INTEGRATING ACADEMICS WITH SOCIAL AND EMOTIONAL LEARNING

SEVEN KEY PRACTICES TO HELP STUDENTS MEET COLLEGE AND CAREER READY STANDARDS

By Kathleen Cushman and Wendy Baron
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For students to be successful in meeting rigorous new learning standards, teachers need to understand that social and emotional learning sets the foundation for academic success.

Since the time of Socrates, academic and personal behaviors have anchored the learning process. Breakthroughs in neuroscience and cognition over the last several decades have helped us understand how powerful this mix of practices can be. Today, that social and emotional factors play an essential role in the acquisition of what we once regarded as purely academic knowledge and skills is increasingly understood as fundamental to high quality instructional practice.

Reflecting this understanding, New Teacher Center has identified specific learning conditions that support student success in meeting the College and Career Ready Standards. These characteristics, outlined in NTC’s Optimal Learning Environment framework, represent an integration of social and emotional learning and best teaching practices.

This series of articles focuses on seven high-leverage social and emotional skills that students require to successfully engage in the critical thinking, discourse, and problem-solving the standards demand:

1. Listening well and attending to one another
2. Collaborating and resolving the tensions that arise
3. Perspective-taking across the content areas
4. Giving feedback in a manner that others can hear and use
5. Goal-setting based on understanding of academic strengths and areas for growth
6. Learner agency that builds autonomy and motivation
7. Productive struggle in mastering new skills

This social and emotional skill set represents the tools students need to master impactful, lasting learning. In fact, they help prepare students to be effective citizens and leaders for the 21st Century.

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LISTENING WELL
THE QUIET SECRET THAT PROPELS ACTIVE LEARNING

It’s easy to think of listening as a passive act in which we simply take in what other people say. In reality, it’s the quiet secret that propels all active learning. Unless we listen consciously, we can’t be sure that we are really “in communication.” We may be missing opportunities to learn—and to teach!

The Common Core has put listening front and center as an “anchor standard” for college and career readiness—a fundamental skill that we want students to have when they graduate from our public schools.

How can we teach listening skills? How can teachers know when students are listening to them and to each other? How can teachers tune their own listening ears?

Teachers encounter the listening challenge every day, with students of every age and in almost every context. For example:

- As you start to give directions to your class, you might notice students in side conversations with each other. How will you respond?
- Or maybe when your students “turn and talk,” they don’t paraphrase, summarize, or question what their partner says—actions that increase understanding on both sides.
- You may also be working on your own listening skills. How might you respond to students in ways that acknowledge their thinking and push it deeper?

WHAT LISTENING WELL “LOOKS LIKE”

What does it look like when we are listening well and attending to each other? In the ideal scenario:

- We actively attend to the speaker
- We focus on the speaker’s intent or perspective
- We paraphrase or summarize what the speaker said
- We ask clarifying questions
- We respond in a constructive and meaningful way

Each of these skills takes intentional practice!

For example, as you actively attend to what someone says, you might lean forward, nod thoughtfully, or indicate interest by the expression on your face. Even without words, through “wait time” you can encourage the speaker to say more, offering in return a quiet mind and space for the other person’s ideas to take shape.

Students rank as their favorite teachers the ones who “really listen.” Whether you do that in a class meeting, an advisory group, or a one-on-one conference, it’s a chance to earn students’ trust and open their minds. Arielle, a tenth grader, found value in listening to peers from different backgrounds. “If you’re in a group with all the same type of people,” she mused, “you’re only gonna get one idea.”
Teachers can also model (and unpack) key listening skills in a transparent manner. “I don’t ever talk over the students,” said Rosa Miller, a fourth-grade teacher of English language learners. When she gives directions, “If anyone is talking, I stop talking.” At the start of each year, she and her class agree to make that habit a norm in all their conversations. “It’s a sign of respect for each other as well as the teacher.”

**ACADEMIC LEARNING FROM INTENTIONAL LISTENING**

Young listeners need scaffolding as they learn to paraphrase or summarize what they hear. If they feel unsure about what someone meant, they need practice in asking questions to clarify the speaker’s intent. Both steps lay the foundation for powerful thinking, especially if teachers encourage students to build on what they hear.

This process of elaboration, according to *Let It Stick: The Science of Successful Learning* authors Peter C. Brown, Henry L. Roediger III, and Mark A. McDaniel, improves mastery of new material and multiplies the mental cues available for later recall and application. Through elaboration, we uncover additional layers of meaning in new material. Examples include relating the information to existing knowledge, explaining it to someone else in your own words, and applying it to your own life.

“When you’re learning new things, you are merging them into something that you already know,” Gretel Ly tells her “expert teams” of first-grade students, who have been researching different pets. She asks students to turn and talk with their partners about what they’ve learned so far in their research—and she provides conversation stems to support their dialogue. Students begin by saying: “I’ve learned that... Partners respond with: “I heard you say that...”

By high school, students will be exercising those same skills in the challenging academic tasks that ready them for college.

A ninth-grade class debate on gun control, aligned College and Career Ready speaking and listening standards, required students to verify what peers intended to say and actively build upon what they heard. Again, sentence-starters supported the learners in their debate:

“Ramon, is it fair to summarize your point by saying that the Founding Fathers wanted the U.S. Constitution to change over the years?”

“Brady said that a citizen’s right to bear arms can’t be taken away because it’s a Constitutional right. But I want to challenge her conclusion, because citizens also have a right to amend the Constitution. For example, Prohibition ended because voters repealed the 18th Amendment by passing the 21st Amendment.”

