong skills, strategies, and dispositions that are highly correlated to success in college and careers. In essence, the pedagogical practices are teachers' vehicles for supporting the development of student self-efficacy, independent learning strategies, and the development of high-leverage disciplinary skills. As coaches begin working with teachers, it's critical that the focus of the work be very narrow so that teachers have an opportunity to truly gain competence. Much of what is described in this section on the Conceptual Framework will need to be introduced slowly, over a period of several years.

PART 3
THE INSTRUCTIONAL COACHING MODEL

Overview

The Idaho instructional coaching model is an intensive, job-embedded approach to professional learning, in which coaches support schools in developing a laser focus and high-quality instructional practices centered on student growth, performance, and learning (Hattie, 2009). Similar to student supports, leader and teacher supports must be differentiated, responsive to knowledge and experience, and build on current understandings and practice. Research proves that intensive job-embedded professional learning and coaching for educators lead to an increase in student achievement (Yoon et al., 2007) while also demonstrating that teachers need on-the-job support to integrate new learning into daily practice (Joyce & Showers, 2002).

The ultimate goal of instructional coaching is to support each teacher in making measurable instructional improvements that support student learning and well-being so that every learner can be successful. The quality and intentionality of instructional coaching—and its laser focus on student learning—are critical to achieving instructional improvements that impact student outcomes (Knight, 2017; Sweeney, 2011; Sweeney, 2017).

Coaching as Partnership

At the heart of successful coaching is **a trusting, respectful, and strengths-based relationship** (Sweeney, 2013). While resources and toolkits can help ground coaching practices in evidence-based methods and protocols, it is critical to invest the time and effort in developing relationships of mutual trust and respect.

Even within trusting and caring relationships, there are different ways to approach the relationship between coach and coachee. In this toolkit, we advocate the "dialogical coaching" approach to supporting teachers in their practice (Knight, 2017, p. 12). This approach positions coachees as *partners* in an *inquiry-based process* of learning that is *supported by the coach's expertise* and *affirms* the professionalism, autonomy, and agency of the coachee (Knight, 2017, p. 12-13). The table below highlights several characteristics of this partnership approach (Knight, 2017, p. 4), in contrast to top-down models of coaching.

Top Down	Partnership
Compliance	Commitment
People outside the classroom know what students need	People inside the classroom know what students need
One size fits all	One size fits one
Constructive feedback	Dialogue
Coach does most of the thinking	Teacher does most of the thinking

Top Down	Partnership
Judgmental	Nonjudgmental
Teachers have lower status than coaches	Teachers have equal status with coaches
Accountable to leaders	Accountable to students

Rather than giving advice or directing the learning process, dialogic coaches honor teacher decision-making in the learning process while sharing supportive strategies or resources that work in service of the teacher-defined goal. For example, dialogic coaches ask questions of the coachee to guide their thinking rather than tell them what to do next. Thus, **the classroom is treated as a laboratory, a place for the coach and coachee to work together to explore, practice, and refine the art of teaching**.

> *"As coaches, we have to resist the temptation to judge teachers. Instead, we must take a progress-minded approach that celebrates growth from both the students and teachers. Coaches who believe they know more than the teachers, are better trained, or care more about the students will always struggle to build relationships."*
>
> — Diane R. Sweeney

Like teaching, coaching is both an art and a science. There are very few coaching books in the education arena that powerfully support coaches in strengthening skills, capacities, and knowledge in how to work with teachers. We strongly recommend three texts that we have found profoundly instructive (Sweeney, 2017; Aquilar, 2013; and Knight, 2018).

Creating a coaches' Professional Learning Community (PLC) can be tremendously helpful when beginning to shift one's own coaching practice to the support of personalized learning practices. Even very experienced coaches can find that a PLC provides a gentle structure and helpful framework for experimenting with new coaching and pedagogical practices. Within the safe learning environment of a PLC, coaches can begin to **use video to record their work with teachers to initiate their own data-informed goal-setting process**.

The Power of an Improvement Cycle

As described in *Beyond PD: Teacher Professional Learning in High-Performing Systems* (2016), the highest-performing education systems in the world organize professional learning around **an improvement cycle that is always tied to student learning and that is built into the daily lives of teachers and school leaders** (p. 4). There are many examples of improvement cycles used across industries to support individuals in teams in continuously improving their performance. The Improvement Science[10] model is currently popular in the education arena (Schwartz: 2018[11]). In the context of an improvement cycle aimed at supporting student learning, typical steps include:

1. Assessing students' learning to identify their next stage of learning (at either an individual or school level)

2. Developing the teaching practices that provide for the next stage of student learning (and being clear what evidence supports this)

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[10] Perlman Robinson, J. "Drawing from improvement science to bridge education research and practice." Brookings. 2018. Accessed Sept. 16, 2019. https://www.brookings.edu/blog/education-plus-development/2018/04/25/drawing-from-improvement-science-to-bridge-education-research-and-practice/

[11] Schwartz, K. "What Does Improvement Science Look Like in Real Classrooms?" KQED Mindshift. 2018. Accessed Sept. 16, 2019. https://www.kqed.org/mindshift/52336/what-does-improvement-science-look-like-in-real-classrooms

3. Evaluating the impact of new practices on student learning so that teachers can refine their practice

(Jensen, Sonnemann, Roberts-Hull, & Hunter, 2016)

Two particularly well-regarded instructional cycles in the field of education are Jim Knight's Impact Cycle and Diane Sweeney's Student-Centered Coaching Cycle.

Jim Knight's Impact Cycle
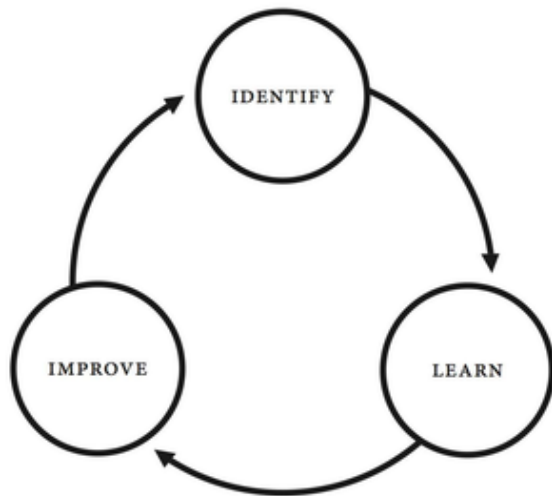
Diane Sweeney's Student-Centered Coaching Cycle
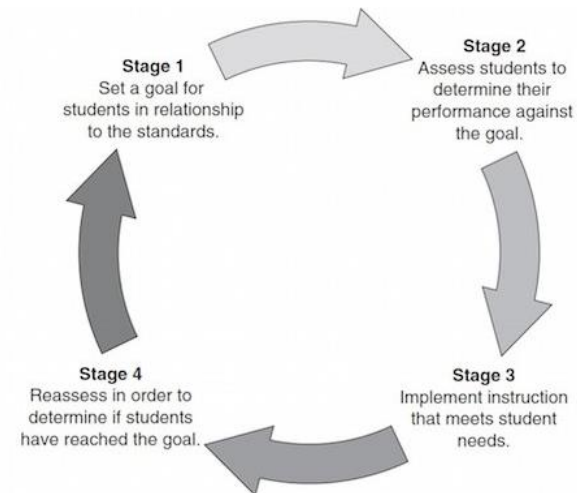
One of the key distinctions between Sweeney's Student-Centered Learning Cycle and Knight's Impact Cycle is the user orientation of the cycle. Knight's cycle begins by identifying a goal after "seeing reality" through examining teacher practice, such as by watching a video clip of a teacher-coachee in action, and using this observation to generate, test, and refine a practice in service of an improvement goal. In Sweeney's cycle, the work begins by establishing a specific goal for student learning, accompanied by learning targets, and then collecting data to determine where the students are in relation to the learning targets. The Student-Centered Coaching Cycle is only completed when all students have successfully met their learning target. Below is a further breakdown of the different practices Sweeney (2017) outlines between relationship-driven coaching, teacher-centered coaching, and student-centered coaching.

