Collaborative Learning Toolkit

A Resource for Educators

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Accelerating Innovation in Education

Acknowledgements

This toolkit is built on the shared expertise of educators, researchers, and practitioners who believe in the power of collaboration to transform learning. It is a product of the Mapping, Clarifying, and Communicating Key Ideas about Collaborative Learning to STEM Audiences, which is funded by the National Science Foundation's Discovery Research PreK-12 (DRK-12).

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Letter from the Author

Welcome to the Collaborative Learning Toolkit: A Resource Created for Teachers, by Teachers.

As educators, we know that teaching goes beyond simply transmitting knowledge—it's about inspiring curiosity, fostering critical thinking, and preparing students for the challenges and opportunities of the future. One of the most powerful ways to engage students and enhance their learning is through collaboration. Collaborative learning not only helps students understand and retain content better, but it also equips them with essential skills like communication, problem-solving, and teamwork that are indispensable in the modern world.

This toolkit was created by a community of educators who understand the importance of collaboration—not just among students, but also among teachers. We recognize that every classroom is unique, and that strategies for successful collaboration must be adaptable to various teaching contexts and learning environments. Through this toolkit, we aim to provide a collection of strategies and approaches that have been tried, tested, and refined by teachers who are passionate about collaborative learning.

Inside these pages, you'll find practical tools and insights that will help you design and implement collaborative learning experiences in your classroom. Whether you're just beginning to explore collaborative techniques or are looking to deepen your existing practices, this resource is meant to guide you in creating dynamic, engaging, and inclusive learning spaces.

We've intentionally structured this toolkit to be flexible, allowing you to tailor the strategies and approaches to meet the diverse needs of your students. Each section offers a blend of theory and practice so you can understand not only how to apply these methods but also why they work. In addition to high impact approaches, we've included actionable steps that you can implement right away.

Our hope is that this toolkit serves as both a resource and a source of inspiration as you embark on your own journey to cultivate collaborative learning in your classroom. Collaboration is at the heart of how we, as teachers, learn from and support one another. Together, we can build learning environments where students don't just work alongside each other—they work with each other, growing both intellectually and socially.

Thank you for being part of this collective effort to create more connected, engaging, and transformative learning experiences.

Happy Teaching!

Dear Teachers,

When creating tasks, I think about the entire experience. When selecting, I take into account that a good task requires multiple minds to complete it. I also think about my learning goals and if all students will be able to achieve them across the duration of the task. I then ask how will I be able to see evidence of this learning? What can be assessed through the task, and how will I know individually what a student understands and is able to do?

The learning goals, assessment, and collaborative nature together drives the structure of the task. This thinking needs to come in the task selection phase not after students are engaging in the task. Pre-planning the assessment is essential to successfully implementing collaborative tasks and immersive learning experiences. During the implementation of the task, I rely heavily on group roles and task structure to support the collaborative experience, keeping students engaged and working toward their collective target.

Sincerely,

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Introduction to Collaborative Learning

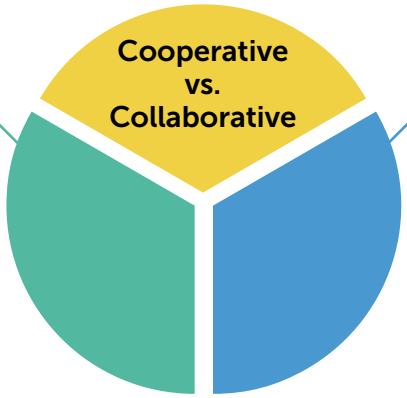
Direct instruction and lecturing have been the go-to teaching methods for many generations. While these methods efficiently deliver content, they often position students as passive consumers rather than active participants in the learning process. Collaborative learning is an alternative approach to these methods.

Collaborative Learning (CL) is an interactive, student-centered form of learning in which individuals work together to plan, discuss, and build on each other's ideas. Although sometimes used interchangeably with cooperative learning, there are some distinctive differences between the two.

Cooperative Learning

Students divide tasks, put the pieces together, and then share back their learning with group members.

Teachers provide structured support organizing tasks, setting clear goals, and monitoring student interactions.



Collaborative Learning

Students engage deeply with a topic exchanging ideas, negotiating differing perspectives, and building shared understanding as they jointly construct knowledge.

Teachers facilitate classroom activities, provide resources, and encourage student interaction.

Peer interaction is an important component of collaboration, which gives students an opportunity to hear how others think and solve problems. Group members often bring different viewpoints that help others see things in new ways. The more time they spend in discussion, the more likely they are to succeed in grasping complex ideas.

Benefits of Collaboration — Collaboration is an important skill students need to be successful. When done correctly, students can achieve these outcomes:

- **gain deeper content mastery**
- **develop collaborative skills**
- **integrate diverse perspectives**
- **have increased motivation and engagement**

How do collaborative methods impact learning?

Collaborative learning provides ways to enhance motivation and improve content learning. In interacting with others, students gain confidence and agency through presenting their perspectives and understanding the topic (Chinn & Clark, 2013). Research has also provided evidence that Computer Supported Collaborative Learning offers ways to increase student motivation and improve their content learning. By interacting with others, students gain confidence and agency through presenting their perspectives and understanding the topic. In addition, when technology supports collaboration, learning outcomes and learning processes improve for individual learners (Chen, 2018).

Learning outcomes can include the following:

- knowledge gain, which can be measured by standardized tests or locally developed tests;
- skill acquisition, such as critical thinking or programming, which is also measured by tests;
- perception, which is measured by surveys and includes factors like group success, motivation, self-confidence, engagement, and enjoyment.

What we know from the research is that when set up well, collaborative learning can have a large positive effect on learning and motivation.

How does collaborative learning impact a student's future success and job outlook?

According to a study by Rios and colleagues (2020) that analyzed job advertisements, the ability to collaborate was ranked as the third most desired skill for college graduates by employers. Oral and written communication, which are also essential for effective collaboration, were ranked as the top two skills.

Common Misconceptions About Collaborative Learning

1

Collaborative learning is **not** "unguided discovery" or "group work without direction."

2

It does **not** diminish the importance of teachers but shifts the teacher's role to designer and facilitator.

3

It is **not only** for social development. When properly implemented, it enhances academic achievement.

It's important to recognize that successful collaborative learning requires careful planning and intentional structuring of the learning environment. Successful collaboration goes beyond simply putting students in groups; it involves soliciting and appreciating diverse viewpoints, ensuring that every student has a voice, managing conflicts, fostering a positive atmosphere, and supporting group dynamics. These elements all work together to improve student engagement and create a classroom culture of mutual respect and shared learning.

Implementing effective collaborative learning requires careful attention to several important elements.

Create a supportive environment: Establishing a supportive classroom environment with established norms for respect, active listening, and constructive feedback creates the psychological safety necessary for students to take risks, share ideas, and engage authentically with their peers.

Select appropriate tasks: Tasks must be purposefully designed to warrant collaboration, featuring complexity that genuinely benefits from multiple perspectives and diverse contributions.

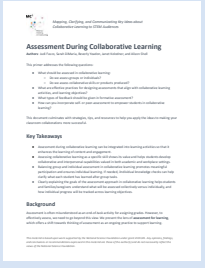
Embed intentional structures: Create intentional structures with clear protocols, defined student roles, and explicit expectations rather than simply placing students into random groups. These structures provide the necessary scaffolding for meaningful interaction.

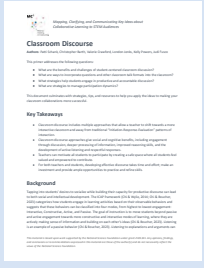
Implement balanced accountability measures: Ensure all students participate meaningfully and prevent the common problem of uneven workload distribution.

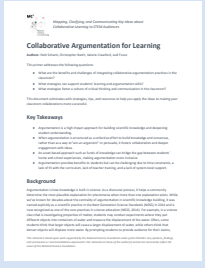
When these elements work in concert, collaborative learning transforms from potentially chaotic group work into a powerful shared learning experience.

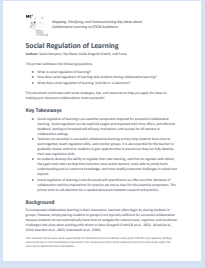
Related Resources

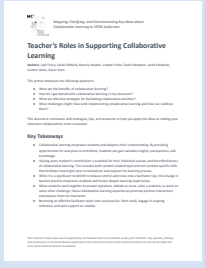
Primers Affiliated with this Series:


Assessment


Classroom Discourse


Collaborative Argumentation


Social Regulation of Learning


Teacher's Roles in Supporting Collaborative Learning

Creating a Classroom Culture for Collaborative Learning

By: Christopher Barth, London Jenks, Beverly Yeadon, and Cassandra Kelley

> *"Collaborative learning is like a potluck dinner where everyone brings a unique dish reflecting their lives and culture. Here, each person contributes their knowledge, skills, and experiences while learning from the offerings of others. The result is a shared feast of ideas and insights that everyone can savor, leading to a richer and more satisfying learning experience"* (Tipton, 2023, para. 7).

The aim of collaborative learning is for students to explore diverse viewpoints while working together to build a shared understanding. In this student-centered format, the teacher serves as a facilitator who guides students to respectfully communicate so they can understand and learn from each other's thoughts, develop new insights, and grow together. For collaborative learning to flourish, a classroom culture must be established with the values of respect and kindness so that students can feel a sense of belonging and connection. In this type of environment, students actively listen to each other, acknowledge the diversity of individuals and their perspectives, and engage in meaningful discourse without judgment. When a sense of mutual respect is present, students are more likely to express their thoughts openly, ask questions, and contribute to the discussion.