Using skills that are both interpersonal and academic, both students respectfully addressed the other’s ideas while pushing each other’s thinking deeper. In social, emotional, and academic settings throughout their lives, those skills will serve them well. In addition, listening well and attending to one another:

- Affects the developing relationships so important in building a culture of inquiry
- Establishes habits of thoughtful discourse about things that matter
- Enables students to thrive and contribute in the contexts of college, career, and community life
WHAT SCIENCE TELLS US ABOUT LISTENING

Listening—the quiet skill that propels all active learning—is complex!

In recent decades, scientists have outlined the many steps involved in listening, many of which happen without much conscious thought.

First, we hear what someone tells us. That involves more than just auditory faculties; it calls on our senses of sight, smell, taste, and touch. Our cognitive processes—“executive functions” such as memory, attention, and language—also play a role in hearing what’s said. (Have you ever asked directions of someone who spoke a different language?)

The next key step—processing what we hear—also requires mental energy. As we focus on the speaker, both short-term and working memory help us make sense of the message, filter information, and decide what is important.

Meanwhile, our minds may be chattering away in an internal dialogue that can easily get in the way. (“Is this going to be on the test?” “It seems like she’s mad; what did I do?” “My back is killing me.” “Where’s that weird noise coming from?”)

In order to listen well, we need to quiet that dialogue, calling on the social and emotional skills of self-awareness of our thoughts, feelings, and sensations, and then by self-regulation, as we consciously attend to what’s important.
EFFECTIVE COLLABORATION
SOCIAL AND EMOTIONAL
COMPETENCIES IN ACTION

In science, business, government, and countless other areas, being able to collaborate effectively across personal differences is a highly prized skill that brings into play a variety of social and emotional competencies.

Collaboration plays a key role in the College and Career Ready Standards, too, as students construct much of their learning by engaging together in inquiry, productive struggle, discourse, and problem-solving across content areas.

Yet many tensions can arise when we attempt to collaborate. Teachers have likely heard students complain:

“If I’m good at something, I end up doing all the work.”
“We can’t agree, so nothing gets done or else most of us end up mad.”
“It’s not fair to grade me on work that other people did badly.”
“I don’t want to work with someone I don’t like.”

Feelings of frustration, disappointment, exclusion, and unfairness can easily derail a collaborative task. However, establishing expectations and procedures to guide collaborative work can help keep groups on track. Four opportunities include:

• Establish norms for how to collaborate and protocols that reinforce those norms through practice
• Provide small-group learning tasks with productive and meaningful roles for every participant
• Support learners in clarifying and resolving social and emotional conflicts in the group
• Understand that the frictions of collaborative work can actually produce new energy—driving learning forward for everyone involved
NORMS FOR COLLABORATION

Teaching ninth-graders in Chicago and Oakland, math teacher Ron Towns saw their math skills improve strikingly when he created a yearlong curriculum providing explicit practice in six key collaborative skills:

- Staying on task as a group
- Maintaining a positive and solution-oriented attitude in the group
- Promoting equity of voice in the group
- Controlling the volume of voices in the group
- Allowing a group only two questions for the teacher, so students work out their ideas together
- Banning “dummying down” (giving up before trying their hardest)

Drawing his class into role-plays and skits to illustrate each skill in a fun and social way, Towns helped students experience how their own actions can either promote or derail the work of a group. He devoted the first two weeks of the semester to these mini-lessons and then revisited them often as reinforcement.

As small groups worked out math problems in class each day, the teacher rewarded the desired collaborative behaviors with a point system that counted toward students’ grades. “When I write their names on the board next to what they did or said, the whole class can see why someone is getting 20 or 40 extra points,” Towns said.

Rather than lose points for asking the teacher too many questions, for example, tablemates used each other’s ideas to extend their thinking and close the gaps. “It’s about communal learning,” noted Mr. Towns. “We’re expected to struggle. It’s okay to get things wrong along the way. Embracing that struggle to try to problem-solve—that’s kind of the culture I’ve tried to set.”

The takeaway: Information “comes alive” when we have to explain it or make sense of it with others, cognitive science has shown. Teachers support active learning by establishing the collaborative norms that help learners use their differences in working out problems together. In this 1-minute video, Coaching Students to Collaborate, teacher Ron Towns explains one aspect of his emphasis on collaborative norms.

MEANINGFUL ROLES FOR GROUP MEMBERS

In teaching language arts to immigrant students at Oakland International High School, Jen Kelly-DeWitt established a central classroom norm for collaborative work: “Everyone is sharing their ideas with each other, and those ideas are valuable.”

Though their languages and backgrounds differed widely, her students did have common interests. So they began by talking in small groups about issues that mattered to them. (“Should you be able to have your cell phone in school?”) As they voiced their own ideas, the teacher noted, they began to feel that “I have a place here. People are listening to me.”
Bolstered by that sense of safety, table groups took on text-based discussions of autobiographical or cultural subjects that called on students’ diverse backgrounds. In one unit, they volunteered examples of moral codes in their different cultures’ belief systems. Later, that led to discussing the story of Odysseus.

In a class with wide variances among learners, Ms. Kelly-DeWitt created heterogeneous table groups and assigned each student a meaningful thinking role:

- **Reporters** facilitated table discussion and kept it going when it faltered, pressing on with another question or more examples.
- **Trackers** charted students’ participation, noting when they contributed ideas, took notes, and pushed the conversation further.
- **Translators** interpreted the group discussion in non-English speakers’ home language, then asked for their comments and shared them with the group.
- Everyone else took the role of **speaker**, reporting back main ideas to the larger group.

That protocol markedly increased these students’ sense of belonging in a collaborative inquiry, Ms. Kelly-DeWitt noted. “Instead of splintering the group,” she said, “their differences actually strengthened their ability to work and learn effectively.”

**The takeaway:** When teachers purposefully create tasks where success depends on a mix of abilities and roles, they support the “positive interdependence” that researchers consider essential to successful collaboration. Calling on strategies such as **Jigsaw**, they can help students to see each other as valuable partners in learning and to distribute the workload so that all can contribute their best work.