SWEENEY'S CORE PRACTICES FOR STUDENT-CENTERED COACHING

More Impact on Students---Less Impact on Students

	Student-Centered Coaching	Teacher-Centered Coaching	Relationship-Driven Coaching
Role	The coach partners with teachers to design learning that is based on a specific objective for student learning.	The coach moves teachers towards implementing a program or set of instructional practices.	The coach provides support and resources to teachers.
Focus	The focus is on using data and student work to analyze progress and collaborate to make informed decisions about instruction that is differentiated and needs-based.	The focus is on what the teacher is, or is not, doing and addressing it through coaching.	The focus is on providing support to teachers in a way that doesn't challenge or threaten them.
Use of Data	Formative assessment data and student work is used to determine how to design the instruction. Summative assessment data is used to assess progress towards mastery.	Summative assessment data is used to hold teachers accountable, rather than as a tool for instructional decision-making.	Data is rarely used in relationship-driven coaching.
Use of Materials	Textbooks, technology, and curricular programs are viewed as tools for moving student learning to the next level.	The use of textbooks, technology, and curricular programs is the primary objective of the coaching.	Sharing access and information to textbooks, technology, and curricular programs is the primary focus of the coaching.
Perception Of the Coach	The coach is viewed as a partner who is there to support teachers to move students towards mastery of the standards.	The coach is viewed as a person who is there to hold teachers accountable for a certain set of instructional practices.	The coach is viewed as a friendly source of support that provides resources when needed.
Role of Relationships	Trusting, respectful, and collegial relationships are a necessary component for this type of coaching.	Trusting, respectful, and collegial relationships are a necessary component for this type of coaching.	Trusting, respectful, and collegial relationships are a necessary component for this type of coaching.

For the purpose of this toolkit, we will integrate elements from these two cycles, creating a robust Instructional Coaching Cycle that takes into account the work of simultaneously improving student learning and teaching practice.

STAGES OF THE INSTRUCTIONAL COACHING IMPROVEMENT CYCLE

Cycle Stage	Elements for Coaching Leaders	Elements for Coaching Teachers

Stage 1: Identify	1. Establish a schoolwide objective and related goals for teacher and student learning
	2. Develop benchmarks and outcomes
	3. Gather baseline data:
	  ○ Share contextual data on student learning and previous interventions
	  ○ Assess current teacher practice in relation to the goals: use video, observational data, data from the online platform, and/or insights from student artifacts or interviews
	4. Identify specific strategies or practices necessary to support goal attainment for all learners, based on individual teacher needs, strengths, and interests
		1. Establish a goal for student learning that connects to the schoolwide learning goal or focus
		2. Develop learning targets for students that are connected to the schoolwide learning goal or focus
		3. Gather baseline data:
		  ○ Identify where students are in relation to the learning targets derived from the goal
		  ○ Assess current teacher practice in relation to the goals: use video, observational data, data from the online platform, and/or insights from student artifacts or interviews
		4. Identify specific strategies or practices necessary to support goal attainment for all learners, based on student needs, strengths, and interests

Stage 2: Learn	5. Engage in new learning with leaders: modeling observations and debriefs, video-recording leaders in action and debriefing together, co-planning, book study 6. Implement new learning while gathering teacher evidence on strategy and practice implementation, and student evidence on learning target attainment	5. Engage in new learning: modeling, co-planning, co-teaching, video-recording teachers in action and debriefing together, book study 6. Implement new learning while gathering student evidence on learning target attainment
Stage 3: Improve	7. Assess progress with leaders, in a collaborative process, by identifying patterns in leader, teacher, and student data (data teams are a powerful strategy here) 8. In an inquiry with leaders, identify and implement modifications to support leaders as they support teachers until all learners reach the target	7. Assess progress with teachers, in a collaborative process, by identifying patterns in teacher and student data 8. In an inquiry with teachers, identify and implement modifications to support teachers as they support struggling students until all learners reach the target
Stage 4: Reflect	9. Reflect on new learning; identify implications for practice and future cycles	9. Reflect on new learning; identify implications for practice and future cycles

The Instructional Coaching Improvement Cycle forms the backbone of the Instructional Coaching Improvement Model.

Idaho's instructional coaching model will ultimately include three components:

- Systems of Support

- Instructional Coaching Improvement Cycle

- Network-Level Debrief

Systems of Support

Educational studies have pointed to the power of supportive networks or "Communities of Practice" in fostering teacher learning (Lave and Wenger, 1991), as well as to the importance of systemwide transformation strategies in supporting teacher learning that results in measurable instructional improvements (Elmore & Burney, 1997; Jensen, Sonnemann, Roberts-Hull, & Hunter, 2016; Knight, 2017). While the instructional coaching improvement cycle is at the heart of this work, there are two critical "ecosystem" elements that we strongly recommend implementing over time:

- **A Networkwide Community of Practice**, in which teachers, school leaders, coaches, and district leaders routinely engage with a community of colleagues to learn with and from each other. This can be achieved through in-person convenings, hosted site visits, virtual seminars, webinars, online courses, and more. Designing a network community of practice follows the same instructional coaching improvement cycle described above.

- **School leadership should be involved** in i) setting a schoolwide goal and set of strategies that are directly tied to student learning and to which the coaching goals are directly connected; and ii) playing an active role in supporting teachers in their practice during and after the instructional coaching improvement cycles. It can be challenging to engage school leaders in instructional improvement, both because their workdays are overfull with real-time demands that require immediate responses and because they often have been trained to view themselves as directors of managers, rather than as instructional leaders. You may have to move slowly to develop a relationship with school leaders, and if this work is new to you, there are two wonderful books that we have found helpful: *Leading Student-Centered Coaching*, by Diane Sweeney and Ann Mausbach, and *Impact Coaching: Scaling Instructional Leadership*, by Julie Rae Smith and Raymond L. Smith.
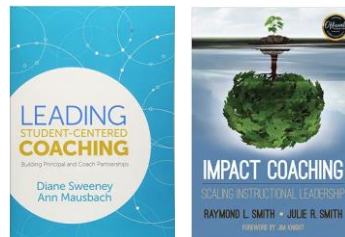
At the school level, **Systems Planning** involves a collaborative discovery and planning process among school leadership, coachees, and teachers. The purpose of the Systems Planning process is to:

- Ensure a shared understanding of the school's goals, strategic direction, and current priorities when it comes to implementing personalized learning practices to establish a student-centered classroom that meets students where they are and supports their growth, performance, and learning

- Identify current needs or challenges related to instructional improvements and student learning within the school community

- Clarify processes and expectations involved in the instructional coaching cycle

- Co-create a plan to maximize the value of the instructional coaching process within the school community

Begin Systems Planning with a meeting between the coach and the instructional leadership team, including teacher leaders if appropriate. Discuss the school's goals in connection to the coaching work, using the School-Based Coaching Plan as a guide that will become the anchor for documenting and planning over the course of the coaching engagement. What follows below is all located in the School-Based Coaching Plan.

The plan is organized to support the Instructional Coaching Improvement Cycle described in the section above, detailing the Conceptual Framework.

SCHOOL-BASED COACHING PLAN FOR IMPLEMENTING AN INSTRUCTIONAL COACHING IMPROVEMENT CYCLE

Part 1: Collaborating with Leaders to Align School Goals for Student Learning

Stage 1: Identify

GOAL SETTING

GOAL-SETTING

There are a few parts to the schoolwide goal-setting work.

- **Providing an overview** of the broad objective for this year: Perhaps: *"(1) Deepen student and teacher learning, performance, and growth with regard to the use of academic discourse as a tool to deepen meaning. (2) Expand teachers' personalized learning pedagogy by planning and implementing effective conferences, powerful feedback cycles, and expanded opportunities for students to engage in academic discourse as a strategy for strengthening both meaning-making and academic task production."*

- **Setting a goal** for the first coaching improvement cycle: Perhaps: *"Planning, practicing, and documenting 2-3 conferences with each of 5 students, focusing on building a strong coaching relationship, learning about student strengths and levels of understanding, and identifying 1-2 concrete next steps for <u>learning and meaning-making</u>."*

- **Identifying 1-3 benchmarks** that are realistic to accomplish during the first cycle. Perhaps:
  - *"Video initial conferences."*
  - *Practice using and adapting 2-3 conferencing tools to support conference planning, facilitation, and documentation."*
  - *Practice identifying areas for my own growth as well as students' growth after each conference."*

- Articulating the **expected outcomes** of the first cycle. Perhaps: *"Teachers will:*
  - *Develop supportive coaching relationships with 3-5 students.*
  - *Develop comfort in planning, implementing, and documenting conferences*
  - *Learn to identify a couple strategies to address student engagement and learning struggles.*

This process is then repeated at the beginning of the second and third Instructional Coaching Improvement Cycles, always aligning with the original broad objective.

LEADER COACH PLANNING GUIDE

LEADER-COACH PLANNING GUIDE

LEADER: [name here]
COACH: [name here]

PART I: BASELINE	Where are we now, and where are we going?	
1. Baseline	Let's describe our starting point around a specific area of practice that we will focus on during the coaching cycle.	2. History — What has already been done for teachers and students in the work from the work plan been addressed previously?
[Text here]		[Text here]

PART II: Contextual Data	How will we get there?	
3. What is the school's data? Graduation rate, attendance, test scores		Leader Goals to assist with the school goals: What goals does the admin achieve the goals of the work plan? (Consider the work that needs to happen between consistency and progress.)

PART III: MEASURING IMPACT	How will we know we are succeeding?	
5. What will success look like?		