To foster an inclusive culture, a teacher must create a welcoming and safe space for all students to feel accepted within that classroom community. This entails explicitly teaching about and modeling respectful behavior in addition to providing informal opportunities for students to socially interact through icebreakers and other reflective exercises. These interactions will allow students to learn more about one another, form connections, and in the long run, to take personal responsibility for helping to achieve group goals. A critical step is empowering students to collectively develop shared norms for how they will work together that are founded on the value that every student deserves respect and kindness for themselves and their ideas. Establishing norms will help to promote student buy-in and ensure that expectations for collaboration are clear among everyone.

Teachers can use these norms as examples to coach students about how to communicate effectively. Students should also be prompted to reflect on how they will resolve conflicts and to understand that it is not always a bad thing when differences of opinion occur, especially since negotiation is a common part of the learning process. Some researchers have suggested specific norms as guidelines for effective collaborative learning.

Garston and Wellman (2016) recommend the following seven norms of collaboration:

1. **Pause before responding to another person.**
2. **Paraphrase.**
3. **Ask questions.**
4. **Use data in discussions.**
5. **Share new ideas.**
6. **Pay attention to oneself and others.**
7. **Assume everyone's intentions are good.**

Sentence starters and sentence frames such as "I agree with __, because ..."; "I would like to add on to what [student's name] said ..."; or peer questions such as, "I see why you might say that, but couldn't it also be __?" can be implemented to help structure conversations and promote more meaningful dialogue. Additional strategies include co-creating classroom agreements or community rubrics that can be put into action. These classroom artifacts help to document everyone's shared values and can aid students in consciously reflecting on how they interact with others. They can also be revisited and modified as needed.

After establishing classroom norms, students need opportunities to apply them across a variety of activities while becoming familiar with their peers. The best activities require interdependency and collaborative skills but have multiple entry points. The initial emphasis is on practicing respect and kindness without the pressure of learning academic concepts. These activities set the stage for moving to challenging cognitive tasks that focus on content.

This process depends on the context of the classroom: Have students learned collaboration in the past? How comfortable is the teacher with giving responsibility to the students? Is collaboration valued throughout the school or only in your classroom? It's important to remember that it may take time to develop community culture as everyone becomes more comfortable.

Once a culture of collaboration is in place, these skills can be applied while learning academic content. As facilitators, teachers can implement strategies to reinforce that every student has knowledge, skills, and questions to contribute. Two strategies that teachers can use to ensure all students are actively participating include these:

- **Pre-Answer**: Have all students write down what they would say before being asked to contribute or participate in a discussion. This communicates that the knowledge and ideas of each student has a place in the classroom and supports the sharing of perspectives from all students.
- **Talking Tokens**: In small discussion groups, students use talking tokens to ensure everyone shares their ideas. Each student starts with two tokens. Every time they speak, they remove one token. If a student runs out of tokens, they must wait for others to speak. Once everyone uses their tokens, all students reset by placing their two tokens back on the table for the next round. This practice reinforces that each student's knowledge and skills are equally valued.

Frequent check-ins are also important so teachers can observe group dynamics and students' individual participation. Be on the lookout for any behaviors that are not in line with or that deviate from the established norms. Be prepared to address them immediately and reinforce the established norms. If behaviors such as "off-hand" comments, impulse control issues, or students refusing to work with others occur, teachers should redirect the interaction toward the established norms of respectful and kind behavior. Moreover, teachers can intentionally build in time for further student reflection and consider different groupings if there are ongoing issues.

When assessing the culture within your classroom, consider the following questions offered by Muhtaris and Ziemke (2020):

How does the student approach working in a small group?

- Are they applying strategies taught in class?
- Have they referenced an anchor chart or prior lesson to enhance interaction?
- Do they build on the ideas of others?
- Are they able to solve conflict?

Also consider these:

- How does the student transitions from independent to collaborative work time?
- What helps the student do their best work?
- What else have I noticed about this student?

For additional information, please review the checklist for assessing individuals in group settings.

Muhtaris and Ziemke (2020) also provide a sample collaboration survey for use with students that can be adapted to better understand their perspectives and prior experiences. Ultimately, ongoing conversation about collaboration paired with feedback from all participants is key for ensuring that collaborative learning is successful.

Related Resources

Collabora

Classroom Discourse

Assessment During Collaborative Learning

Primers Affiliated with this Series:

- Assessment
- Classroom Discourse
- Collaborative Argumentation
- Social Regulation of Learning
- Teacher's Roles in Supporting Collaborative Learning

Additional Resources

- Collaboration survey
- Observation questions for collaboration skills
- Sentence Stems for Communicating Responsibly
- Foundations of Collaboration

Collaborative Checklist: Assessing Individuals in Group Settings

Consider the following checklist when assessing how students approach working in small groups.
Does the student ...?

Collaboration Checklist

Leadership Initiative

- ☐ Take initiative in directing group activities
- ☐ Wait for others to lead before contributing
- ☐ Balance leading and following appropriately
- ☐ Gather necessary supplies/materials promptly
- ☐ Wait to observe other groups before proceeding

Communication Style

- ☐ Listen attentively before speaking
- ☐ Speak without fully listening to others first
- ☐ Make eye contact with group members during discussions
- ☐ Interrupt others during discussions
- ☐ Express disagreement constructively
- ☐ Avoid expressing different viewpoints

Work Approach

- ☐ Complete tasks quickly, focusing on efficiency
- ☐ Take time to be thorough with tasks
- ☐ Self-regulate focus without prompting
- ☐ Need external assistance to stay on task
- ☐ Ask clarifying questions when confused
- ☐ Hesitate to express confusion or ask for help

Strategy Application

- ☐ Apply collaboration strategies taught in class
- ☐ Reference anchor charts or prior lessons during group work
- ☐ Build meaningfully on the ideas of others
- ☐ Use taught conflict resolution approaches when needed
- ☐ Adapt strategies to fit current group dynamics

Transitions

- ☐ Transition smoothly from independent to collaborative work
- ☐ Need time to adjust when switching to group work
- ☐ Help facilitate transitions for others in the group
- ☐ Show reluctance when shifting from individual to group work

Support Factors (Does the student need ...?)

- ☐ Clear written instructions
- ☐ Visual supports
- ☐ Defined role within the group
- ☐ Regular check-ins
- ☐ Extended processing time
- ☐ Proximity to teacher
- ☐ Other: _____

This table has been adapted from Muhtaris and Ziemke (2020)

Foundations of Collaboration

Belonging and Collaboration

Belonging refers to a student's emotional need to feel personally valued, included, and supported by their learning community. How this need is supported can vary by a range of factors, including culture, context, and individual learning needs. It can be broadly communicated through instructional and interpersonal supports, which create richer and more inclusive learning environments.

Why is belonging important to collaborative learning?

Belonging is a fundamental human need that plays a powerful role in learning. It is frequently associated with trust, motivation, and engagement. When students feel emotionally safe, they are better able to engage in learning as it is easier to share ideas, give and receive feedback, and work through conflict. Belonging supports the development of positive attitudes toward learning, encourages socialization with peers, and promotes academic achievement and equity. In a nutshell, belonging lays the foundation for meaningful collaboration and is essential to student success (César & Santos, 2006; Surr et al, 2018).

Belonging and collaborative learning are closely intertwined. A sense of belonging helps students cultivate skills essential to thrive in collaborative learning environments. The table below illustrates the relationship between belonging and collaborative learning.

Theme	Belonging	Collaborative Learning
Inclusivity & Diversity	Welcomes diverse backgrounds and addresses systemic barriers	Brings together diverse perspectives and incorporates inclusive group practices
Equity & Access	Provides all students with resources and support needed for success	Centers equity by addressing different learning styles and ensuring access for all
Emotional Safety & Motivation	Emphasizes emotional safety, fosters engagement and motivation	Creates environments where students feel valued and supported
Student Agency	Encourages students to be active agents in their learning	Promotes student ownership and participation through cooperation
Communication & Relationships	Promotes respectful dialogue and interpersonal skills	Builds communication, listening, and negotiation skills across diverse peers
Inclusive Instruction	Incorporates culturally responsive teaching and inclusive curricula	Adapts inclusive practices in collaborative activities to meet diverse learning needs

How does belonging support learning?

Teachers play an important role in creating spaces that nurture belonging. Research has shown that teacher support is one of the strongest predictors of student belonging (Allen et al., 2018). When students feel like they belong, they experience several positive outcomes, including these:

- **Improved academic performance**: Students feel happier at school, more motivated to participate in class, and more likely to excel academically (Keyes, 2019);
- **Enhance emotional engagement:** A stronger emotional connection to the school can lead to deeper learning (Lei et al., 2018);
- **Increased self confidence:** Students develop self-efficacy and a more positive view on their academic abilities (Chiu et al., 2016; Faircloth & Hamm, 2005; Hanson, 2017; McMahon et al., 2009);
- **Emotional protection:** Belonging can shield students from feelings of loneliness (Wang et al., 2021) and mitigate the negative effects from exposure to violence (Nuttmann-Schwartz, 2018).

By prioritizing belonging in the classroom, teachers can support students' emotional well-being and academic success.

What can teachers do to promote belonging?