**ATTENDING TO SOCIAL AND EMOTIONAL ROADBLOCKS**

Social and emotional tensions can flare up in any collaborative venture. In fact, how each member of a group thinks, talks, and acts toward other participants has measurable influences on how well the group performs, research has shown.

For that reason, both teachers in our examples above arranged regular “check-ins” so that learners could reflect on and self-assess their process, as well as their progress.

Bringing diverse learners together to work on an important task inevitably presents tensions, whether in the classroom or the faculty lounge. But the opportunities that it offers—to establish norms for collaborative work, to ensure a productive role for every learner, and to attend to social and emotional roadblocks—can energize curriculum and instruction from early childhood through high school graduation.
“I CAN” CHECKLIST FOR COLLABORATIVE SKILLS

How can we keep track of whether collaborative skills are growing in a particular activity? One way is to have participants assess their group work via a checklist of “I can” statements. Working with the Hewlett Foundation’s Deeper Learning Community of Practice, author Kathleen Cushman put into rubric form the Deeper Learning standards of excellence for collaborative work:

WORK COLLABORATIVELY
Proficiency Indicators

I can...

<table>
<thead>
<tr>
<th>Contribute relevant knowledge, skills, and ideas to others involved in the work.</th>
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<tbody>
<tr>
<td>Seek and build on a range of ideas from others.</td>
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<tr>
<td>Work with others on an action plan that has specific goals.</td>
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<tr>
<td>Identify and explain each person’s role and responsibilities in shared work.</td>
</tr>
<tr>
<td>Work productively with others toward shared goals, doing my part in a timely manner.</td>
</tr>
<tr>
<td>Consider feedback and work to manage conflicts with others.</td>
</tr>
<tr>
<td>Work with others to assess the collaborative process and our progress toward shared goals.</td>
</tr>
<tr>
<td>Adjust and try something different when the process is not leading toward shared goals.</td>
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For most of us, it’s quite natural to approach the world from our own individual point of view. We routinely make sense of what we see, what we hear, and the many other signals that get through to us based on what we already know from lived experience.

Yet, the filter of our own perception, while helpful, can also block valuable information. Unless we intentionally seek out other perspectives, we risk tunnel vision or narrow-mindedness.

When we limit ourselves to just one view of things, we potentially foster misunderstanding across the various spheres of life:

- At home, where natural frictions between youth and parents can turn into blistering wounds
- At school, where our preconceptions can close our ears to important information
- At work, where our styles and habits can block communication and collaboration with others
- In civic life, where, if we lack the balance provided by differing perspectives, we risk autocracy or chaos
- In our personal lives, where ignoring other perspectives denies us opportunities for open exchanges, deeper relationships, and broader understanding

Growing students’ abilities to see from new perspectives is a social and emotional skill closely tied to two others: listening and collaboration. The ability to see from new perspectives—whether in the home, the classroom, the boardroom, or a civic forum—can offer thoughtful and positive solutions to the thorniest of problems.

Perspective-taking supports students academically across the curriculum, whether considering alternate solutions to a math problem, determining an author’s purpose, or more clearly understanding a historical figure’s actions. When teachers intentionally encourage students to see situations from new perspectives, they model an intellectual, social, and emotional skill that can transform how and what students think and feel and influence the decisions they make, both large and small.

**EMPATHY LAYS THE GROUNDWORK**

Perspective-taking supports empathy and respect in the group. It draws on and builds our awareness of self and others, our understanding of how we vary, and our recognition that learners develop and change over time.
Even very young children can learn to identify and empathize with the feelings or thoughts of others. Adults help when they teach preschoolers the words for different emotions and model how to voice their own feelings. They can then guide children to recognize these same feelings in the people around them. Picture books can also help young children interpret the actions and facial expressions of others.

“If a child acts in a way that hurts another, we often role-play the situation,” said Emilia, who teaches four-year-olds in Atlanta. Rather than shame the offender, Emilia first expresses empathy for the child harmed. Then, she helps both children put words to the feelings (such as jealousy or frustration) that led to the offense. Finally, she helps them plan and practice “helping behaviors” to use when such feelings arise.

With warm support and modeling by adults, children can start first grade with a better understanding of what they and their peers are feeling. During the elementary years, they will further develop the cognitive ability to “stand in someone else’s shoes.”

By middle school, students are ready to practice taking new perspectives in academic settings as well as in their social interactions through role-playing. The more authentic the form of role-playing, the more powerfully it seems to work.

Kerry’s sixth-grade humanities class included many English language learners, and most of her students were below grade level in reading. At the end of the year, they were able, however, to vividly recall what they had learned about ancient cultures in the Middle East because of active role-playing.

The unit had culminated in classroom battles and marches, with the children actively embodying and explaining their various clashing roles. As they acted out the parts of king, temple builder, or scribe, they began to imagine ancient cultures from different perspectives.

“We actually got to experience it first hand, how people used to work,” said a student named Ruby. “It made learning a lot easier.” Later, that unit would inform classroom discussions on how social position affects the distribution of power in 21st century America.

YOUTH TAKE UP DILEMMAS, THINKING TWICE

As a veteran teacher at High Tech High, Tom Fehrenbacher designed a yearlong eleventh-grade humanities course that staged six mock trials, each at different critical points in U.S. history. Rather than reading a series of history textbook chapters, Tom’s students participated in riveting peer arguments over complex dilemmas, experiencing the issues from the perspectives of key characters.

Tom’s students grew eager to find out more about the people whose roles they took on, and they often identified with their motives or actions. “You start to understand why these decisions were made and why it was controversial,” said Michael, who acted as a lawyer in a mock trial of Plymouth Colony’s military leader, Miles Standish, for killing an Indian leader he had invited to a peace treaty.
In another example, an anthropology unit at the NYC iSchool called “Sixteen” generated cross-cultural conversations among eleventh graders who conducted face-to-face Internet conversations with age-mates at schools around the world. In this one-minute video clip, Maranda describes the unsettling realization that perspectives from other cultures varied more than she and her classmates imagined.