SCHOOL LEADER-COACH PLANNING: BASELINE DATA & PLAN

There are three parts to the data and planning work. It's critical this aligns with the overall objective and goals identified in the previous GOAL-SETTING stage (in this case related to conferencing):

- **Baseline data gathering on teacher practice.** Perhaps: *"Observing each participating teacher two times (with video if the teacher is willing), using an observation protocol."*

- **Providing contextual data.** What instructional improvement efforts have been tried in the past? What is the data the district and state look at? AND most importantly: Identify a couple leader goals that support the school goals. Perhaps: *"Gain the same strength with conferencing, feedback, and expanded talk that my teachers are gaining so that I can support their growth when the coach is not on-site."* and/or *"Study independent learning strategies to support teachers in offering students concrete next steps for making meaning of academic content."*

- **Measuring impact.** Establish a small number of metrics that we can easily gather data on that are tightly linked to the overall objective of the work. Metrics should address both student and teacher growth. Perhaps: *"Teachers will:*

  - *Video 2 early student conferences, feedback sessions, and/or student-to-student interactions around academic learning. Identify areas for growth and development. At the midpoint and conclusion of the coaching work, video conferences with the same 2 students, and undertake analysis of identifiable growth in student use of academic discourse, meaning-making, and academic task production."*

  - *"Undertake analysis with the students who were videotaped, and gather feedback from them about their own growth, as well as the teacher's growth."*

  - *"Design a simple feedback survey for students to complete, asking them to reflect on and respond to questions about their own growth around meaning-making, academic discourse skills, and task production. Also ask them to reflect on the teacher's growth in supporting their growth."*

Review the work of the 2 initial students at 3 points: the beginning of the coaching engagement, the midpoint, and conclusion, looking for increased use of the language of academic discourse, as well as improved synthesis, persuasion, and inference skills."

Stage 2: Learn

ADMIN LOG

SCHOOL-WIDE GOALS AND WALK-THROUGH LOG

LEADER: [name here]
COACH: [name here]

Visit #	Date	Goals Defined With Walk Through Data	Next Steps Supporting Goals	Other

ADMINISTRATOR'S LOG

Strong instructional leaders spend up to half their time in classrooms supporting teacher growth and development. Given the constant demands on school leaders, this is an incredibly challenging expectation. To support administrator growth while also ensuring that the coaches' and leaders' work remains focused on and aligned with the overall objectives for the year, the Admin Log provides leaders with a place to document what they are seeing during walk-throughs. We recommend that coaches and administrators visit classrooms together 5-6 times during each coaching cycle, documenting their observations around the specific goals, benchmarks, and outcomes articulated in the goal-setting sessions.

Goals defined with walk-through data. Each walk-through should have a focus or goal that ties back to the focus of the coaching cycle. The first walk-through of each improvement cycle provides baseline data, allowing the coach and leader to set a leadership goal for the cycle.

Stage 3: Improve

ADMIN LOG

SCHOOL-WIDE GOALS AND WALK-THROUGH LOG

LEADER: [name here]
COACH: [name here]

Visit #	Date	Goals Defined With Walk Through Data	Next Steps Supporting Goals	Other

- **Next steps.** This is a place for the leader to articulate 1-3 steps they will take to support teacher growth before the next walk-through. These need to be actionable and in service of the overall objective and the cycle's goals. Perhaps:
  - *"Reading a specific text and identifying strategies to support teachers in providing concrete feedback to students."*
  - *"Facilitating a book- or text-study with teachers to explore a specific strategy."*
  - *"Co-planning a professional learning session with the coach to model or practice specific skills and strategies around academic discourse."*
  - *"Setting up a conference with a teacher that mirrors the kinds of conferences that teachers are having with students."*

The log includes an additional space to write notes and hyperlink tools and resources as a reference as they move forward.

Stage 4: Reflect

EVIDENCE OF IMPACT

EVIDENCE OF IMPACT

As coaches, leaders, and teachers gather data to track progress toward both the overall objective of the coaching work and the individual goals and benchmarks of teachers and leaders, the Evidence of Impact tracker provides a place to summarize and synthesize the data at 3 moments: baseline, midpoint, and endpoint. This makes it possible to refine goals and coaching work in relation to learning from the data. Data is gathered at the leader, teacher, and student levels, and is drawn from each of the sections of the School-Based Coaching Plan.

COACHING CYCLE REPORT

COACHING CYCLE REPORT

At the close of each coaching cycle, coaches compile a report that describes key learnings, growth, struggles, and potential new goals to inform the start of the next coaching cycle. This is a "big-picture" synthesis that provides a bird's-eye view of the work undertaken during the coaching cycle. As planning gets underway for the next learning cycle, this summary should help to shape mid-course corrections, refinements to goals, establishment of next goals, etc. The report should be completed or shared with teachers and the school leader so that they can contribute their own insights.

During the coaching engagement, the roles of school leaders and coaches will be leveraged in different ways. School leaders help ensure that the professional learning goals they have for teachers are aligned to the work teachers are doing with their coaches. Coaches need to consistently communicate with school leaders as teachers build a deeper understanding of personalized learning practices. Additionally, coaches help school leaders support teachers in their development by identifying specific areas where leaders can provide feedback to teachers during the school leader's classroom visits, walk-throughs, or coaching sessions. Tight alignment and tight communication is key to delivering quality feedback that supports teacher growth and drives student achievement. As Sweeney (2017) describes, principals are also intended to hold teachers accountable to ensuring that the online curriculum is well-supported by teachers' use of personalized learning practices, while the coach is intended to be the support to help teachers develop those practices that will result in the desired student outcomes. It is essential that coaches and principals establish clear norms and agreements around their roles with teachers.

Throughout the Coaching Improvement Cycle, the partnership between school leaders and coaches must remain strong and collaborative. Coaches engage in the deepest technical learning with teachers, while school leaders deepen their own understanding, expand their skill set, practice supporting teachers, and continuously check in to ensure that the coaching aligns with the school's goals and priorities.

The remaining sections of the [School-Based Coaching Plan](#) focus on goal-setting and documentation for coaching work with teachers.

The Instructional Coaching Improvement Cycle

Once school leadership and instructional coaches have engaged in the deep Systems Planning, classroom-embedded coaching with teachers can begin. Adult learning theory strongly suggests that the greatest learning occurs when teachers have opportunities to apply and practice new skills and knowledge within a familiar context (Bloom, Castagna, Moir, Warren, 2005). In order to accomplish this, the Instructional Coaching Improvement Cycle supports teachers in their daily work as they plan, teach, check for student understanding, reflect on their effectiveness at supporting student learning, and use data on student understanding to inform planning for the next learning experience.

SCHOOL-BASED COACHING PLAN
Part 2: Using School Goals to Support Teacher Capacity-building

At the beginning of the first Coaching Improvement Cycle, it is critically important that the coach initially spend time getting to know the teachers as individuals, establishing a relationship of trust, mutual respect, and engagement. Coaches should be very careful not to assume that their feedback is welcomed, instead working hard to build a relationship with teachers in which they explicitly ask for feedback and support. If teachers continue to feel unsafe or resistant to coaching, take the opportunity to meet with the school leader to troubleshoot the situation. Explore whether the teacher is the best fit for this work at this time. Perhaps the school leader can offer support to the teacher if the leader's relationship is stronger than the coaches'. Or perhaps the leader can smooth the way for the coach by joining the coaching work for the first several weeks. Often, teachers are resistant because it's unclear if exposing their practice to a coach means that their teacher evaluation will be negatively impacted. If teachers are concerned about this, it's critical that the coach and leader work together to reassure teachers that no evaluative data will be shared outside of the coach-teacher relationship. As a coach, you may have to be creative: bring a snack for the teacher, get to know them as a human before knowing them as a coach, learn about their passions and interests in teaching, etc. The relationship you build is literally the only leverage you have for becoming an effective coach.

Strong coaches spend about an hour with each teacher at a site. The time is generally spent co-planning, modeling, co-teaching, and debriefing. Perhaps the coach will spend 25-35 minutes in the classroom with the teacher and another 25-35 minutes with the teacher either before or after the classroom time. Of course, there are always days when this is not possible, but the coaches' goal should be to spend time both inside and outside of the classroom with the teacher in order to provide coaching in real time, as well as during preparation and reflection moments.

Stage 1: Identify

CYCLE 1 GOAL SETTING

ESTABLISHING A BASELINE AND GOAL-SETTING

There are a few parts to the schoolwide goal-setting work.

- **Baseline data gathering on teacher practice**. Perhaps: *"Observing each participating teacher two times (with video if the teacher is willing), using an observation protocol."*

- **Setting a goal for the first coaching improvement cycle.** In some cases, the teacher goal can be the same as the overall school wide goal, but be prepared to personalize it to specific teacher needs that emerge: *"Planning, practicing, and documenting 2-3 conferences with each of 5 students, focusing on building a strong relationship, learning about student strengths and levels of understanding, and identifying 1-2 concrete next steps for <u>learning and meaning-making."</u>*

Benchmarking and goal-setting are repeated at the beginning of the second and third Instructional Coaching Improvement Cycles, always aligning with the original broad objective.