Teachers can foster a sense of belonging by cultivating a classroom culture that emphasizes curiosity, play, and supportive relationships (Levine et al., 2020). These elements work together to create an environment where students feel safe, valued, and inspired to learn.

Curiosity

Encouraging curiosity helps students engage deeply with their learning. When teachers design lessons that spark interest and invite exploration, students become active participants in their education. This sense of engagement not only enhances academic achievement but also helps students feel connected to the learning process and their peers as they share ideas and discoveries.

Play

Integrating play into the classroom creates a safe and welcoming space for students to experiment, take risks, and explore new concepts without fear of failure. Playful learning activities—whether through games, hands-on projects, or creative challenges—can reduce stress and foster joy, helping students feel comfortable and confident in their abilities. A playful atmosphere also encourages collaboration and builds trust among classmates.

Supportive Relationships

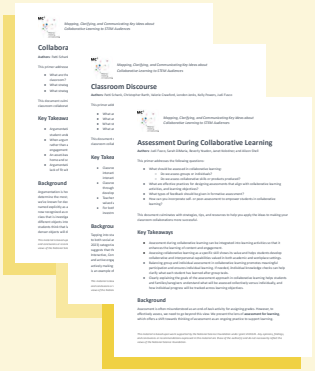
Building strong relationships within the classroom is essential for nurturing belonging. When teachers model kindness, empathy, and respect, they set the tone for students to support one another. Peer connections that prioritize encouragement help students feel seen, valued, and included. These relationships contribute to a positive classroom community where every student feels they have a place.

By weaving curiosity, play, and relationships into daily routines and interactions, teachers can create an environment where students not only thrive academically but also develop a lasting sense of belonging that supports their emotional well-being and growth. The full potential of collaborative learning can not be realized unless students feel like they belong in the learning environment.

To foster learning environments where students feel a strong sense of belonging and thrive through collaboration, ongoing reflection is critical. **The strategies below provide concrete ways to foster belonging in collaborative learning:**

Characteristic of Collaborative Learning	Concrete Activities that Foster Belonging
Grouping	**Creating Groups:** Creating effective groups requires understanding what each student knows (prior knowledge), their preferences for how they work, and their personalities. While it is possible to create "good" groups, remember: there is no perfect group. It is also important to regularly change group membership so students can learn from different perspectives of different group members. **Group Roles:** Group roles help students work more smoothly, encourage all to participate, and prevent one or a small number of students from dominating the conversation. **Rotating Roles:** Students learn new skills and develop a sense of shared responsibility and belonging by fulfilling different roles (facilitator, recorder, time keeper, presenter) to contribute to the group.
Positive interdependence among students	**Collaborative Problem Solving Activities:** Creating opportunities where students' unique contributions are needed to solve a problem enhances feelings of being valued within the group.
Accountability and responsibility to achieving group goals	**Assess Collaboration:** After you prepare students to actively participate in group activities, monitor their engagement and recognize groups who work together and include all group members as well as individuals who build on each other's thinking. .If we want students to learn in the context of collaborative work and learning, we need to help them understand how they are collaborating, assess the quality, and give feedback to help improve it. Provide feedback and grades to promote effective teamwork (see Assessment in Collaborative Learning). **Shared Rubrics:** collaborating with students to co-create the criteria for success creates a shared understanding, accountability, and sense of belonging within the group.
Use of interpersonal and small group skills	**Explicitly Teach and Model Communication Skills:** teach students communication skills that contribute to an inclusive classroom, like active listening, respectful disagreement, and giving constructive feedback. Practicing these skills will help feed a classroom environment where students feel valued and respected.
Student reflection on group effectiveness	**Debriefs that Emphasize both Product and Process:** follow collaborative activities with discussions that include questions about group dynamics (i.e. did everyone feel able to contribute? Did anyone feel left out or like their ideas weren't being listened to?).

Related Resources


Mapping, Clarifying, and Communicating Key Ideas about Collaborative Learning in STEM Audiences

Collabora

Mapping, Clarifying, and Communicating Key Ideas about Collaborative Learning in STEM Audiences

Classroom Discourse

Mapping, Clarifying, and Communicating Key Ideas about Collaborative Learning in STEM Audiences

Assessment During Collaborative Learning

Primers Affiliated with this Series:

- Assessment
- Classroom Discourse
- Collaborative Argumentation
- Social Regulation of Learning
- Teacher's Roles in Supporting Collaborative Learning

Additional Resources

- Factors that affect students' Sense of Belonging
- Belonging Overview | M-PLANS
- Foundations of Collaboration

Selecting Tasks for Collaboration

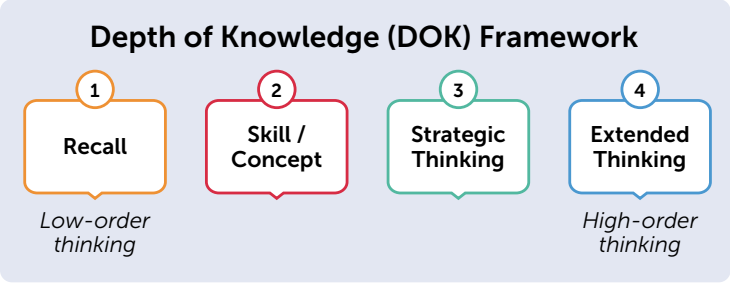
By: Sarah Hampton

Collaboration is a very powerful activity, but it works best when you need the power of another person's brain to help you. It only makes sense to expend the effort of figuring out how to work with another person when the instructional task is sufficiently large or complex. This allows you to leverage others' working memories to extend your capacity as a group in a synergistic way!

As teachers, it's important that we ask our students to work together on tasks that are worth the time and effort of collaboration. In general, it's more efficient to collaborate when tasks are complex, require individual accountability as well as positive interdependence among group members, and are more open-ended as students mature. Think about it like this: If an individual can complete a task in less time than when working with a group, then it's not well-suited for collaboration. For example, a worksheet that asks students to match vocabulary words with their definitions can be completed easily by one person and doesn't require deep thinking. On the other hand, if a task requires a greater depth of knowledge and rich discussion, then collaboration is an excellent choice. For example, asking students to develop an argument based on reading multiple perspectives requires strategic and extended thinking, and group discussion would help students clarify and elaborate their positions.

Task Complexity

Task complexity is an important component of planning your collaborative learning activity. In addition, you should also consider assessment during planning. The complexity of an objective or task depends on the level of cognitive effort required to complete it. More complex tasks are generally associated with higher-order thinking.



Learning objectives have inherently different complexities, and it's important that the complexity of the learning tasks we select for students matches the complexity of the intended objectives. For example, we can't expect students to successfully design an investigation by having them recall steps to the scientific method. We can expect them to successfully design an investigation by having the practice designing them and offering feedback.

Tasks that work well in collaboration match best with complex learning objectives. How do we know what qualifies as complex? Many of you may be familiar with Webb's Depth-of-Knowledge (DOK) framework, which helps classify learning targets, tasks, and assessments by their complexity.

The following questions developed by Webb in conjunction with Edutopia offer a quick guide:

DOK 1: Is the focus on recall of facts or reproduction of processes that students have learned?

DOK 2: Is the focus on relationships between concepts and ideas or using underlying conceptual understanding?

DOK 3: Is the focus on abstract inference or reasoning, non-routine problem-solving, or authentic, evaluative or, argumentative processes that can be completed in one sitting?

DOK 4: Is the focus at least with the complexity of DOK 3, but iterative, reflective work, and extended time are necessary for completion?

We recommend tasks in DOK levels 3 and 4 for collaborative activities because they tend to require deeper thinking and would benefit from more than one mind. Here are a few examples:

Elementary Math, DOK 3

Robert Kaplinksy, a mathematics educator, offers several activity suggestions in his DOK math matrix, including this DOK 3 task that asks students, "What is the greatest area you can make with a perimeter of 24 units?" To make this a collaborative activity, students can work in groups of three. One student serves as the facilitator whose role is to ensure everyone writes and documents their individual thinking. Another acts as the questioner, responsible for bringing group-approved questions to the teacher. The third student takes on the role of time manager, keeping the group on schedule and encouraging balanced participation.

Middle School Science, DOK 4

In this collaborative task from American Chemical Society, students are presented with a scenario in which reptile eggs need to be rescued from a construction site and transported to a nearby conservation center. They are tasked with collaborating to design and build a temporary portable reptile egg incubator device that will keep one egg warm and safe during transport using chemical engineering and product design.

High School Science, DOK 4

This task comes from nextgenscience.org. "Students investigate the 30 by 30 initiative, a proposal to protect 30% of U.S. lands and waters by 2030 and the reasons humans engage in conservation. Students use the Serengeti National Park as a case study to figure out ecosystem and conservation principles and apply those understandings to conservation dilemmas in the US. Through investigations with complex data sets and hands-on simulations, students figure out how limiting factors impact carrying capacity, how group behavior impacts survival, and how biodiversity supports ecosystem resilience. By engaging with real-world conservation dilemmas and exploring various interest-holder perspectives, students identify the trade-offs humans make as they manage natural resources to support human society as well as the natural systems we live in."

Notice that tasks are more highly structured in the elementary example and more open-ended in the middle and high school examples. Research shows that younger students need more concrete guidance while older students benefit from more self-direction (Van Leeuwen & Janssen, 2019). For more guidance on identifying complex learning objectives that could be good candidates for collaborative tasks, check out these resources with subject-specific DOK information and scale the guidance to your age level.