ARTS AND LITERATURE BRING NEW PERSPECTIVES ALIVE

The arts and literature can also draw students into relating to the perspectives of others—and giving voice to their own. Shaquana, a New York City high school student, credited her English teacher for creating “a safe place” for disagreement. “She doesn’t allow people to call people’s ideas stupid or completely disregard your opinion.”

On the other side, listening to critique without getting defensive also takes practice, she noted. “You have to understand that it’s your opinion that they’re attacking, not you.”

“But we’ve also learned how to defend,” her classmate Gabriela added. “Because it’s not enough to just state your opinion—we also have to provide evidence. Where do you see that happening? At what point in the book did your opinion change and make you stand on where you stand right now?”

That habit of mind now serves her well, Gabriela added. “You move what you learn from this class to other classes.”
As adolescent and young adult learners engage in perspective-taking as an academic skill, they are also busy shaping their own identities, growing their sense of who they are, what they want to become, and even their place in the world.

Perspective-taking through fictional characters helped one high school student, Edwin, to “open my mind to the possibilities of what the world is doing or changing around me.”

“I feel like social and academics just came together as one,” he said. “I just take what I learn through this class and apply it to everyday situations now.”

**HOW TEACHERS AND STUDENTS CAN PRACTICE PERSPECTIVE-TAKING**

*Adapted from work by Austin (TX) Independent School District*

**Teacher**
- Use current events, historical events
- Use fiction, including children’s literature
- Use project-based learning opportunities
- Use role-play in instruction or problem-solving
- Use open-ended questions (“What if…”)
- Recognize and tap into existing empathy
- Accountable talk: “I hear what Kevin says and I agree/disagree because…”
- Recognize diversity in the classroom, sharing perspectives of students and teacher
- Teach multiple views of history (e.g., marginalized people’s accounts of events)
- Create a multicultural classroom (e.g., with literature, arts, music)
- Honor students’ personal and family experiences
- Provide opportunities for leadership
- “I hear you saying _____. Is that right?”
- Explicitly teach the norm of examining assumptions
- Create openers to being wrong
- Teach the connection between perception, thought, and behavior

**Students**
- Think about the other person in a conflict
- Respond to text and visual prompts
- Act out roles and suggest solutions
- Project your thinking across time (“My 100-Year-Old Self”)
- Work collaboratively across grade levels (e.g., with peer-assisted learning strategies or PALS) for math and reading
- “Flip the script” or debate opposing views
- Design a service-learning project
- Sponsor a wheelchair challenge
- Learn to examine your “assumptions bias”
- Ask curious questions of your friends, classmates, peers
- Look for examples within yourself as well as around you
- Take any opportunity to examine assumptions
- Use question stems that support inquiry
- Build relationships of connection with others
Students who know their strengths as learners—as well as areas for growth—are able to set goals that advance their academic growth. And students who routinely monitor and measure their progress toward their goals are developing a sense of agency, or self-determination and control over (and responsibility for) their own learning. Goal-setting and agency are steps on the path to autonomy and independence.

Teachers who set goals with their students also get to know them more deeply as individuals, their aspirations and challenges, interests and motivations—strengthening the bonds of their classroom community.

When students get regular practice in identifying and monitoring their personal and academic goals, they also begin to envision their future “possible selves”—as a person, as a learner, and as someone whose work matters in the larger world.

Coaching students’ goal-setting process can fit neatly into other teaching priorities, because it develops the skills and habits that underlie successful learning. Here are its key steps:

1. They self-assess, identifying their strengths and areas for growth in various areas.
2. They set one goal in a particular area.
3. They make a specific action plan.
4. They review the results, reflect and share with others, and revise the goal.

This NTC video shows fifth-graders in Oakland, California, mapping their hopes and dreams on large drawings they make of a “Possible Selves Tree.” Labeling its three limbs as person, learner, and worker, children depict their future hopes and dreams. Factors that nurture or threaten their goals show up as well, perhaps as fertile soil or lightning bolts. Their teacher models the process by drawing her own tree and continually elicits the children’s ideas through reflective questions.
**AT REGULAR INTERVALS, REVIEW, REFLECT, AND CLARIFY THE GOALS**

It helps to set aside time for students to review their goals, reflect on their own progress, and revise them. For example, one high school in New York City has made such self-monitoring a school-wide classroom strategy, aligned with a Common Core standard for speaking and listening. Every time students engage in academic discussions, they use a simple worksheet to follow this protocol:

1. Before their discussion starts, they select one of “today’s skills” as their personal goal (e.g., “I will paraphrase what other people said to show that I understood their claims”).

2. After their discussion, they write brief self-reflective answers to prompts: “What did you do well in the discussion?” “Were you able to achieve your goal?” “What is one skill you want to build on for the next discussion?”

3. An “exit ticket” prompts them to note “two things you learned from your partner(s) during the discussion” and also to identify a “big idea,” draw a conclusion, or reflect on a change in their thinking.

No matter how one does it, starting with personal reflection primes the pump for academic development. At 14, Garlyn followed directions and earned satisfactory grades. But when her ninth-grade advisory class filled out a self-assessment profile, she realized that she usually avoided trying new things because she wasn’t completely sure they would go well. She set herself the goal of “taking positive risks” and began using that new mindset to look at her habits as a learner.

Looking ahead to his “possible selves” in the workplace, Max, 16, took a rueful view of his chances. Any future job would require organization skills, his teachers had made clear, and that was “something I’m not really all that good at.” Reticent by nature, he also knew that networking skills also played a part in career success. He decided to work first on the executive function skill of “organizing your stuff so you can do it.” Next, he would tackle the skill of active listening to develop his social network.