CYCLE 1 ACTION PLANNING

CYCLE 1 ACTION PLAN

There are two parts to the Action Plan: steps and supports. Here again, it is critical that the plans align with the school's overall objective and goals, but just as important is to have the action plan specifically tie itself to each individual teacher's goals, developed through an analysis of the baseline data (in this case related to conferencing):

- **What steps and supports will be needed in the first cycle?** A teacher might suggest: *"I will...*

  - *Read about conferencing as a personalized learning strategy, watch some of the recommended videos, and review the conferencing tools.*

  - *Observe the coach undertake a few conferences, and use a conference tracker to record my observations. I will debrief my observations with the coach to identify possible approaches that I could replicate in conferences that I undertake on my own.*

  - *Make a video of a conference that the coach has with a student, analyzing footage to identify next steps for growth.*

  - *Undertake conferences with 2 students, video-recording the conference so that I can review it using to identify next steps for growth."*

- **What outcomes will we work toward?** Perhaps in the first coaching cycle: *"I will:*

- *Develop supportive coaching relationships with 3-5 students.*

- *Develop comfort in planning, implementing, and documenting conferences.*

- *Learn to identify a couple strategies to address student engagement and learning struggles."*

Stage 2: Learn

TEACHER LOG

TEACHER LOG

Focus: Each visit with teachers should have a focus that ties back to the hoped-for teacher outcomes and goals of the coaching cycle. It's preferable for teachers to share their preferred focus with the coach prior to meeting so the coach is well-prepared to be supportive.

Actions: This section documents the actions teachers took during the site visits to shift their practice. For example: *"I modeled a conference with students, took a video, and asked students for feedback on my interactions. Then, the coach and I reviewed the video and the student feedback, and I reflected on areas of strength."*

Evidence: This section refers to the data teachers and coaches collect to understand how teaching practice and student learning are progressing. In the above example, there are several pieces of evidence: the video, which shows both the teacher's practice and the student's capacity, as well as the student feedback and the teacher's reflection.

Stage 3: Improve

TEACHER LOG

TEACHER LOG

- **Next steps**: This is a place for the coach and teacher to articulate 1-3 steps the teacher can take as practice before the next walk-through. These need to be actionable and in service of the overall objective and the cycle's goals. Perhaps:
  - *"Reading a specific text and identifying strategies to learn how to provide concrete feedback to students."*
  - *"Joining a book- or text-study with colleagues to explore a specific strategy in advance of practicing it."*
  - *"Making a video of a conference analyzing footage using to identify next steps for growth."*
  - *"Reflecting on one's learning around conferencing, setting up opportunities to practice specific areas for growth: perhaps active listening, perhaps identifying a specific skill or strategy for students to work on, or using strengths-based, concrete and actionable language, etc."*

The log includes an additional space to write notes and hyperlink tools and resources as a reference as teachers move forward.

Stage 4: Reflect

COACHING CYCLE REPORT

COACHING CYCLE REPORT

At the close of each coaching cycle, the coach and leader will take a bit of time to complete a brief report that aggregates stories of growth and challenges across the site:

Team Summary: Summarize the initial goals, and then provide a summary statement of where the work is at the end of the coaching cycle, vis-a-vis the initial goals.

Team Outcomes: Create overviews of the progress to date, including challenges, and identify needed shifts to undertake for coaching cycle 2.

Coaching Cycle Takeaways: What are we learning? Which teachers are doing exceptionally well? Which ones are struggling or creating challenges?

PART 4
LAUNCHING COACHING

Where to Begin?

When coaching teachers, knowing where to begin can be challenging. This is especially true when just beginning as a coach or when working with teachers whose instructional practice is generally ineffective.[12]

Context is everything when deciding which personalized learning practice to begin working on with teachers. Skilled teachers who engage in reflective practice are always striving to improve their practice. Knowing where to begin with such teachers is easy: coaches simply ask them what they'd like to work on and how a second set of eyes in the classroom can be of most use.

However, many teachers—even those engaged in reflective practice—may not know where to begin themselves. Skilled teachers may need help sorting out which of the pedagogical practices to incorporate into their classrooms or are wrestling with questions about what the practices would look like when used in their specific context. Less-skilled teachers may find the idea of shifting practice overwhelming or have an unrealistically rosy assessment of their own practice.

In these cases, launching into coaching is best done with a walkthrough or, if possible, an observation of an entire class period or lesson, which isn't always possible. In our experience, when limited time is available, it is better to see the start of a lesson than to see its end; learning experiences that end poorly usually start poorly, so problems that you might observe when students are engaged in the work of the lesson or in its wrap-up can often be addressed by improving the lesson launch.

Below we present a handful of scenarios that represent an absence of the pedagogical practices for transparency and responsiveness. Put another way, we try to answer the question, "How do I know what's missing?" by describing some of the common practices that fill the void and practices that coaches may encounter during classroom visits. The scenarios may seem exaggerated—they are, to make clear the practices to be addressed—but they are readily identifiable by professionals (and students) alike. Taken together, they suggest a set of broad questions for launching coaching with individual teachers.

- **What do I see?**
    - How is the room arranged?
    - How are students grouped?
    - What learning resources are available?
    - What indicators of classroom culture do I see?

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[12] It goes without saying, of course, that the health, safety, and general welfare of students is the first and the highest priority.

- **What are students doing?**
  - What evidence of engagement do you see?
  - What student-to-student interaction do you see?
  - How are students using learning resources?
  - What academic vocabulary are students using?
  - What sorts of questions are students asking?
  - How are students interacting with the teacher?
- **What is the teacher doing?**
  - Where is the teacher relative to students?
  - What sorts of teacher and student interactions do you see?
  - What sorts of questions is the teacher asking?
  - How are directions given?
  - What cues and prompts does the teacher use?
- **What would make this learning experience more meaningful for students?**
  - Are students actively or passively engaged?
  - Are student needs being met?
  - Is the teacher responding to student needs in a timely way?
  - Do students understand the task they are undertaking?
  - What evidence of higher-order thinking and other indicators of rigor do you see?

As you read the scenarios, keep the questions in mind. After describing what a coach would see, we present a response to the scenario, **Where to Begin?**, in which we suggest where an arc of learning would start within the area of focus we've chosen for the teacher. Because improving instruction is a complex, iterative, and often messy process—just like all learning—anything beyond those first few steps would be conjecture. In reality, we'd work with the teacher to examine the data and reflect on the lessons to decide the next steps for learning. In other words, we'd be responsive and personalize learning, modeling for the teacher the approach we want to see her use with her students. However, to help guide you in that process, we list some specific coaching moves and connect them, when applicable, to the other elements of the student-centered learning framework. You should strive to incorporate these elements into coaching sessions; though, there is no need to roll them out all at once or, except for the first, to tackle them in any particular order.

To support the deeper work, we then present **Tell Me More**. You can use this brief overview of the pedagogical practices to envision what they look like in the classroom. Each overview can also be shared with teachers to quickly introduce the target practice.

Finally, at the end of this section, we've created a table to list the teacher skills upon which each of practices is built. We also include specific tools and resources you can use while coaching.

The Scenarios

SCENARIO #1

Missing: Discovery-Based Learning Experiences
In this classroom, the teacher is working hard—too hard, in fact. She's doing all the work, up at the front of the room lecturing, working sample problems, or writing down information for students to copy. This goes on all for most, if not all, of the class period or most of the day. While direct instruction and modeling are tools that every educator should have in their toolbox, they should not be the *predominant* tool in the toolbox. In this teacher's classroom, students are often engaged and on task, but the task is one of consumption rather than one that requires higher-level thinking.

Where to Begin
In this classroom, students would benefit from the opportunity to be actively engaged in meaningful learning experiences and to interact with one another. An arc of learning for this teacher would begin with collaboratively planning a lesson structured using the workshop model, with an emphasis on keeping any modeling or direct instruction brief, and choosing an activity that allows students to engage with the content, such as text coding or creating a mindmap. The lesson would also include an opportunity for student-to-student interaction, such as a simple think-pair-share and a reflection and synthesis prompt. As students interacted, we'd gather data by asking students probing questions about the work they were doing.

1. Plan a lesson that incorporates Coding the Text, Mind Mapping, or another inquiry-driven activity (discovery-based learning experience)

2. Launch the lesson with modeling and a Think-Aloud (explicit skill and strategy instruction)

3. Include student-to-student interaction such as a think-pair-share (expanded talk)

4. Ask probing questions (using the Academic Conference Stems if necessary), and record student responses (moment-by-moment formative assessment)

Tell Me More

Discovery-based learning experiences are built around the learning cycle for an active, inquiry-driven process. Grounded in the learning sciences and in child and youth development research, the learning cycle provides the framework for the design of learning experiences. The outer circle of the learning cycle represents the four-stage process students move through over the course of a learning experience, while the inner circle

represents the recurrent synthesis and reflection that allows students to create, add to, and reorganize schema. In each stage of the cycle, student choice is expanded, metacognitive awareness is developed, and student agency is nurtured.