Positive Interdependence

Another important aspect of selecting the right task is positive interdependence. Collaboration happens when two or more students work together to build common ground and knowledge in order to find a joint solution to a task. The goal of collaborative learning therefore is not the solution but **joint knowledge building** and each group member's **individual learning**. Positive interdependence is when each group member can only succeed when all other group members succeed as well. So when planning for collaboration, we have to ask ourselves three questions:

- How does the task require each group member to contribute?
- How does the task require students to depend on each other for successful completion?
- How does the task require individual learning?

Notice how the role assignments in the first example promote positive interdependence and individual accountability. It is only possible for the group to succeed when everyone fulfills their roles, and when that happens, individuals will remain engaged in productive learning behaviors.

In summary, students *need to need* the power of each other's mental capacities to collaborate, and this usually happens during high cognitive demand tasks like DOK levels 3 and 4; examples are given above. In addition, tasks need to be structured so that group members have to rely on one another for success and push each other's individual learning forward. As you plan your tasks, also remember to think about assessment and how you will structure student groups.

Related Resources

Primers Affiliated with this Series:

- Assessment
- Classroom Discourse
- Collaborative Argumentation
- Social Regulation of Learning
- Teacher's Roles in Supporting Collaborative Learning

Additional Resources

- Collective working-memory effect
- Foundations of Collaboration

Grouping Students

Intentionally created groups. Simply placing students in groups will not typically be sufficient to enable successful collaboration. Deliberate group selection is imperative based on the needs of the students and the "why" of the activity. Sometimes you'll focus on helping students learn the subject matter, and sometimes the goal will be to help them learn to collaborate. Allowing students to select their own groups will generally not be productive, especially if students are new to collaboration. However, students discuss the strong need for working with other students they can trust.

As the composition of the group affects the learning, it is important to get to know your students, their work styles, abilities, regulation abilities, and collaboration skills to form groups. As you start doing collaborative learning lessons often, you'll see how to group students homogeneously or heterogeneously for different tasks and purposes. This will take time, but it will be worth the effort.

Strategies for Effective Group Work

- **Assign roles.** Roles are a great way to keep students engaged and focused on the task and learning goals. They also help students understand how they can contribute and participate in the activity. Each role should require students to interact, offer ideas, and build understanding.
- **Be creative**. Create a set of groupings of students for the different types of groups described above. Name the groups something fun like the breakfast group, lunch group, project group, or reading group, basketball group, (or whatever reflects the class personality). After a short while, your students will seamlessly transition into groups when you tell them to get with their breakfast/lunch/project/reading group.
- Use group roles **frequently** during collaborative lessons so students can develop expertise.

Below are some examples of roles. Be sure to teach students the function of each role so they understand how they can contribute to the group.

Facilitator—facilitates the task, ensuring that all students participate and that all voices are heard and valued.

Documentation checker—ensures everyone is documenting their own learning and thinking so that it is easy for the teacher to check to see individual understanding. The documentation checker could ask each member of the group to share something they have documented during the interaction at specific times in the lesson. They may also monitor the group's understanding so that everyone can participate. The checker checks the group's work for accuracy and quality.

Questioner—the person who asks the teacher questions. As the liaison to the teacher, the questioner should first collaborate with the group to decide what question to bring forward. They should also engage group members by asking thoughtful questions that deepen understanding.

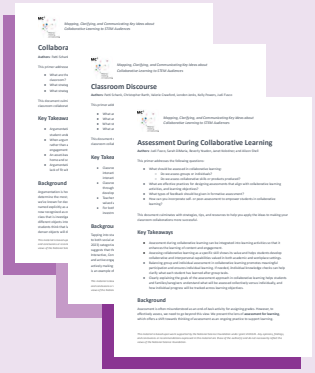
Time manager—manages time for completing the task, works with the facilitator to ensure that everyone has a chance to contribute their ideas and questions during the time that is available, and checks with the facilitator and other group members to ensure they agree with the time allocations; then reallocates time based on discussions.

A teacher can provide prompts for the students to use in each role. These roles give students status, create interdependence, and help students know how to participate. They require that all students pay attention and are involved in the collaborative process. It helps avoid having students not participate or one student from taking over and doing everything. As you watch and listen to your students take on roles, you will come to better appreciate both the kinds of roles that encourage your students to participate well and the collaborative skills you want them to develop.

Be mindful when selecting your group roles. Although group roles allow for a division of labor, they do not divide the learning that occurs during the task as we discuss below.

- It is important to note that groups can sometimes do things together that individuals can't do alone. This can happen for several reasons: group members bring different skills and knowledge; through questioning, groups can work out answers together; and groups that spend more time together in discussion are often more successful (Barron, 2003). However, groups can't do this work if they don't allot enough time or if students aren't willing to work together; it is the role of the teacher to support this work until the students can do it for themselves.

Related Resources



Primers Affiliated with this Series:

- Assessment
- Classroom Discourse
- Collaborative Argumentation
- Social Regulation of Learning
- Teacher's Roles in Supporting Collaborative Learning

Additional Resources

- Learner Variability Navigator: Flexible Grouping
- Foundations of Collaboration

Group Roles in Effective Collaborations

By: Sarah DiMaria

What are group roles?

Group roles are the specific responsibilities assigned within project teams to ensure efficient collaboration and achievement of project goals.

Facilitator / Navigator

- Guides the group discussion
- Ensures that all voices are heard and valued
- Keeps the group focused on the task
- Emails absent group members

Resource Manager

- Gathers and organizes materials needed for the project
- Ensures that resources are shared fairly among group members
- Manages time and materials efficiently

Recorder / Reporter

- Takes notes during group discussions
- Documents group decisions and progress
- Prepares and presents the group's work to the class

Questioner / Clarifier

- Asks questions to deepen the group's understanding
- Challenges ideas to promote critical thinking
- Encourages exploration of different perspectives

Time Manager

- Manages time allotted for group work
- Decides how long tasks should take
- Keeps the group focused on goals
- Supports the Facilitator

Checker

- Monitors group understanding and helps link ideas
- Ensures that everyone in the group understands the task and content
- Checks the quality and accuracy of the group's work

Encourager:

- Motivates and supports group members
- Recognizes and praises efforts and contributions
- Fosters a positive and inclusive group environment

Strategies for Creating Student Groups

Every classroom has a unique dynamic and differing student needs. Grouping facilitates collaboration and skill development, creating opportunities for peer learning that are more engaging and social. It also exposes students to diverse perspectives. Each grouping strategy listed below has specific advantages. It's important to vary grouping strategies throughout the year to provide students with diverse collaborative experiences.

Name and Description	Examples
Interest-Based Grouping Interest-based grouping forms teams around shared curiosity or topic preferences, increasing engagement as students collaborate with others who share their enthusiasm. This approach typically uses interest surveys or self-selection.	• Topic preference surveys • Choice boards where students sign up • Common question investigation • Shared curiosity about specific aspects of content • Self-selected research focus areas
Skill-Based Grouping Skill-based grouping strategically combines students based on their abilities, either creating balanced teams with complementary strengths or homogeneous groups to target specific skill development needs. This method uses both assessment data and information about students' strengths and weaknesses to inform decisions.	• Complementary strengths assessment • Mixed ability grouping (heterogeneous) • Similar ability grouping (homogeneous) • Specific skill development needs • Assessment data to sort students
Preference Grouping This approach matches students based on how they prefer to process information or work. Group students who prefer similar styles for targeted activities.	• Student perceived areas of strength • Work style compatibility (pace, organization approaches) • Preferred style of communication • Comfort level with technology

Social-Emotional Considerations These strategies prioritize psychological safety and positive group dynamics by considering friendship patterns, conflict history, and personality compatibility. This approach creates environments where students feel comfortable taking risks.	• Ask students to list others they would like to work with • Be aware of the conflict history between students • Strategically distribute students with academic, behavioral, linguistic, or social-emotional needs across multiple groups • Consider personal friendships and student compatibility
Academic Performance Grouping Performance grouping arranges students based on achievement levels, either mixing abilities to promote peer teaching or grouping similar levels for targeted instruction. It allows for customized pacing and differentiated expectations.	• Mixed achievement level groups • Same achievement level groups • Knowledge/experience with content • Specific intervention needs • Extension/challenge needs
Project-Specific Grouping This approach creates teams based on project needs—matching students to specific roles, distributing necessary expertise, or aligning with career interests relevant to the project content or format.	• Role-based assignments (complementary roles) • Career or field interest alignment • Shared final product vision • Specific expertise contribution needs • Schedule/availability matching for out-of-class work
Equity-Minded Grouping Equity-focused grouping ensures fair distribution of opportunities, voice, and representation. It prevents consistent isolation patterns and ensures support systems (like language assistance) are thoughtfully distributed throughout class groups.	• Representation balance across groups • Voice amplification considerations • Language support distribution • Opportunity gap awareness • Ensuring no consistent isolation patterns
Random Grouping Strategies (Not Recommended) Random grouping creates teams and helps students work with various peers. Methods include playing card distribution, counting off, or using random name generators. It is not recommended because it could put students who are not compatible together. Using what you know about students to form pairs helps to create groups that set students up for success.	• Playing card draw • (same suit or number work together) • Counting off by numbers • Birthday month or season groupings • Random name generators or apps • Puzzle piece matching • Color coded sticks or cards • Random team generator software

The Students' Role in Collaborative Learning

1 Contribute to a positive classroom culture

Student actions, attitudes, and engagement directly impact the effectiveness of collaborative activities and the overall learning environment.