We experience more success if we set one manageable goal at a time and anticipate what might block us from it, according to several decades of social psychology research. The very act of stating our intentions in “if-then” form (e.g., “If situation x arises, then I will…”) makes it more likely that we will respond in a way that supports our goal.

For example, one intervention by University of Pennsylvania researchers asked middle school students to name what stopped them from persisting at a difficult task—and then name one thing that could keep them going. The study showed that classroom behavior, grades, and attendance all improved as these early adolescents practiced this fundamental self-regulation skill.

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To help teachers make similar interventions in the classroom, the nonprofit Character Lab partnered with social psychologists Gabriele Oettingen and Peter Gollwitzer on a simple goal-setting strategy they call WOOP (standing for Wish, Outcome, Obstacle, Plan). A 4-minute video describes how one school uses WOOP in advisory groups.

Using guided imagery, teachers prompt students to visualize:

1. A Wish—something they really care about that is challenging but feasible
2. The best Outcome if that wish were fulfilled, and how that would make them feel
3. The Obstacle (something they feel, do, or say) that keeps them from accomplishing it
4. One “if-then” action they will Plan to take to overcome the obstacle.

Such a protocol helps young people develop the crucial sense of agency that results from choosing one’s own goals and reaching them through effort. For example, Wedjeena, at 14, typically grew discouraged when looking for evidence to include in text-based analysis essays. In a conference with her English teacher, she developed a strategy where she stopped, took a break, and then went back to the task.

The Expeditionary Learning (EL) network of schools also emphasizes student goal-setting in its school-wide structures. All students, for example, take the lead at regular conferences between teachers and parents or guardians. They identify and revisit their goals, presenting evidence of progress in both academic and social-emotional areas. (Expeditionary Learning makes available three video examples of actual student-led conferences at the elementary, middle school, and high school levels.)

**GOAL-SETTING AS A COLLABORATIVE EFFORT**

Students may also collaborate with peers in setting and reviewing goals, especially if they have practiced the skill of giving feedback in non-judgmental ways.

One fifth-grade teacher, for example, starts the year by introducing a class-wide goal, “Stretch + Support = Shared Strength.” Every month, she uses a collaborative protocol as a way for students to review and address the obstacles to reaching that goal. It works like this:

- On “goal review day,” her students reflect on an obstacle they encountered with either “stretch” or “support” in their own learning. (Example: “I didn’t understand the questions on the test.”)
- Writing their personal obstacle on a strip of paper, students hand it in anonymously.
- Every day that week, the teacher distributes different examples to students in small groups.
- The group brainstorms possible action steps to counteract the obstacle, discusses pros and cons, and chooses one or two they think would help.
- Groups report out to the class on the obstacle and the action steps they chose.
- At the end of the week, each student writes down a new action step and commits to try it.
It takes about 45 minutes for students to brainstorm in groups, report out, and decide individually on an action step, this teacher noted. But over the months the teacher could see its effects: “The children really develop a culture of ‘shared strength’ by helping each other with challenges.”

Goal-setting requires us to reflect together on our prior actions and work, assess group and individual progress toward specific outcomes, attend to feedback, articulate our next learning target, and decide what actions align with what we envision. Setting goals trains us to set attainable targets: neither too easy nor too difficult.
ACADEMIC FEEDBACK
IDENTIFYING OPPORTUNITIES FOR CONTINUAL GROWTH

No matter what we are trying to do well, we all need feedback to grow as learners. From soccer to singing, geometry to writing, being open to what others notice about our efforts can play a huge role in developing our potential.

This common-sense realization has special impact for teachers. After synthesizing more than 1,200 meta-analyses of the factors that boost student learning, Australian researcher John Hattie ranks feedback among the most powerful influences on achievement. He calls it “the single most potent teaching strategy that teachers can use with all ages and across all subjects—leading to an average academic gain of 29 percentile points.”

Yet the art of giving feedback—whether from teacher to student or from students to peers—involves a delicate balance of academic goals with social and emotional factors. If we strike that balance, we can move students forward, whatever challenge they face. If we don’t, our feedback may shut the learner down, despite our best intentions.

In the Optimal Learning Environment that New Teacher Center envisions, effective feedback:
• Promotes a growth mindset, supporting each learner in productive struggle
• Engages feedback partners through safe, caring, and respectful protocols
• Uses variances among learners to expand perspectives and develop agency
• Increases awareness and understanding of excellence in a field
• Supports ongoing reflection, inquiry, and new perspectives

After her first semester teaching ninth-grade English in a large Atlanta high school, for example, Janice felt discouraged and perplexed.

“Every Friday, I would have students turn in a short essay on an assigned topic,” she recalled a few years later. “And every weekend, I would mark up their papers for hours on end.”

But Janice’s copious notations regarding content, organization, grammar, and other elements of writing appeared to have no impact. At midyear, very few students showed meaningful improvement.
“I’m not sure they even read my comments!” she said ruefully. “It almost felt like they cared even less.”

Frustrated, the teacher asked several students to bring in their papers during lunch period and share a pizza. Her goal was to understand if and how her critical comments were landing—and why.

“I don’t know what you want,” a girl named Yamil told her warily in that lunchtime conversation. She pointed to where Janice had red-penciled the first sentence of her autobiographical essay. “Me and my mom came to USA in a small boat when I had 10.” Yamil hesitated. “Was I not supposed to tell you that?”

“Of course you were!” responded Janice, taken aback by the question. “That image drew me right in!” Too late, she realized that her avalanche of grammar corrections had eclipsed Yamil’s strong introduction to her narrative of displacement.