The most common learning experiences are those that focus on the **inner circle of the learning cycle**, the daily lessons bound by a class period or by time set aside during the school day. The circle-within-a-circle design of Make Meaning, Investigate, and Synthesize & Reflect illustrates how students ask questions, use resources to find answers, and then generate new questions as they work. Throughout the lesson, students are using higher-order thinking skills (application, analysis, synthesis, evaluation, and creation) to deepen their understanding of content and hone their skills.

The **Make Meaning** phase of the lesson serves as a launch of the day's new learning, builds background, and connects to prior knowledge. The **Investigation** is the middle—and major—portion of the lesson, a block of time for active and collaborative student work designed to deeply explore new material. **Synthesis and Reflection** close the lesson, providing students with the opportunity to take stock of what they have learned and how they have learned it, and providing teachers with formative assessment data that will inform planning for the next day.

In the context of a discovery-based learning experience, the **Make Meaning** stage of the learning cycle often takes the form of a mini-lesson. This small dose of direct instruction is designed to equip students to undertake the day's work by activating prior knowledge, building background knowledge, and introducing foundational concepts and ideas. Activating prior knowledge and building background are essential for student learning. Ensuring understanding creates space for students to generate their own questions and allows the learning experience to unfold in such a way that learning happens through discovery. Without this critical step, students with gaps in background knowledge, concepts, or academic vocabulary will likely struggle and ultimately be left behind.

The **Investigate** stage makes up the bulk of a learning experience, with 50 percent to 60 percent of learning time dedicated to students' active investigation of ideas. While teachers and students are co-creators during the Make Meaning stage, during the Investigate stage, students' peers are their primary collaborators. When they investigate, students apply skills to content, as they use an array of tools and resources for learning. Students also explore relevant questions and generate questions of their own based on their interests and curiosities.

This stage is essential to ensuring all students have access to learning experiences that involve deep, analytical thinking, such as through exploring multiple perspectives on an issue or multiple approaches to a solution, evaluating claims and evidence, and developing conceptual frameworks to ground one's thinking and understanding. The Investigate stage is most successful when the teacher has established familiar routines to support students' choice and agency: materials are available, tasks are clear and available for students' reference at any time, and habits of effective collaboration and independent work have been internalized. As students work with the new material, the teacher confers with them individually and in small groups, asking them to explain their learning process and decisions. These conferences provide the teacher with the opportunity to provide feedback and to check and document student understanding of the material, acquisition of skills, and metacognitive development.

The final stage of the learning experience is the opportunity to **Synthesize and Reflect**, when students articulate what they have learned and how they learned it. Synthesis, one of the highest levels of thinking on Bloom's Taxonomy, is putting together new learning with old; it is the work of creating, adapting, and revising schema by connecting and organizing information and skills. Reflection—a key metacognitive practice—is essential, as through reflection, students develop the strategies and tools they need in order to become fully independent learners. The more facile students become at noticing which strategies and skills they are using for a given academic task, and how effective those strategies and skills are, the greater the possibility that they will develop an intuitive and instinctive capacity to use them. The Synthesize and Reflect stage then provides a critical opportunity to unpack the automaticity of the skill, understand it, and begin to explore potential future applications. Finally, the Synthesis provides teachers with key formative assessment data on both the academic content and skills students are learning (and struggling with). This is invaluable for tracking student progress and planning future lessons and other next steps.

The structure of the learning cycle creates a framework upon which practitioners can employ a wide array or research-based instructional practices. So while it may seem the learning cycle is highly prescriptive, in truth the range of activities that support this work is broad and deep, creating opportunities for both teacher and student choice. An intentional, strategic approach to learning experiences is necessary for creating a student-centered learning environment. Ultimately, this deep thinking and purposeful approach to learning experience design creates a reflective dynamic for practitioners. As teachers begin to reflect on the structures that give shape to learning and develop new insight into the full range of their work with students, they concurrently prepare themselves to teach students to think explicitly about their own learning.

SCENARIO #2

Missing: Moment-by-Moment Formative Assessment

In this classroom, everyone is engaged in work. It might even be a rigorous task, such as completing a problem set, discussing a text in a small group, or writing an essay. However, the teacher isn't engaging with students in any meaningful way. He may be practicing "management by walking around," using prompts, praise, and redirects to keep students on task. Alternately, he may be sitting at his desk, grading, planning, or sending emails. He has an impression whether his students are learning, but it isn't informed by data, and students are not getting meaningful feedback.

Where to Begin

Here, students would benefit from probing questions about their learning and on-the-spot feedback. An arc of learning for this teacher would begin with doing brief, informal check-ins with students or groups. We'd choose a couple of prompts to use as he circulates, as well as a simple data collection tool to record student responses. So we might ask students what they were reading and if they had any new questions based on the text, and then jot those questions down. Then we could group students who had related or similar questions and task them with collaboratively developing responses to the questions. After the lesson, we'd look at student questions and use them to plan additional learning experiences.

1. Ask probing questions (using the Academic Conference Stems if necessary), and record student responses (using one of the tools in the guide to regular conferencing and feedback) (moment-by-moment formative assessment)

2. Use information from the formative assessment to plan multimodal learning experiences (flexible student grouping)

3. Use information from the conferences to plan small-group mini-lessons to address gaps (flexible student grouping, explicit skill, and strategy instruction)

4. Incorporate formal individual student conferences into classroom routine (regular conferencing)

Tell Me More

Moment-by-moment formative assessment is a vital tool for responsiveness in personalized, student-centered learning environments. In their work with students, teachers take on the responsibility of crafting and implementing summative assessments that provide students with meaningful opportunities to demonstrate their mastery of competencies; instituting a daily practice of formative assessments to check and track student understanding of new content and skills; using data from both summative and formative assessments to inform their daily pedagogy and curriculum; and collaborating to deepen their own and their colleague's understanding of assessment and its uses.

Summative assessments occur at the point at which teachers and students feel students are ready to demonstrate their mastery of skills and content. Most often in traditional environments, summative assessments are associated with a calendar date (the end of a unit, term, or course), rather than student

preparedness. In crafting summative assessments, the goal is to ensure that they provide rich data about students' mastery of competencies. Summative assessments are assessments of learning.

Formative assessments, on the other hand, are assessments *for* learning. In personalized, student-centered learning environments, the frequency, structures, focus, and role of a formative assessment are key levers for student mastery of competencies. Formative assessments are the daily opportunities for teachers— and students themselves—to uncover evidence of student progress toward meeting learning targets and demonstrating competence. Rather than a weekly or biweekly occurrence, formative assessment is a continual process, not limited to written, end-of-period checks for understanding. It includes a broad range of formats, such as one-on-one conferences, observations, and written and oral opportunities for metacognition and reflection.

Built upon clearly defined competencies and articulated learning progressions that students will ascend as they develop their emerging mastery, learning targets are a necessary precursor to using formative assessment effectively. The first presents a destination that teacher and student alike can visualize; the second describes the path they will traverse. Using formative assessment provides the data necessary to keep teacher and student on the path and focused on the intended destination.

As the foundation for feedback, formative assessment provides teachers and students with information about student learning relative to the learning target and cues about next steps they can take to progress and close gaps. When teachers use formative assessments to provide students with ongoing feedback that is actionable and specific to the student and the learning target, students are empowered to take greater control over their own learning. It also fosters the development of the metacognitive skills students need to effectively self-assess and self-correct their performance.

Students use information gleaned from assessments to make judgments—or confirm assumptions—about their own ability. In personalized learning environments, thoughtful use of formative assessment is built on the belief that learners develop skills over time, and competence emerges gradually, not spontaneously. Though students progress through a common set of learning targets, they do so at different paces. Mastery-based design hinges on using formative assessment to present learners with multiple opportunities to learn, practice, and revise as their skills develop.

Information gathered from formative assessments allows teachers to make adjustments on the fly and plan future lessons. As students progress through lessons, the data gathered should inform teacher reflection. One simple question, "Did students learn what I intended?" can be used as a launching point for teacher reflection. If the answer is yes, then the teacher should note what elements of the lessons accelerated student learning.

Information gathered through moment-by-moment formative assessment can be used to make decisions about:
- How, when, and why learning spaces are used and configured
- How, when, and why students are grouped

- Aligning the next learning target with students needs
- Student ownership of their learning

There are many different activities, practices, and tools that support proactive, ongoing formative assessment work. To do this work effectively, teachers must become skilled diagnosticians, continually scanning the classroom for evidence of student progress or struggle and quickly responding.