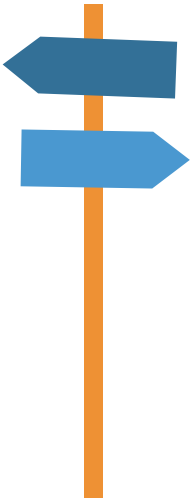
- Welcome all voices, and ensure everyone has a chance to contribute.
- Follow norms for active listening and constructive feedback.
- Encourage and support your classmates.
- Take responsibility for individual and group learning.
- Be accountable for your contributions and commitments.

2 Prepare to be a good collaborative partner

Develop essential skills, attitudes, and habits that foster teamwork and mutual success.

- Communicate clearly and respectfully by expressing ideas in a way that is constructive and easy to understand.
- Practice active listening. Focus on what others are saying without interrupting.
- Complete assigned tasks on time.
- Provide and accept constructive feedback.
- Be open to compromise and consider others' viewpoints.
- Be flexible; adapt when plans change or new ideas emerge.
- Reflect on personal contributions and look for ways to improve.

3 Guide your learning



- Set clear, achievable goals by breaking larger tasks into smaller, more manageable tasks.
- Use additional resources (e.g., books, videos, online tools) to explore topics more deeply.
- Ask clarifying questions to summarize key points and to show understanding.
- Make connections between classroom concepts and real-world application.

4 Monitor your learning

Track, evaluate, and reflect on your academic achievements.

- Track, evaluate, and reflect on your academic achievements.
- Regularly revisit and adjust your goals based on your progress.
- Use rubrics or checklists to evaluate the quality of your work.
- Use feedback as a tool for self-improvement rather than judgement.
- Participate in group reflections to compare understanding and identify areas of improvement.

5 Have a positive mindset

Collaboration needs the brain power of multiple students to be successful. Embrace the collaborative experience, keep the team's shared goal in mind, and actively contribute to achieving it. Consider what group members are saying.

6 Embrace group roles

Take on a specific role within your group to help ensure everyone contributes and that the work gets done efficiently.

Group roles promote clear responsibility, reduce confusion, and help students stay organized and focused on their tasks.

7 Actively participate in dialogue and discourse

- Use explanation prompts to engage in high-level discourse. For example, explain your reasoning, compare your current and past thinking, and use terminology from the subject you are studying.
- Use metacognitive questioning to enhance reasoning. For example, ask questions that focus on comprehension, strategy, and connections.
- Ask each other high-level questions to gauge your comprehension and ability to elaborate. For example, use "how" and "why" questions to guide discussions.
- Provide justifications for your work, and create opportunities for argumentation.

8 Cultivate relationships with peers

Build equal status relationships with your peers by showing mutual respect, upholding shared goals, and maintaining open lines of communication.

- Work together to solve problems or overcome challenges.
- Show genuine interest in others' thoughts and ideas to foster an environment where everyone feels valued.
- Recognize that every student has a unique perspective, idea, and/or skill to contribute to the collaboration. Remember that everyone contributes to a group in different but equally important ways.
- Give your peers opportunities to provide input to build a sense of shared responsibility within the group.

Encouraging Reticent Teachers to Embrace Collaborative Practices

By: Dr. Nicole Adell, Ed.D.

Collaborative learning is a powerful tool in education, allowing students to work together, share ideas, and learn from each other. However, some teachers may be hesitant to incorporate collaborative learning into their practice. Here are some strategies to encourage reticent teachers to embrace collaborative learning:

Involve Students

Encourage teachers to involve students in the decision-making process regarding collaborative activities. When students are actively engaged in the learning process, teachers may see the value of collaborative learning firsthand.

Foster a Collaborative Culture

Create a school culture that values collaboration among teachers. Encourage sharing of ideas, resources, and best practices to build a community of educators who support each other in implementing collaborative learning.

Celebrate Achievement

Recognize and celebrate the achievements of teachers who successfully integrate collaborative learning into their practice. Positive reinforcement can motivate other teachers to follow suit.

Provide Professional Development

Offer workshops and training sessions to educate teachers on the benefits of collaborative learning, and provide them with practical strategies to implement it in their classrooms.

Share Success Stories

Highlight success stories from other teachers who have effectively implemented collaborative learning in their classrooms. Seeing concrete examples of the benefits can motivate reticent teachers to give it a try.

Start Small

Encourage teachers to start with small, collaborative activities or projects to gradually introduce them to the concept. As they see the positive impact on student engagement and learning, they may become willing to incorporate more collaborative practices.

Offer Support

Provide ongoing support and resources to help teachers implement collaborative learning successfully. This could include providing lesson plan ideas, technology tools, and peer mentoring opportunities.

By taking these steps, we can help reticent teachers overcome their hesitations and embrace the benefits of collaborative learning in their classrooms, creating a more engaging and effective learning environment for all students.

The Teacher's Role: **Before Collaboration**

Creating a values-based classroom culture where collaborative learning can thrive

1 Encourage positive social interdependence

Positive social interdependence encourages shared responsibility, trust, and communication, which enhance both individual and group outcomes. By designing team-based activities, promoting open communication, and clearly defining student roles and the goals of the activity, teachers can foster these behaviors.

2 Balance status relationships

Balancing status relationships in collaboration involves recognizing and valuing the unique strengths each student brings to the group. By introducing students to skills they may be lacking, teachers help build student capacity and foster a more inclusive learning environment.

3 Promote agency

Empower students to take responsibility for their learning and actively contribute to the group's success. This fosters a sense of ownership, as they collectively build knowledge and support each other's growth.

4 Ritualize activities

Students benefit from ritualizing classroom activities because they provide clear expectations and create a predictable structure for learning. Over time, the consistency allows students to become fluent in the required skills, which promotes self regulation and fosters confidence, a sense of belonging, and trust within classrooms.

5 Provide supports to facilitate collaboration

Students new to collaboration may need guidance to navigate tasks effectively. Providing sentence starters or scripted language can support their initial interactions, helping them communicate clearly, express their ideas, and build confidence in working together. This scaffolding encourages smoother collaboration and fosters stronger interpersonal skills over time.

The Teacher's Role: **During Collaboration**

What teachers can do to support collaboration

1 Encourage positive social interdependence

Clearly outline expectations for collaboration, respect, and responsibility at the beginning of each task. By consistently modeling and discussing the values that are important to your classroom, teachers help students internalize them and apply them throughout the activity.

2 Facilitate or guide

Create an environment that encourages student interaction by offering guidance during collaborative activities. Support student progress with thoughtful feedback, and help them navigate challenges and take ownership of their learning.

3 Give students room to learn

Collaborative learning is a process that takes time, allowing students the space to experiment, make mistakes, and explore beyond the immediate material. As they engage in these iterative experiences, they not only deepen their understanding but also learn to make sense of the content both individually and with their peers.

4 Monitor

Use rubrics to monitor individual and group content knowledge, group interactions or climate, and collaborative skills.

Content Knowledge

Ask questions to expand student thinking and listen carefully to assess understanding.

Sample strategies for questioning:

- **Revoice**: "Let me see if I understand what you are saying ..." or "I think you are saying ..."
- **Ask another student to restate what one explained**: "Can you say that again in a different way?"
- **Elaborate**: "Why do you think that?" or "What evidence can support your claim?"
- **Challenge**: "Do you all agree? Why?" or "Would someone like to add to that or share a different explanation, opinion, or perspective?"

Group Climate / Interactions

Become an observer in your classroom to monitor student interactions, noting how they communicate, collaborate, and problem-solve together. Recognize and reward positive behaviors that contribute to a supportive and effective collaborative environment, reinforcing the importance of teamwork, respect, and active participation.

Be on the lookout for the following behaviors:

- Group climate
  - Are members of groups showing each other respect?
  - Are students actively listening and responding appropriately?
- Engaging well on the topic
  - Asking each other questions
  - Taking risks by sharing ideas
  - Respectfully disagreeing

Collaborative Skills

Students develop essential skills such as communication, teamwork, problem-solving, and conflict resolution while participating in collaborative activities. Monitoring these skills in real time and acknowledging them helps reinforce their value, encouraging students to continuously refine and apply them in future collaborative tasks.

- Call out and reward students for building on each other's ideas, actively listening, asking questions, or other collaborative skills.
- Logistics:
  - Give students a communal space to work (e.g., white board /poster paper).
  - Provide different colored markers so it's easy for students and the teacher to tell who is contributing.
    This also allows students and teachers to see differing perspectives and understanding in the various contributions.

The Teacher's Role: **After Collaboration**

1 Complete performance task

When students work in groups, it is important to choose the right time to help them review or deepen their understanding. Decide whether to consolidate learning before or after the performance task is complete.

2 Consolidate learning

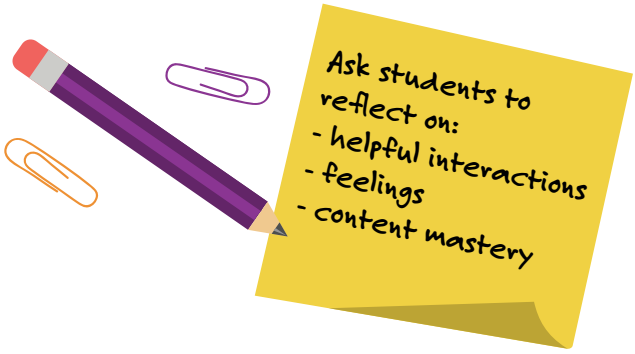
Consolidate learning by presenting group products and a canonical version, then discuss the differences with the class. Have students compare products to identify knowledge gaps and misconceptions. Encourage them to share difficulties and solutions.