**EMPHASIZE THE POSITIVE, EMBRACE THE STRUGGLE**

What Janice learned in that discussion dramatically changed her approach to giving feedback. “Now I focus first on building rapport and optimism,” she told me. “It’s easier to work toward a particular academic outcome once they’re feeling more receptive.”

Indeed, considerable research shows that a recipient’s fragile confidence can block the effectiveness of feedback. If students feel misunderstood and criticized, they will resist comments about where the work falls short.

To address that issue, Janice also began to model a growth mindset in her classroom. She shifted her approach by encouraging students to treat mistakes as essential opportunities to produce high-quality work and explicitly praised students who persisted in the struggle to improve.

She also infused her feedback with a tone of warmth and empathy, to support students’ belief that success is possible and within their control—a key element of learner agency.

**SHARPEN THE FOCUS**

Those social and emotional shifts set the stage for her students to reach for a clearly articulated academic target. “I hadn’t realized how entangled the students felt when I gave feedback on too many skills at once,” this teacher reflected.

As with goal-setting, limiting feedback to just one target increases its effectiveness, studies have shown. Too much feedback makes it hard to take anything in—but taking aim at a single target focuses the learner’s attention.

Now Janice tailors her assignments to one specific skill or understanding that students can intentionally practice and improve. “Last week, we worked on making transitions in expository writing,” she said.
As a first step, her class together analyzed strong exemplars of that academic target. (Her prompt: “How does this writer use transitions to connect ideas?”)

Next, Janice had small groups work together to revise weak examples of the target skill and then compare their results. Finally, she asked students to focus on that specific target skill in their weekly homework essay.

On Fridays, while Janice holds feedback conferences at her desk, pairs of students also critique each other’s work. All follow the same process, keeping the learning target front and center. (An opener: “We’re looking for transitions where you connect an idea to another idea.”) Then they look for evidence, using this process:

1. Refer to the desired target. (“We’re looking for transitions where you connect an idea to another idea.”)
2. Invite the partner to point out any evidence of that target in their work.
3. Help the partner decide on a manageable next step.

Coming soon after the drafts are written, the “Friday feedback” routine has more impact, Janice has noticed. “Their writing is still fresh in their minds,” she said, “so they can focus on what needs to change.”

If it comes too late, studies confirm, feedback won’t matter—the learner has lost the connection or moved on. (That’s why pro athletes watch game tapes right away.)

Janice finds her new feedback process not only simpler but more effective than her previous red-penciling process. She no longer gives instructions on how to make the work better. Instead, she might ask, “What are you trying for?” If her concerns do not align with those of the student, she will frame her issue in a way that relates it to the student’s goals, subtly shifting the cognitive load and building a sense of ownership.

“They care more—and they learn more—because they plan their own next steps,” Janice noted. Her feedback focus on academic targets is resulting in a social and emotional payoff: the crucial sense of agency that puts the learner in the driver’s seat.

**A SIMPLE FEEDBACK PROTOCOL**

The critique protocol developed by the Expeditionary Learning network of schools and designed for use by both teachers and peers, describes effective feedback as “kind, specific, and helpful.” The guidelines:

1. Begin by noting the positive. (For example, point out effective transitions in the work.)
2. Offer constructive probing questions and comments.
3. Personalize critique (by using “I” statements, such as “I think…,” “I wonder…,” or “I noticed that…”).
4. Stay specific.
5. Assess the work, not the person or the team.
In planning feedback, it helps to reflect beforehand about both the content of our feedback and its process. Some questions you might ask yourself at the start:

- What learning do I intend to develop with this feedback?
- Why does this feedback matter to the learning of this student?
- How will I know if this feedback “lands” with my listener?

As you plan the content and the process of your feedback, you can use the following list to check for the key elements of effective feedback. (Mark all that apply.)

- I collaborate with the learner to choose the focus of my feedback.
- We together explore how the feedback focus matters to the student’s learning.
- I make notes on the work in question.
- I provide feedback as soon as possible after the work takes place.
- I attend to the dynamics of cultural or other differences in the feedback relationship.
- I ask students to describe the choices they made in the work.
- I limit and focus the feedback that I offer.
- I ground my feedback in data and observational evidence.
- I put aside my judgments and opinions.
- I include appreciative feedback as well as areas of concern.
- I pause and clarify if the learner seems overwhelmed or confused.
- I am aware of equity issues that relate to ensure fairness of feedback.
- I ask learners to restate or paraphrase my feedback in their own words.
- I ask learners what next steps they would like to take.
- Other factors: ________________________________________________
BEYOND THE RIGHT ANSWER
“PRODUCTIVE STRUGGLE” FOR LEARNING THAT LASTS

Somehow, we recognize it immediately, the scene in this lesson about interior angles of a polygon, videotaped in an eighth-grade classroom somewhere in the United States.

Over the course of a 49-minute period, the teacher passes out papers, calls out directions from the board, asks questions and repeats the answers when correct, offers tips for memorizing geometric rules, and summarizes key points that will appear on a quiz coming up. The students seek right answers by asking the teacher for help.

“I’ll answer all questions tomorrow on angles,” the teacher says as the class comes to its end with a scattering of notifications. “I will make sure you understand ’em.”

Though the video was made more than 20 years ago—by researchers in the Third International Math and Science Study (TIMSS)—every minute still feels familiar to most people schooled in the United States.

Why? It’s because our customs and traditions place high value on right answers, not on the struggle to understand.

“U.S. teachers don’t like confusion,” said Dr. Jim Stigler, a key researcher in the 1995 TIMSS study as well as its follow-up in 1999. “They wait 30 seconds, and then they give a hint.”

In contrast, videos of Japanese classrooms showed teachers setting tasks requiring students to grapple with uncertainty. For example, one gave them a diagram of two plots of land divided by a crooked boundary. Without changing the area of their separate plots, the students had to straighten the boundary.