A short pencil is better than a long memory, so a tool like those found in the guide to Conferencing and Feedback can be invaluable for recording information gleaned from moment-by-moment formative assessments.

SCENARIO #3

Missing: Explicit Skill and Strategy Instruction

In this classroom, students are engaged in a task, which could be anything from a simple worksheet to a complex lab experiment. And hands are up everywhere. Students are asking one another, "Do *you* know what we're supposed to do?" and "How do you do this problem?" The teacher is moving from student to student or group to group, trying to answer as many questions as she can, but as soon as one hand goes down, another shoots up.

Where to Begin

In this classroom, the teacher isn't ensuring understanding, and so students don't know what it is they are supposed to be doing. And, perhaps more importantly, they don't know what or *why* they should be learning. Explicit skill and strategy instruction will go a long way toward ensuring that when students are engaged in a task, they know what they're doing and what they're learning. An arc of learning for this teacher would begin with collaboratively developing a lesson that incorporates modeling of a specific skill and uses gradual release to ensure that students are prepared for the task they undertake. We might not plan the modeling as a full-blown think-aloud, but we'd incorporate opportunities for her to share her metacognition and key points during the modeling and to prompt student metacognition as part of the gradual release. As students worked independently, we could use some prompts to check for understanding and record how often students were able to correctly identify what they were doing and why they were doing it.

1. Plan a lesson that requires students to apply specific skills derived from the competencies to content or that requires them to follow a specific procedure (discovery-based learning experience) and includes modeling of the specific skill
2. Plan a think-aloud for the lesson (explicit skill and strategy instruction)
3. Ask probing questions (using the Academic Conference Stems if necessary) to assess if students understood the skill and strategy focus of the modeling, and record student responses (moment-by-moment formative assessment)

4. Reflect on the think-aloud

5. Tune the learning target, or develop a precise learning target for the next think-aloud

Tell Me More

Explicit skill and strategy instruction is essential to ensuring that students master the Idaho College And Career Ready Competencies. It is a powerful pedagogical practice that gets to the heart of what it means to be competent: the capacity to transfer learning from one context to another. By modeling and thinking aloud teachers make transparent to students the skills and strategies that make up the competencies and demonstrate the process of applying them for deep engagement with important disciplinary and interdisciplinary content.

Put another way, we can imagine the competencies as a toolkit for K-12 and beyond. When equipped with these skills and strategies, students will be able to learn—and act—in a wide array of situations, environments, and communities. To prepare our students to become the graduates we imagine, we have to build their competence and nurture their autonomy as learners and thinkers, and that begins with explicit instruction in the use of those tools.
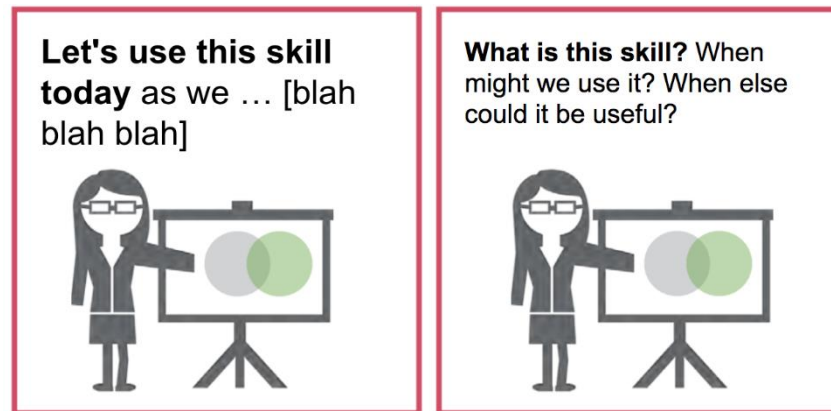
Developing students' capacity as independent learners strengthens their ability to address gaps in their core understandings while also building their capacity to pursue personal passions and interests.[13] In classroom practice, this capacity-building approach reflects the difference between using a tool for learning as an

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[13] Fernández, M., Wegerif, R., Mercer, N., and Rojas-Drummond, S. "Re-conceptualizing 'Scaffolding' and the Zone of Proximal Development in the Context of Symmetrical Collaborative Learning." *The Journal of Classroom Interaction*. 2002. (36/37) 2/1.

isolated "activity" and making explicit the tool's purpose, value, and relevance to a task so that students develop the schema that allows for its fluent use in many contexts.

For example, comparing and contrasting is a useful skill for learning and is part of the skill continua of several competencies. Students compare and contrast to detect biases in sources, to look for discrepancies in data sets, and to make meaning of a range of content. Venn diagrams are one way to organize information when comparing and contrasting. In a typical classroom, a teacher might "model" by providing students with a graphic organizer, demonstrating its use, then asking students to complete the organizer while reviewing a resource. However, this surface-level modeling doesn't help students understand the value of comparing and contrasting, nor does it prepare them to independently use comparing and contrasting (or a Venn diagram, either) to support learning in other contexts.

When striving for transparency in explicit instruction, the teacher's goal is not completing the activity for its own sake but rather helping students understand that comparing and contrasting is an essential tool for meaning-making and that the Venn diagram is one of many ways to organize information to show relationships. The teacher lays the groundwork for student autonomy by modeling thinking about both how and why to use the organizer, and how and why comparing and contrasting is a useful tool. As students grasp that learning requires organizing ideas in increasingly complex ways AND they are equipped with the strategies and tools to do this, they are on their way to being able to learn anything—from woodworking and web design to physics and Latin.

Experts, irrespective of field, have strong metacognitive knowledge.[14] The ability to assess one's own ability to use knowledge and skills to solve a problem and the ability to articulate why a particular strategy was successful or not is a quality of strong learners; less competent learners do not consistently self-assess or self-monitor, nor can they elaborate on how or why a problem-solving strategy was or was not successful.[15] Students who lack the schema for the task at hand and who have less-developed metacognitive awareness can become frustrated or disengaged, not for lack of perseverance, effort, or "grit," but because they cling to unsuccessful problem-solving strategies.[16]

A critical part of explicit strategy and skill instruction is to model effective metacognition because it is through the process of thinking about their thinking that students begin to take control over their learning. Modeling should incorporate demonstrations of how to:

- Assess one's own learning
- Plan to carry out challenging academic tasks

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[14] Hatano, G. "The nature of everyday science: A brief introduction." *British Journal of Developmental Psychology*. 1990. *8*(3), 245-250.

[15] Chi, M. T., Bassok, M., Lewis, M. W., Reimann, P., and Glaser, R. "Self-explanations: How students study and use examples in learning to solve problems." Cognitive Science. 1989. 13(2), 145-182.

[16] Pellegrino, J. W., Chudowsky, N., and Glaser, R. "Knowing what students know: The science and design of educational assessment." National Academy Press. 2001. 2102 Constitutions Avenue, NW, Lockbox 285, Washington, D.C. 20055.

- Monitor one's progress
- Make decisions about which strategy to use at a particular moment
- Choose to change strategies if one or another is not working
- Reflect on one's learning in order to expand the quantity and quality of available schema

Metacognitive skills, like the IMEN Competencies, are inter- and trans-disciplinary, and are **most useful and most effectively taught in the context of rigorous tasks and meaningful content**.[17] Lessons that address metacognition as an isolated skill don't have an impact because without content, *there is no there there*. Planning, monitoring, adjusting, and reflecting—the core of metacognition—for the use of skills and strategies (the competencies) to build schema requires *content* because without content, there is nothing to build schema to organize. Well-designed explicit skill and strategy instruction is a three-legged stool of competencies, metacognition, and content—each leg is equally important for a successful learning experience.

Though often overlooked, a key part of effective explicit skill and strategy instruction is having a precise learning target. Competencies and their indicators are expressions of complex interrelationships among several skills and strategies, which themselves often contain several sub-skills. Formulating a precise learning target requires deep thinking about those relationships to identify the specific skills and strategies, to envision what they look like when applied to content, and to reflect on the metacognition that supports their use.

Specificity and clarity about what students will learn, how students will know they have learned it, and to what standard of quality their performance of the skill

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[17] National Research Council. *How People Learn: Brain, Mind, Experience, and School: Expanded Edition*. 2000. National Academies Press.

or content will be held are essential to the design of explicit skill and strategy instruction. Traditional lesson objectives don't provide teachers—or their students—with enough information. While both objectives and learning targets communicate the aim of the lesson, targets are different:

- They represent learning that can be achieved in a single lesson.
- They use learner-facing language.
- They identify for learners the specific skills, strategies, and knowledge necessary to achieve the target.
- They specify how, and how well learners will be asked to demonstrate their learning.

Learning targets are shared with students before the lesson and referenced throughout the learning experience. They are the foundation for modeling and equip the teachers—and students themselves—to continually monitor student understanding throughout a learning experience. The learning target informs feedback, which we discuss below, and as a result, students have a clear understanding of their next steps for improving their work.