3 Assess

Assess task completion, collaborative learning dispositions, and individual content understanding. Use observations, peer feedback, and self-reflection to evaluate how well students contribute to the task, engage in collaboration, and demonstrate their grasp of the content.

4 Reflect on the process

Reflect on the process to identify areas for improvement. Consider individual students, groups, and the whole class. Ask students to reflect on aspects of their collaborative experience, such as helpful interactions, feelings, or content mastery.



Here are some sample questions for students:

- How did you communicate with your teammates?
- What role did you play in the group's success?
- How did you handle challenges or disagreements?
- What skills did you contribute to the collaboration?
- What did you learn from your peers?
- What skills did you develop through this collaboration?

High Impact Approaches for Collaboration

Overview

Over the course of a day, teachers use a combination of educational approaches to help structure learning and support students in achieving academic gains. These approaches are often woven together to meet diverse needs, promote engagement, and ensure meaningful academic growth.

In this section, we explore five high-impact approaches for collaborative learning: Argumentation, Classroom Discourse, Problem-Based Learning (PrBL), Project-Based Learning (PjBL), and Reciprocal Teaching.

- **Classroom Discourse** focuses on the dynamics of conversation within the classroom, encouraging students to articulate their thoughts, ask questions, and build upon the contributions of others.
- **Argumentation** fosters the development of reasoning skills as students engage in structured debates and discussions, learning to defend their ideas and critically evaluate others.
- **Problem-Based Learning (PrBL)** engages students in complex, real-world challenges, encouraging them to collaborate as they research, design, and develop innovative solutions to authentic problems.
- **Project-Based Learning (PjBL)** encourages students to engage in sustained inquiry to explore complex problems and real-world challenges that result in a product or presentation.
- **Reciprocal Teaching** provides structures and supports to help students make sense of complex text. It empowers students to take on teaching roles, facilitating peer-to-peer learning and enhancing comprehension through group dialogue.

Alone, each of these approaches encourage active participation, critical thinking, and peer interaction. But, when combined, they create a dynamic and enriching learning environment.

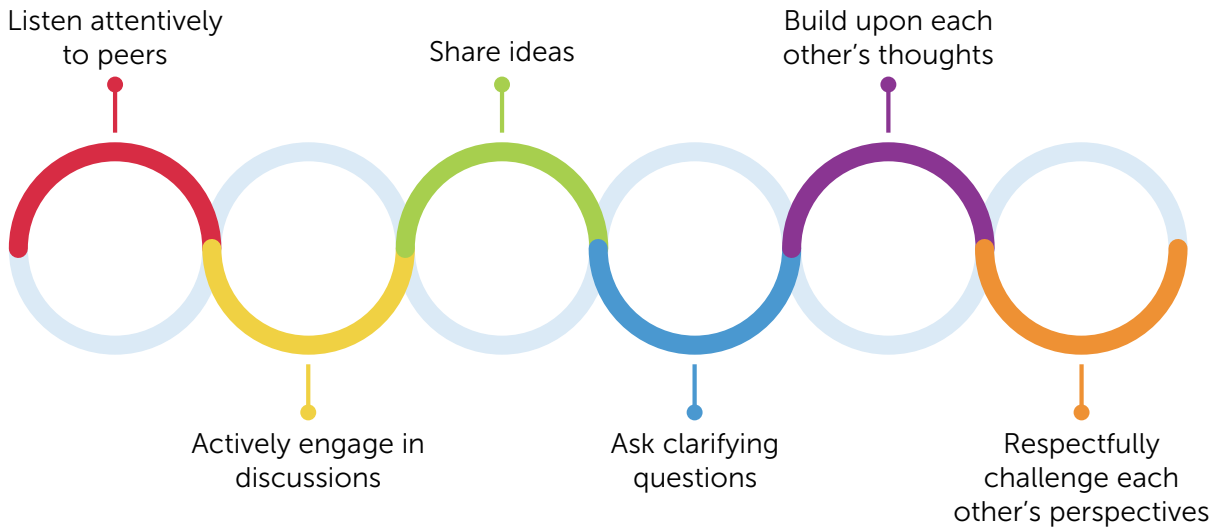
Through the integration of these approaches, students will take part in the following experiences:

- Engage in meaningful dialogue
- Co-construct knowledge
- Build problem-solving skills
- Take ownership of their learning
- Improve metacognitive awareness
- Gain a sense of accomplishment

Collaborative Discourse

Discourse is a collaborative strategy that allows us to tap into students' desires to socialize while simultaneously engaging them in a more constructive, interactive mode of learning. It is a powerful process meant to deepen learning, foster critical thinking, and build knowledge by engaging with ideas.

It requires a supportive environment where students will take part in the following experiences:



Through discourse, **students learn** to communicate effectively, critically evaluate information, and develop a deeper understanding of the subject matter. It encourages teamwork, empathy, and the ability to consider multiple viewpoints, ultimately enhancing the learning experience for everyone involved.

Helpful Hint: Be sure to consistently affirm that every student's contributions are valued and important. Remember, some students bring valuable non-content-specific skills to the collaboration that can help facilitate meaningful peer conversations and support learning.

Discourse can be scaled up or down depending on your class size and objectives. For whole-class discussions, encourage students to build on each other's ideas to create a shared understanding. In small groups, allow for deeper exploration and give each group more autonomy to discuss and problem-solve together. When working in pairs, focus on targeted conversation that allows students to practice active listening and articulate their thoughts.

By adjusting the level of collaboration, you can foster a more inclusive, interactive learning environment.

To support productive discussions, teachers need to build in time to gain familiarity with the discussion dynamics, lay out expectations, build rapport, and practice with the students to help students develop their skills. Teachers may also need to build their own understanding of the subject matter and misconceptions that students may have and ask questions to understand how students perceive the content and discussion dynamics. Remember, successful teachers are good at being critical without being judgemental.

Getting students to interact can be challenging, but remember, knowledge and understanding are often built through social exchanges, developing not just in an individual mind but across multiple minds through interaction.

Talk moves are the norms and patterns around talk that increase student engagement and support comprehension. They are specific, adaptable prompts and actions that teachers can use to guide the flow of discussion, encourage student participation, and promote deeper reasoning.

Talk moves can be classified into four distinct categories.

Productive Talk Moves*	
Clarify and share their thinking • "What do you mean by that?" • "Say more." • "So, you are saying...?" • "Could you tell us more about that idea?" • "Let's give everyone a second to reflect before we respond."	**Listen carefully to each other** • "Who can rephrase or repeat that in your own words?" • "How would you explain that to a classmate?"
Deepen their reasoning • "What led you to that conclusion?" • "Why do you think that?" • "Challenge or counterexample." • Can you give an example?"	**Think with others** • "Who has a different perspective, and why?" • "Can you add to that thought?," "explaining what someone else means"

*Talk moves were adapted from Michaels and O'Connor (2015)

These talk moves can foster a more interactive and reflective classroom environment, helping students articulate their thinking and engage with others' ideas.

Facilitating effective discourse can be challenging as it is difficult to guide productive conversations while navigating varying levels of student engagement and understanding.

Challenges to facilitating discourse:

Shifting from a culture of recitation to a culture of discussion—In traditional classrooms, talk is structured to prioritize "correct answers." This means students are evaluated based on their response to questions that have predetermined answers. This limits student opportunities to engage in deeper discussions and elaborate on their thinking.

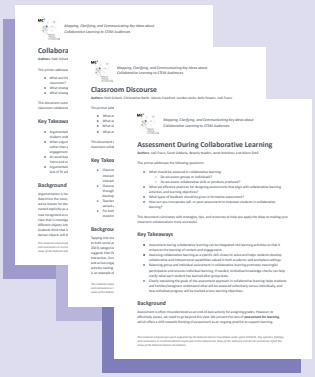
Managing participation dynamics—Student participation in classroom discussion can vary widely. While some confidently take the lead, others disengage not feeling safe enough to contribute or share new ideas. In addition, some students do not respect the ideas of their peers. This can lead to off task discussions and other classroom disruptions.

Aligning student perceptions with the purpose and value of discussion—Students often enter classrooms with preconceived notions about the purpose of classroom discussions. Instead of viewing discussions as opportunities to co-construct knowledge and understanding, they may see discussion as high-stakes events where the goal is to display pre-existing knowledge and provide "correct" answers. This can lead to a reluctance to share tentative ideas, make mistakes, or engage in the kind of intellectual risk-taking that is essential for deep learning.

Supporting students with diverse needs—Teachers must be prepared to support students who require additional assistance to participate fully in discussion. This might include students who are English language learners, have disabilities, or are not accustomed to the social and academic expectations of discussion-based classrooms. Teachers may need to provide differentiated support, such as teaching vocabulary, offering visual aids, and providing opportunities for students to practice their ideas in pairs and smaller groups before sharing with the whole class.

By embracing structured discussion centered on learning, teachers can create classrooms where, over time, students move beyond seeking a single "right answer" to instead valuing the process of reasoning, exploring different perspectives, engaging deeply with content, and collaboratively constructing knowledge.