“Watch Japanese kids agonizing over how to solve those problems,” Stigler told a group of educators. “Most American teachers think that’s unfair, to give someone a problem to solve that you didn’t teach them how to solve.”

However, this stance does students a disservice. They actually need to understand that the more we struggle with new information, the more likely we are to recall and apply it later.

TIMSS research showed that higher achievement levels resulted when students worked through possible approaches to a problem without the teacher providing a map to the solution. This constructivist approach is a key expectation for students in the College and Career Ready Standards.
HOW UNCERTAINTY LEADS TO LEARNING

Teaching is a “cultural activity,” the TIMSS researchers concluded. We absorb its daily routines through our experiences as K–12 students—and by the time we lead our own classrooms, they guide our actions without our even realizing it. In United States classrooms, for example, our routines generally seek and reward “right answers.”

Yet from country to country, such cultural traditions vary. (For evidence, just browse through 54 full-length classroom videos and transcripts that the TIMSS researchers have made freely available to the public.)

The Japanese math class mentioned earlier began with the teacher posing the problem of irregular plots of land. Students worked on their own for about 15 minutes, and then they sought out peers to help build on their ideas.

“As they’re working,” Stigler pointed out, “each time the teacher sees a unique solution to the problem, he has them put their solution up on the board.” At the end of the lesson, with the board covered with students’ ideas, the teacher summarized each different method. That done, he posed another problem—related to the first, but a little bit harder. Instead of explaining, he again let students make their own connections.

Situations like this, in which students grapple with uncertainty, actually heighten the learning process, said cognitive scientist Andrea Chiba, who co-directs the NSF Science of Learning Center at the University of California in San Diego. For example, in the eighth-grade hydroponics project featured in the student agency article in this series, Dr. Chiba noted that the teacher’s minimal knowledge of that topic lent energy to the students’ own research.

BUILDING CAPACITY FOR PRODUCTIVE STRUGGLE

Teachers and students alike often feel uncomfortable with the struggles of not knowing. Most U.S. students have grown up with assessments on which they must quickly deliver the right answers. And for teachers, it takes considerable self-awareness to manage the urge to “fix” things, by offering hints or procedural answers when learners struggle. Neuroscience shows, however, that making mistakes is an integral part of striving for mastery.

In New Teacher Center’s vision for Optimal Learning Environments, classrooms are emotionally and intellectually safe places where effort and risk-taking are supported, and errors are viewed as opportunities for feedback and correction. Teachers who create these kinds of environments encourage a growth mindset focused on persistence and flexible thinking.
This perspective can help both teachers and students develop tolerance for what some call “the zone of productive discomfort”—and come to see its value.

For example, in these classrooms, explicit protocols for collaborative groups provide safe ways for students to raise ideas and express their reasoning, even when they are not sure of a solution. Considerable research shows the benefits to their learning. In one study, when a student generated the first idea and a small group of peers followed up, more ideas were produced than in situations in which the first idea came from a teacher.

Productive struggle develops learner agency—the satisfying power to make our own decisions and choices, take meaningful action, and see the results in our own development and learning.

**VALUING STRUGGLE IN EVERY SPHERE**

The momentum for emphasizing productive struggle began with studies of math and science classrooms. But that same approach, it turned out, worked in other subject areas, such as English language arts or social studies. In the article in this series on perspective-taking, for example, high school students and their teachers spoke of creating “a safe place” for differing views as they made meaning of complex texts and events. (Their voices narrate this 2-minute video, “Making Argument Safe.”) No matter what challenges confront us and our students, shifting our sights away from “one right answer” can push us to think more flexibly. Not just in school but in every aspect of our lives, productive struggle deepens and strengthens the way that we think.
STUDENT AGENCY
OWNING THEIR LEARNING

The most effective learning puts students in control. As students advocate for what they need to know, they are developing “agency,” the power to make their own decisions and choices, take meaningful action, and see the results in their own development and learning.

Agency involves the social and emotional skills of self-awareness, self-management, choice, and voice in how to engage and express learning, critical thinking, responsible decision-making, goal-setting, and problem-solving. These social and emotional skills are essential supports for student success with College and Career Ready Standards.

To foster that sense of agency in his eighth-grade science students, Ryan Gallagher assigned a project in a scientific field that he knew almost nothing about—hydroponics, in which plants are grown in water rather than soil. And as he learned alongside the kids, “they could see my excitement in discovering these new things.”

“There’s this game, and middle school kids can see it,” Gallagher reflected. Convinced that their teachers know the right answers, students play along, letting teachers lead them to those answers.

“When they genuinely look in your eyes, and you have this fear of, ‘I don’t know,’ they love it,” he reflected later. “And they remember it.”

As a student named Rylee explained:

“The best projects, you’re the one who has to figure it out and make it work. Because it isn’t the teacher’s project! Where they tell you everything, it’s almost like you already know what’s gonna happen. If it’s gonna work out perfectly and they give you all the steps, then what’s the point of the project?”

THE POWER TO CHOOSE

Mr. Gallagher wanted his class to learn both plant biology and the basic principles of chemistry. He decided to form student teams that would build working hydroponic devices to grow food in an aquatic environment.

First, he brought in experts for the class to interview. To his delight, it turned out that professional hydroponics gardeners use one of four different techniques. Each of his four student teams would choose one of those methods, calling on an experienced practitioner for advice.
Their teacher gave students another opportunity to exercise agency by allowing them to choose how to demonstrate their scientific understanding using the artistic forms in which they felt most confident.

“You may not immediately see any correlation between hydroponics and video editing,” a student named Jackson reflected afterward. But the chance to explain the scientific process through the medium of video energized and motivated him.