To help teachers hone in on the skills and strategies that will be most helpful to students, a helpful strategy is to develop learning targets that support students in learning the essential disciplinary skills and strategies described later in this section. One of the best guides to this work is *Learning Targets*, by Connie Moss and Susan Brookhart (2012). Our Introduction to Learning Targets provides an overview of the process described in the book.

SCENARIO #4

Missing: Expanded Talk

In this classroom, the teacher asks all the questions. The teacher may be at the front of the room, or the desks may be arranged in a circle, but regardless of the arrangement of the furniture, questions and answers flow through her. Students may be engaged in "discussion," but it looks more like a baseball game, with two people engaged in the action and everyone else waiting for something to happen—or silently thinking, "Please, don't call on me." When students do talk, you don't hear much academic language, such as the vocabulary of the discipline or references to specifics from the text, problems, or other resources.

Where to Begin

In this classroom, students don't have the opportunity to dig in deeply or to learn from one another. They would benefit from having the chance to talk—really talk—to one another and to deepen their questions. An arc of learning for this teacher would focus on creating opportunities for student-to-student talk while ensuring that students were prepared to develop and deepen their own questions, employ domain-specific and general academic language, and use texts and other learning resources. We'd begin by collaboratively planning a lesson built around an activity such as Beyond-the-Lines Questions or Elaborative Interrogation, modeling the procedure and using input from students to develop an anchor chart of vocabulary to help make meaning of the text. While implementing the lesson, we'd use a simple data collection tool to record our noticings as students work. The data would then guide us as we determine which discourse skills students have and which they need to develop or refine. If necessary, create some sentence stems to support future talk.

1. Plan a lesson that creates the opportunity for students to interact with one another as they make meaning of a text, attempt to solve a problem, or participate in another type of learning experience

2. Plan a Think-Aloud for the lesson that models the student-to-student interaction; alternately, use a Fishbowl to model the discussion (explicit skill and strategy instruction)

3. As students interact, collect data about the use of target vocabulary or the elements of academic discourse (moment-by-moment formative assessment)

4. Reflect on the think-aloud

5. Plan a follow-up learning experience to address specific gaps in student skills related to Competency 3.1 Oral/Written Communication: Engage in Academic Discussion With Others.

Tell Me More

Expanded student talk allows students to contribute their own thoughts and ideas as an integral part of the academic content. Gamoran and Nystrand (1991) found that such authentic discussion occurred on average less than one minute per day! In learner-centered classrooms, educators expand opportunities for student discourse in the classroom. Expanded student talk creates a context in which students are the primary actors: making meaning of texts and concepts, investigating their questions and perspectives, synthesizing new learning, and learning to communicate in an academic context.

Expanded talk goes beyond typical classroom discussions, which typically involve a handful of students participating. It creates a space for all students to be actively engaged during class time and to be heard. But engagement during expanded talk does not mean students taking notes during the discussion or breaking the class into smaller groups to give everyone a specific role and responsibility, as these approaches create hurdles to authentic discussion.

First, following along with a free-flowing discussion, figuring out in real time what is important enough to record and then taking notes—all while not losing the thread of the conversation—can put significant strains on students' cognitive bandwidth. Asking students to do this when a topic is unfamiliar or while searching a text for evidence is not likely to be successful or to feel welcoming.

Second, the small-group approach often simply disperses the problem. When groups are dominated by one or two members, assigning specific roles doesn't foster engagement. Artificial roles—timekeeper, note taker, reporter—rarely equitably divide the responsibility and can force students to take on tasks that actually dissuade them from meaningfully participating by contributing new ideas, synthesizing, or asking probing questions because it isn't their given task.

Finally, and most importantly, neither assigning note-taking nor roles during discussions help students acquire the skills to confidently contribute to the give and take of open-ended discussions. Developing the capacity to do so is vital because the standard class discussion format is not going away. To be college- and

career-ready, all students must learn the skills for authentic, meaningful participation in the discussions that take place in the classroom and the workplace.

Rather than holding class discussions that exclude students and provide little opportunity to practice and apply the skills that genuine discussions demand, expanded talk creates opportunities for genuine student-to-student interaction, which means that students collaborate to:

1. Ask and explore their own questions
2. Problem-solve and read closely
3. Make meaning and synthesize new learning

At the same time, expanded student talk provides teachers with an often overlooked stream of formative assessment data. The more teachers can listen in on how students are making meaning of new information, making connections to their existing schema, and identifying gaps or misconceptions, the more promptly they can seize the opportunity for providing responsive, tailored supports.

Expanding the opportunities for student talk in the classroom creates rich opportunities for meaning-making, increases opportunities for teacher attunement (How do I know where my students are? How they are making sense of their learning?), and removes the barrier implicit for many students in the task of making meaning or synthesizing new information solely through written responses. Put another way, student discourse becomes a powerful data stream that enables teachers to diagnose and respond to student needs and understandings in real time. Cynthia Ballenger, a teacher researcher and reading specialist, describes her approach: "I collect anything that might be considered thinking or anything that will help me to understand what the children's ideas are and where to go next with them" (Ballenger, 2009, p. 98).

From an equity perspective, classrooms that foster student interactions are places where: students from oral/aural traditions are most comfortable; English language learners have increased opportunities to strengthen language skills; students reading far below grade level begin to hear and use academic terms and concepts they may not have access to in written texts; and struggling writers have the chance to work through their ideas verbally before putting pen to paper.

SCENARIO #5

Missing: Regular Conferencing

In this classroom, the teacher gives students grades. Work is graded. Grades are reported at the specified times. He may assign them in a way that seems random to students, or he may use a rubric—which might be first shown at the start of a unit or when work is assigned, but most likely when it is stapled to their work. Students don't understand how the grade was determined and they have very little idea what they should be learning or—beyond "revise"—how to make their work better or how to learn what they haven't yet mastered.

Where to Begin

Students in this classroom don't really understand the standard to which they are being held, aren't developing the capacity to self-assess, and can't identify their next steps for learning. This undermines agency and doesn't foster a growth mindset. Students need feedback—specific information about where they are going, how they are doing, and what to do next—and they need their teacher to communicate it to them clearly and directly. An arc of learning for this teacher would focus on planning lessons that incorporate opportunities for students to receive feedback while they're working, and opportunities to revise their work. Initially, the feedback would specifically be their next steps for learning. We'd want to use a tracker to maintain a record of what each student was working on and their progress toward meeting the target performance level, providing powerful data for planning learning experiences.

1. Review the Student Conferencing Protocol with the teacher
2. Collaboratively plan a lesson that includes time for students to be engaged in independent work
3. Model a student conference for the teacher, using the Academic Conference Stems, and record the results with an appropriate tracking form (such as those in the guide to Conferencing and Feedback)
4. Use information from the formative assessment to plan multimodal learning experiences (flexible student grouping)
5. Use information from the conferences to plan small-group mini-lessons to address gaps (flexible student grouping, explicit skill and strategy instruction)
6. Incorporate formal individual student conferences into the classroom routine (regular conferencing)

Tell Me More

Regular conferencing is creating dedicated time for dialogue that supports feedback, personalization, and relationship-building. A powerful tool for teaching and learning, it provides teachers with more time for assessment and differentiation, the opportunity to deepen relationships with students, and an insight into their own work from the perspective of the student. In addition to receiving immediate feedback, students benefit by having guided practice for metacognition and reflection. Conferences also allow students to share their thoughts and feelings about their work and their learning.

There are multiple types of conferences. Sometimes a teacher just needs to do a quick check-in with a student. Sometimes it's helpful to do a longer work session together. Here, we're focusing on conferences as longer work sessions meant to drive student growth on competencies. That might seem almost impossible when considering the number of students in a class and the number of hours in a day. However, as Debbie Miller puts it in her brief piece on "The Difference Between Conferring and 'Touching Base'":

"I spend time with just a couple individual children in each reading workshop because I want to 'do good' for them. I know there are twenty-four others, and I

will do the same for each of them time and again in the days, weeks, and months to come. We can't reach everyone all in one day, but we can reach one or two or maybe even three. We reach, touch and teach by being present, putting ourselves in the moment and focusing our full attention on the one sitting by our side."

In addition to reading-focused conferences, teachers use conferences to work with students on developing their writing craft. Carl Anderson has written extensively about writing conferences. In an "Overview of Conferring," Anderson describes the power of using conferences to support students in learning the writing process: "developing a repertoire of strategies to … prewrite, draft, revise, and edit" (p. 7). Writing conferences also focus on studying and incorporating the qualities of good writing, learning to develop "a focused draft that gets the point across … teach them how to write precise details and how to punctuate sentences to give voice to their writing" (p. 7-8). In addition, conferences encourage students to become "initiators of writing; that is, to be writers who write purposefully and by choice. Initiators of writing know how to find appropriate audiences for their writing" (p. 8).