Related Resources



Primers Affiliated with this Series:

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- Social Regulation of Learning
- Teacher's Roles in Supporting Collaborative Learning

Additional Resources

- The Inquiry Project: Video Resources
- Checklist: Goals for Productive Discussions and Nine Talk Moves | The Inquiry Project
- Talk Moves | Edutopia
- Getting Students to Talk About Math Helps Solve Problems
- Maximizing Math Talk in the Classroom
- Foundations of Collaboration

Educator's Note

The list of strategies below can be used to shift collaborative discourse from teacher-centered to student-centered; however, they must be modeled and thoughtfully integrated into your practice. In addition, **creating a culture of inclusive and high-level discourse requires more than just using various strategies.** This guide offers a comprehensive approach to collaboration, covering subject matter, task selection, and the trust-building essential for meaningful student interactions. By applying these strategies, you can create a more effective and engaging collaborative learning environment.

Collaborative Strategies / Techniques

Open-ended questions: Pose questions that require more than yes/no answers to encourage deeper thinking and discussion.

Think-pair-share: Give students time to think about a question individually, discuss their thoughts with a partner, and then share with the larger group.

Turn and talk: Students have the ability to turn and talk to a neighbor about a problem, concept, etc. they may be struggling with.

Socratic seminars: Facilitate student-led discussions around a text or topic, encouraging critical thinking and dialogue.

Leverage technology: Incorporate tools like discussion boards, chat functions, or collaborative documents (e.g., Google Docs) for students to contribute ideas asynchronously or in real time.

Graphic organizers: Provide tools like Venn diagrams, concept maps, or T-charts to help students visually organize their thoughts and ideas before discussing them.

Incorporate role play: Engage students in role-playing scenarios related to the content to encourage discussion and empathy.

Ask 3 Before Me: Students must ask three individuals (peers) their question before coming to the facilitator to ask for help. They can ask themselves, a teammate, or a member of a different group for assistance.

Classroom Norms: **How to Think, Talk, and Act Like a Scientist**

Discourse

Discourse is a type of discussion that helps people make sense of ideas and build knowledge together.

Through talking, listening, and sharing different perspectives, people engage with new ideas in a way that can change how they think and understand the world.

This kind of interaction leads to deeper learning and new ways of seeing things.

Challenge Ideas, but Respect the Person

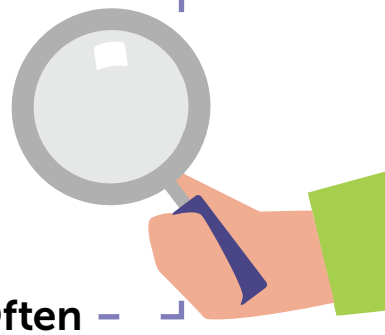
- It's okay to disagree.
- There is often more than one reasonable answer or way of thinking.
- Put-downs are not accepted.

Everyone Participates

- Different perspectives are needed for success.
- Invite different ideas by making everyone feel safe.
- Risk sharing your ideas even if you aren't sure.
- Actively listen to others' ideas and build on them.
- Direct a question to someone who hasn't spoken yet.

Support Claims with Evidence

- Be prepared to answer "why" and "how" questions after presenting your response.
- Use new terms when explaining an answer.

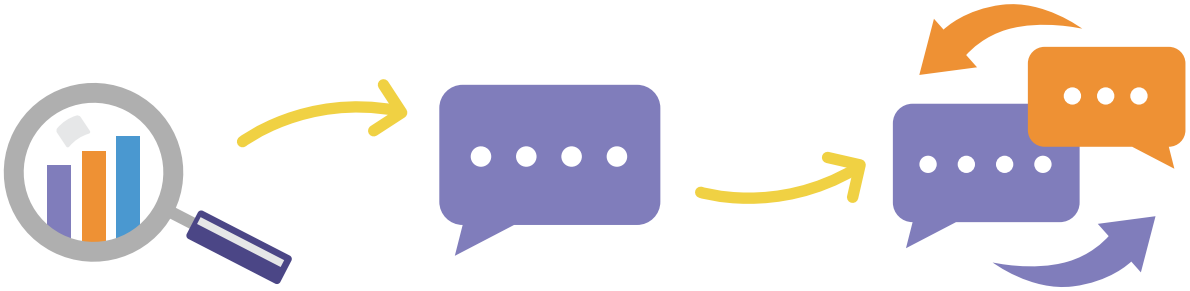


Revise and Rethink Often

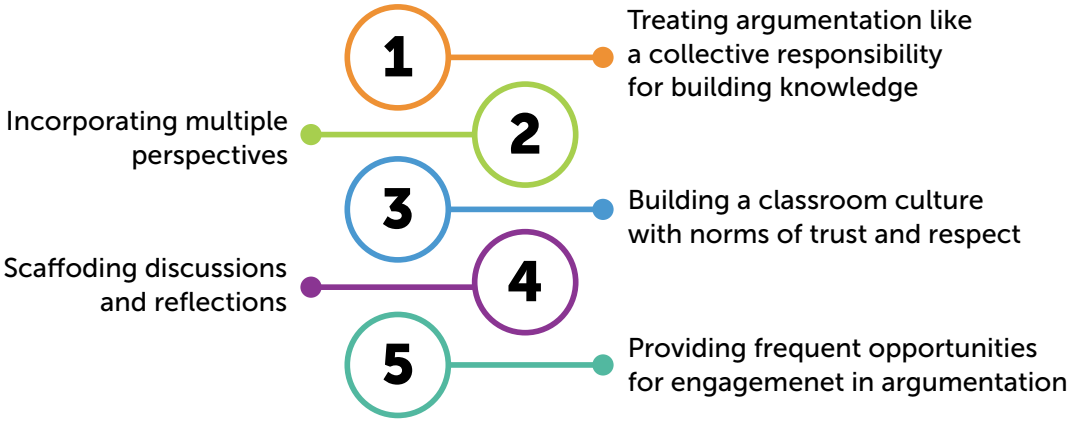
- It's OK to be incorrect based on your current understanding.
- It's OK to change what you think based on your new understanding.

Argumentation

Argumentation is a type of discourse that involves students constructing and defending their ideas through reasoned debate and structured discussion. Its purpose is not to convince or persuade but to encourage students to present evidence, articulate their viewpoints, and engage in respectful disagreement until a consensus is reached.



Through argumentation, students develop critical thinking skills as they learn to assess the strength of their arguments, consider counter claims, and refine their reasoning. Research and teacher experience suggest there are a number of essential practices to foster a culture of critical thinking and communication within the classroom. They include these steps:



Collaborative argumentation fosters an environment where students can challenge each other's ideas in a constructive manner, leading to a deeper understanding of the topic. By engaging in argumentation, students not only strengthen their ability to communicate persuasively but also learn to appreciate diverse perspectives and build stronger, more well-rounded arguments.

To promote argumentation in the classroom, consider the following evidence-based ideas:

- Learning improves when student groups are intentionally seeded with individuals who hold alternative ideas, rather than randomly assigning students to groups (Clark et al., 2009).
- When students feel included in a community that is curious, playful, and has strong reciprocal relationships, they become more engaged, learn more, and can better support each other's learning (Levine et al., 2020).
- Prompts and scaffolds that help students paraphrase, criticize, ask questions, and synthesize arguments facilitate knowledge construction, resulting in students gaining significantly more domain-specific and domain-general knowledge.

Related Resources

- Scientific Argumentation in Biology: 30 classroom activities
- The Argumentation Toolkit is a toolkit of resources designed to help teachers understand and teach scientific argumentation. It includes videos and other resources to support teachers in successfully integrating argumentation into science lessons.
- Braincandy is a software platform that helps teachers address student misconceptions and facilitate classroom discussions. Teachers can create a profile, save their questions, access a database of questions created by other users, and review student responses in real time.
- Arguing From Evidence in Middle School Science is a book that outlines strategies and activities to engage students in arguments about data sets, assess conflicting scientific ideas, and apply evidence to support specific claims.
- PD Playlist: Incorporating Scientific Argumentation into Your Classroom

Argumentation Strategies / Techniques

The strategies below can be used to build argumentation skills among students:

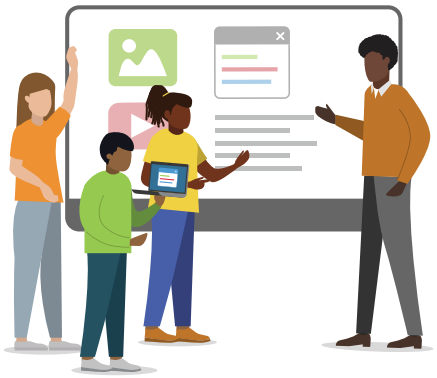
- **Think-alouds**: Model the process of constructing an argument by thinking aloud while analyzing a text or discussing a topic. Demonstrate how to build a claim, find relevant evidence, and connect them logically.
- **Analyze sample arguments**: Provide examples of well-constructed arguments (both strong and weak) and analyze them as a class to identify effective strategies and areas for improvement.
- **Foster respectful disagreement**: Teach students to disagree respectfully, emphasizing the importance of listening to others' perspectives before presenting their own rebuttal.