“I ended up watching a lot of videos on [hydroponics],” he said. “I put a lot of hours into it, but when you’re having fun, you’re interested. You are learning a lot, but it doesn’t feel like hard work.” With each new video draft that he produced, Jackson said, “I’d get excited to show people what we worked on with the hydroponic system and what was new about it.”

INCREASING COMPETENCE, CONFIDENCE, AND CREATIVITY

Student agency grows when teachers put students in the driver’s seat, giving them the chance to work toward competence, confidence, and creativity.

As youth learn to accurately assess their strengths and limitations, they develop the confidence and optimism that leads to a growth mindset, studies show. And, they begin to understand that success depends on their willingness to risk failure, get feedback, and keep trying. In the hydroponics project, that process unfolded:

1. Guided practice helped students get better at what they tried. “This project gave me a lot of confidence as far as building goes,” said Anderson. “We had so many times where we had to do the task, like hooking up the pump or changing the filter. Rehanging the lights, we did it so many times that it just became second nature for us.”

2. Students began to believe in their capacity to learn. “Seeing other people who were ahead of you in the project helped you believe that you could do it, too,” said Rylee. “And going to see people who actually do this for a living—and having [them] come into our classroom and teach us about it—made you believe in yourself.”

MAKING WORK PUBLIC

In a culminating exhibition, these eighth graders showed their functioning gardens to an audience of parents and community members. They explained the method’s potential impact on global water conservation and food shortages, and they answered questions in accurate and knowledgeable terms.

“If you tell kids that they’re going to exhibit their work, the caliber of the work greatly increases,” Mr. Gallagher said. “Something about standing in front of an audience that doesn’t know—that’s causing them to reflect back on their learning and pull information out.”

His students agreed. “It makes it feel like we do work that’s important to the world, that it relates to the world,” said Paris. “These kind of things show me that you do use things that you learn in school outside of school and that it can help you in your future.”

BUILDING STUDENT AGENCY

Mr. Gallagher’s curriculum unit worked because he built a level of trust and belonging in his classroom. He knew his students well—including their interests out of school. He helped them to identify their own strengths and differences and to make the most of them in small-group work.

As he modeled a mindset of curiosity and openness, his students grew more willing to take risks in their learning.

They learned to give and receive feedback, to consider new perspectives, to revise, and to persist. The seeds of student agency were planted, and curriculum and instruction provided fertile soil—an optimal learning environment where they could thrive.

Not every teacher, of course, has circumstances where a project of this type would meet with support. But even in more restrictive contexts, teachers can try out some of its key elements. For example, they will gradually observe increased student agency (and teacher agency, too), in situations where:

- **Students choose their study topics.** In every curricular area, teachers can offer “choice” assignments in which students grapple with important content. For example: “At your age, what rights do students like you have under the U.S. Constitution? What rights are denied you?” Students then select one example to investigate in depth, describe differing perspectives on the matter, and support their point of view with evidence.

- **Students decide how to explore content.** Twenty-first century scholars use many different methods in their research, and young people can, too. (Reading, viewing multimedia, conducting experiments, observing or interviewing others, and engaging in collaborative activities are just a few.)
• **Students demonstrate understanding in different ways.** They start by helping create an assessment rubric that clearly identifies the criteria for excellent work. Once that’s agreed on, students can show their learning by various means—writing, artistic expressions (from infographics to video or theater), a debate or mock trial, or an activity teaching others what they have learned.

• **Students progress at the pace that’s right for them.** By providing just the right stretch—through challenges neither too easy nor too hard—teachers can help each student maintain a “can-do” mindset and reach for a “personal best.” Though individual paces may vary, the class shares exemplars that inspire—and the belief that persistence and practice bring rewards to all.
NOW WHAT?
INTEGRATING SOCIAL AND EMOTIONAL PRACTICES FOR ACADEMIC SUCCESS

Educational theorists have long held that learning is a social activity and that understanding is constructed through interaction with others. Accordingly, students need to feel as though they belong to a community of learners and that their academic self is a “true” self.

The seven high-leverage practices described in this series of articles call out key social and emotional competencies necessary for every student to fully engage and flourish academically. Together, this powerful mix can move the needle for educational equity by creating conditions and opportunities for every student to meet rigorous College and Career Ready Standards.

New Teacher Center encourages teachers to create Optimal Learning Environments by creating the conditions that meet the needs of their learners. The framework for creating these conditions can be a mirror for self-reflection: Are these characteristics reflected in my classroom? In what ways? How can I build upon what is already in place? How can I do even better to meet the social, emotional, and academic needs of every student?

For example, a teacher who wishes students could collaborate more effectively could ask themselves: What would it look like if students set norms for collaboration? How might assigning roles for every group member support a more authentic collaboration?

Teachers will quickly discover the connectedness of the characteristics of an Optimal Learning Environment. Effective collaboration, for example, also requires positive relationships, healthy expressions of emotions, effort, and risk-taking. These social and emotional skills both improve the learning environment and contribute to academic success.

Abundant research and common sense tell us that competence grows when learners feel safe and supported in the stretch to meet new challenges. In this series, teachers and students shared the impact on learning when those conditions were realized.

Each practice presents opportunities to bring out the best in both you and your students—and to transform your classroom culture into an optimal learning environment. Together, they can accelerate student learning and prepare students for college, career, and life.
ABOUT NEW TEACHER CENTER

New Teacher Center (NTC) is a national non-profit organization dedicated to ending educational inequities for all students by accelerating teacher and school leader effectiveness.

Founded by teachers in 1998, NTC builds capacity within districts and district partners to drive student learning, educator effectiveness, and teacher and leadership development. We do this by providing PreK–12 teachers and school leaders with evidence-based skills and supports needed to create optimal learning environments that accelerate students’ academic and social emotional success.

NTC is improving the learning of over 2.6 million students, 35,000 teachers, and 7,500 mentors across the country. For more information, visit: newteachercenter.org.

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