But what about math? Conferences in the math classroom are equally powerful. Laney Sammons' work on Guided Math Conferences identifies three math-specific purposes of conferences:

- **Comprehension conferences**, which focus on assessing and then extending the degree of student comprehension of mathematical concepts.
- **Skill conferences**, which also assess and extend student skills, with a focus on both process and computation skills.
- **Problem-solving conferences**, which are used to explore and expand students' problem-solving strategies.

A key shift in competency-based learning is making sure the learner knows where their growth areas are and has a plan to address them. Orienting conferences around a specific competency, associated skill, and learning target provides students with a wealth of concrete and actionable information from which to move forward.

Look at conferences through the lens of reading, writing, and math. There are three important reasons to conference with students that apply no matter what the content area or competency:

1. To gain insight into the processes, strategies, and thinking a student is using.
2. To reinforce the use of skills and strategies.
3. To provide individualized, transferable instruction for each learner.

As John Dewey reminds us, "We do not learn from experience. We learn from reflecting on experience."[18] One of the critical tools that supports students in becoming independent, self-regulating learners is the development of metacognitive skills: the capacity to monitor their learning, identify the limits of their knowledge or ability, and identify and use strategies and tools to expand their capacity.[19] This is one of the critical distinctions between novice and expert

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[18] Dewey, J. *Experience and Education*. Simon & Schuster. 1997.

[19] Zimmerman, Barry J. and Schunk, H. D., EdS. *Handbook of Self-Regulation of Learning and Performance*. Taylor & Francis. Educational Psychology Handbook Series. 2011.

learners. The stronger students' metacognitive skills are, the stronger their capacity to "know where they are" without depending on teachers or others for this information. Conferences are a perfect, private sandbox for students to practice using metacognition as a tool to support their efforts to become independent learners.

For teachers who are just learning about conferencing, there are several key elements to keep in mind. The conference should focus on student progress toward mastering specific learning targets and strategies. The teacher's role is to ask questions so students can reflect on their progress and map concrete next steps. In this context, conferences are powerful formative assessment tools that provide deep insight into student learning. As with any formative assessment, tracking tools will help teachers document student learning over time.

Jumping In

The table below breaks down the areas of focus into some of its component skills. While this is not an exhaustive list, and each skill can be further broken down, it should be useful as you think about how to begin and the potential stepping stones you and the teacher will use to create an arc of professional learning.

Where to begin

Area of Focus	Skills	Resources
Facilitating inquiry-based learning experiences	- Workshop model - Responding to student needs - Helping students deepen questions	Instruction: Student-led Inquiry_reDesign
Explicit skill and strategy instruction	- Metacognitive modeling - Metacognitive awareness - Clear communication - Gradual release - Cognitive apprenticeship - Ensuring understanding - Formulating learning targets	Instruction: Explicit Skill & Strategy Instruction_reDesign
On-your-feet formative assessment	- Working closely with students - Diagnosing student needs - Using rubrics, learning targets, or other assessment	Instruction: Responsive Supports_reDesign

	tools ● Identifying next steps for learning	
Conferencing and feedback	● Working closely with students ● Diagnosing student needs ● Using rubrics, learning targets, or other assessment tools ● Identifying next steps for learning	● Instruction: Conferencing & Feedback_reDesign
Facilitating expanded talk	● Designing group work ● Guiding student-to-student interaction ● Asking probing questions ● Managing classroom talk for equity ● Managing flexible environments	● Instruction: Expanded Student Talk_reDesign

PART 5
CLOSING THOUGHTS

Closing Thoughts

We began this toolkit by stating the purpose of instructional coaching: **to shift schoolwide learning in order to positively impact student outcomes**. As we hope has been apparent throughout the toolkit, *schoolwide* means *adults and young people alike* are continually moving through the learning cycle. As this takes hold, there is a palpable change in the culture. Consensus definitions of effective pedagogical practice emerge. Collegiality develops, changing the nature of professional relationships. Trust is built, and risk-taking begins to feel less risky. Students reap the benefits not only of improved professional practice but also of the improved professional culture. Seeing their teachers learning provides an inspiring model of the value of learning and creates a shared sense of purpose.

Everyone learns—including coaches. So, coaches need coaches, too. Ask a trusted colleague to observe you as you coach, or if one is not available, video-tape yourself coaching. Discuss strategies and problems of practice with other coaches. Use Google Forms, Survey Monkey, or another tool to gather feedback about your coaching from teachers you work with. Reflect on how the learning cycle applies to your own learning. Collect data. In other words, do yourself what you'll ask teachers to do.

But first, you need to begin. The only way to get better at coaching is through practice and reflection. Any book or guide or toolkit will only take you so far. Like students, each teacher is different, and so we've tried to equip you, our reader, with a variety of tools and strategies and the background to get you started with them. If you've coached before, we hope that we've provided you with something useful to deepen your practice. If working with teachers as a coach is a new role or a new way of conceptualizing your relationship with teachers, we hope we've inspired you and not overwhelmed you. No matter what your previous experience, you will make a difference for teachers, helping them to improve their practice, and as a result, be more effective in their classroom.

As a coach, you'll be grabbing hold of one of the most powerful levers for improving outcomes for the students you serve. Now that you're ready, where are you going to begin?

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Appendix: Videos

WATCH: A Personalized Math Class

In this video of a high school math class, you can see each of the personalized learning practices in action. This is a great video to share with teachers so they can get a sense of what a personalized learning classroom looks like.
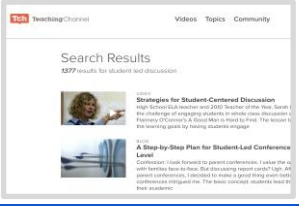

EXPLORE: 3-Act Math
WATCH: Pythagorean Theorem Inquiry

This inquiry-based approach is also exemplified by the Japanese model of math instruction,[20] which inverts the traditional "I do, We do, You do" model to a "You do, Ya'll do, We do" approach. Rather than the teacher explaining a concept or skill and then walking students through guided and independent practice, a problem is posed that challenges students to take the lead in their learning.[21] Students engage in a productive struggle on their own and then engage in vibrant academic discourse with their fellow classmates ("expand student talk") while the teacher circulates, listens, poses additional questions, and again listens carefully to diagnose both conceptual and procedural confusions and understandings. Finally, the teacher steps in to work through a few key problems with students, using their specific insights and challenges to bring sharper clarity to the mathematical concept or concepts being explored in the lesson. This approach is used at all levels of math instruction, including with young children: "Learning the basic skills of numeracy" is not a prerequisite to exploring math conceptually and symbolically.

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[20] Green, E. "Why Do Americans Stink at Math?" *New York Times Magazine.* 2014. https://www.nytimes.com/2014/07/27/magazine/why-do-americans-stink-at-math.html

[21] See Abdi, A. "The Effect of Inquiry-based Learning Method on Students' Academic Achievement in Science Course." Universal Journal of Educational Research, 2014. (2)1. ERIC http://files.eric.ed.gov/fulltext/EJ1053967.pdf Sweetland, J. and Towns, R. "Inspired Issue Brief: Inquiry-Based Teaching." Center for Inspired Teaching. 2008. http://inspiredteaching.org/wp-content/uploads/impact-research-briefs-inquiry-based-teaching.pdf

	CASE STUDY: Metropolitan High School had a hypothesis that if students had increased opportunities to use academic language while speaking and listening, their reading and writing skills would also improve. Their hunch proved correct: **Higher-Order Thinking Through Daily Academic Discussion**: **WATCH** and **READ** to learn more about how they went about this work.
	WATCH: The **Teaching Channel** has quite a few videos on activities that support expanding students' opportunities to talk with each other in order to deepen learning.
	WATCH and **READ** a CASE STUDY: **Placing Student Feedback at the Center of Teaching and Learning** Bronx Haven High School students were struggling tremendously, with exceedingly low graduation rates. Over a two-year period, they developed and implemented a robust set of teacher-student feedback loops, creating incredible academic results.
	WATCH: Austin's Butterfly The power of feedback is beautifully exemplified in Austin's Butterfly, which also touches on a number of additional principles that lie at the heart of personalized learning: teaching explicit disciplinary skills and strategies (e.g., "Think like a scientist"), emphasizing strengths and growth (e.g., "Not yet"), creating opportunities for specific feedback and multiple revisions, positioning learners as developing experts, and facilitating robust discussions and "expanded talk" that allow students to think, process, share, and co-construct learning.
	WATCH: Kindergartener Trinity's Student-Led Conference In student-centered classrooms, conferences engage students in identifying where they are and in shaping the path ahead, fostering student ownership over their own learning journey. As previously mentioned, students should have the opportunity to access their data in real time, participate fully in the planning and decision-making process for their learning pathway, and be encouraged to reflect on past decisions and outcomes to further the learning and metacognition to inform future decisions.