- **Use "devil's advocate"**: Encourage students to argue from a position they don't personally support, which can help them develop a deeper understanding of multiple sides of an issue.
- **Teach how to evaluate evidence**: Guide students on how to find credible and relevant evidence to support their claims. Teach them to distinguish between types of evidence (e.g., statistics, expert opinion, anecdotal evidence), and assess its reliability.
- **Peer Debates**: Have students engage in informal debates with peers, followed by structured peer feedback. This allows them to practice articulating and defending their position while receiving constructive criticism.
- **Roundtable Discussions**: Organize roundtable discussions where students take turns contributing to the argument, building on each other's ideas while critiquing or expanding upon them.
- **Group Arguments**: Allow students to work in small groups to research and build an argument together. Collaboration helps students refine their reasoning, share evidence, and practice defending their positions.

Project and Problem-Based Learning

Useful in any subject area, Project (**PjBL**) and Problem-based learning (**PrBL**) are approaches that provide opportunities for students to work collaboratively, pooling their knowledge to tackle complex and authentic challenges.

In **project-based learning**, students typically work on inquiry-driven projects to explore and design solutions to real-world problems, creating tangible products and integrating multiple content areas in the process.



Problem-based learning focuses on the process of solving a problem by guiding students to formulate hypotheses, gather and assess evidence, and make informed decisions about the most relevant data.

What key features differentiate Project from Problem-Based Learning?

Aspect	Project-Based Learning	Problem-Based Learning
Focus	Create a tangible artifact to address a challenge	Solve a specific, well-defined problem
Outcome	Create a finished product or presentation	Develop a solution to a problem
Duration	Spans multiple weeks or months	Typically last a few days or weeks
Scope	Typically integrates multiple subjects	Usually encompasses only one subject area
Structure	Teacher pre-defines goals and project parameters	Students set learning goals collaboratively with the teachers
Authenticity	Problems are deeply rooted in real-world contexts and involve authentic tasks	Problems may be hypothetical or loosely connected to real world contexts
Collaboration	Involves collaboration with community members and external partners	Focus is on group problem-solving and inquiry-based learning
Skills Developed	Creativity, communication, collaboration and presentation skills	Critical thinking, research and problem-solving skills

Although both approaches encourage students to take ownership of their learning, think critically, and justify their conclusions as they navigate complex problems and real-world scenarios, here **we focus on project-based learning**.

Is PjBL the same as an end-of-unit project?

PjBL is distinctively different from traditional end-of-unit projects which typically occur in a single, isolated lesson **after** content has already been learned. In true PjBL, students learn while doing, and knowledge is constructed through the process of completing the project.

Here are some factors of project-based learning (PjBL):

- Driving questions are used to spark curiosity and motivate students to learn. Students will develop a meaningful understanding of key concepts as they pursue solutions to the driving question (Krajcik & Blumenfeld, 2006).
    - A good driving question is one that the students can realistically explore, is worth their time and effort, connects learning to real life, feels important to the student, and is ethical.
- Sharing within and between groups enhances collaboration. Meaningful dialogue must occur for students to actively engage in each other's ideas. When students share their work, they gain exposure to different perspectives, problem-solving strategies, and ideas challenging their assumptions. These structured opportunities inspire deep thinking and help them refine their understanding by considering other viewpoints.
- Students are encouraged to synthesize their own ideas. Synthesis is the process of bringing together different ideas, perspectives, or pieces of information to form a clear, more complete understanding. The synthesis process helps students make meaningful connections between new knowledge, their prior experiences, and real-world applications. This reinforces learning.
- Activities are purposefully designed to help students connect what they already know with new ideas. As they work through the project, students identify key takeaways and begin to see how different concepts fit together. This helps them make meaningful connections and apply their learning in real-world and new situations.
- Students use higher order thinking to create more meaningful, interconnected learning experiences.

How can PjBL be implemented in my classroom?

Project-based learning (PrBL) requires significant planning and active facilitation by the teacher to ensure its success. Teachers must carefully design the project, establish clear goals, and anticipate the resources and scaffolding students will need throughout the process. Without this structure, PrBL can become disorganized or fail to achieve meaningful learning outcomes.

1. **Be intentional.** Align your project to academic standards, learning objectives, and student interest.
    - Ensure the project aligns with grade-level standards and learning objectives. For instance, a math project on budgeting could address financial literacy standards.
    - Explicitly link tasks to desired outcomes. Share these goals with students upfront. This transparency helps students see the purpose behind their work.
    - Identify topics that resonate with students' lives, cultures, or curiosities. For example, a science project on climate change could focus on local environmental issues. This relevance boosts intrinsic motivation and investment.
2. **Embed structure.** Provide students with scaffolds, such as timelines, milestones, checklists, and check-ins.
    - Break projects into manageable steps and provide timelines with clear milestones. This prevents overwhelm and teaches project management skills.
    - Offer guided support by providing checklists, templates, or sentence starters to support learners at different skill levels.
    - Hold regular check-ins to discuss progress, troubleshoot challenges, and adjust goals. These moments foster accountability and allow for timely interventions.
    - Adjust scaffolds based on individual or group needs. Advanced learners might thrive with open-ended rubrics, while others may require step-by-step guides or peer mentoring.
3. **Assess the process and the product.**
    - Use rubrics to track skill development. Evaluate the collaboration, problem-solving, and critical thinking *during* the project. For example, assess how students negotiate roles, adapt to setbacks, or incorporate peer feedback.
    - Recognize progress beyond the final product. Did the student improve their time management? Did the group refine their communication strategies? Highlighting these "wins" reinforces the value of persistence and adaptability.
    - Grade both the process (e.g., participation in check-ins, quality of peer feedback) and the product (e.g., creativity, accuracy, presentation). This approach discourages "final product panic" and encourages consistent effort.

- Products/Artifacts are external representations that result from students investigating the driving question. They come in many different forms including physical or computer models, audio or video recordings, reports, presentations, drawings, games, websites, etc., and are most effective when they demonstrate students' emerging understanding.

Shifting classroom culture from the transmission-to-acquisition style of learning can be very challenging as this is how most students have been conditioned to expect in formal learning environments. It takes time to disrupt this cycle and get students used to learning in a collaborative way (Krajcik & Blumenfeld, 2006).

Related Resources

- PBL Works - Project Based Teaching Rubric
- PBL Works - Project Design Rubric
- PBL Works - Essential Project Design Elements
- Example of a PjBL project for elementary school - 22nd Mission Project

Collaborative Strategy/Technique

Assign roles and responsibilities: In group projects, assign specific roles (e.g., researcher, designer, presenter) that allow students to take ownership of aspects of the project while working collaboratively.

Create milestones: Divide the project into smaller tasks or phases with clear deadlines. This allows students to focus on one step at a time, which makes the process feel less overwhelming and more achievable. This also allows students to experience microsuccesses during tasks and improves self-efficacy.

Encourage student choice: Allow students to make decisions about their projects, such as the direction of their inquiry or the tools they use. Giving students ownership can increase motivation and engagement.

Guide students through the problem-solving process: Use scaffolding techniques to help students approach complex problems systematically. Break down problems into smaller components, consider multiple solutions, and evaluate pros and cons.

Provide formative feedback: Offer constructive feedback throughout the project, not just at the end. This helps students stay on track and make improvements during the learning process.

Think-pair-Share: Give students time to think about a question individually, discuss their thoughts with a partner, and then share with the larger groups.

Peer feedback: Have students review each other's work and provide constructive comments to help improve it. This process encourages reflection, strengthens communication skills, and gives students opportunities to learn from one another in a supportive environment.

Project-Based Learning

Lesson Planning Worksheet

SECTION 1: Project Foundation

Project Title: _____

Duration: ____Weeks **Grade Level:** _____ **Subject(s):**_____

Essential Standards/Learning Objectives:

- _____
- _____
- _____

Driving Question: (Should be open-ended, challenging, and connected to real-world issues)

_____

_____

_____

_____

_____

SECTION 2: Authenticity and Relevance

Real-World Connection: (How does this project connect to issues beyond the classroom?)	
Authentic Audience: (Who will view/use/ benefit from student work?)	
Final Product/Performance: (What will students create to demonstrate learning?)	

SECTION 3: Project Journey Map

Project Phase	Key Activities	Resources Needed	Formative Assessment	Timeline
Launch/Entry Event				
Initial Research				
Skill Building				
Creating/Designing				
Critique and Revision				
Public Presentation				
Reflection				

SECTION 4: Student Voice and Choice

Decision Points: (Where will students have significant input or choice?)

- _____
- _____
- _____

Differentiation Opportunities: (How will you accommodate different needs/interests?)

_____

_____

SECTION 5: Sustained Inquiry

Key Questions to Guide Research:

- _____
- _____
- _____

Resources Students Will Access:

- _____
- _____

Expert/Community Connections:

_____

_____

SECTION 6: Collaboration Structures

Strategy for forming groups: _____

Individual Accountability Measures:

- _____
- _____

Collaboration Protocols: (How will students give feedback, make decisions, etc.?)

_____

_____

SECTION 7: Assessment Plan

Formative Assessment Strategies:

- _____
- _____

Summative Assessment Tools:

- Product/Performance Rubric: _____
  Individual Learning Assessment: _____
  Collaboration/Process Assessment: _____

SECTION 8: Anticipating Challenges

Potential Roadblocks:

- _____
- _____

Proactive Solutions:

- _____
- _____

SECTION 9: Reflection and Revision

Project Launch Date: _____ **Project Completion Date:** _____

Post-Project Teacher Reflection:

- What worked well?_____
- What would I change? _____
- How did this impact student learning?_____

Supplemental Information to Support Lesson Planning

Understanding the Components of the Project Journey Map

What is an entry event?

An entry event is an engaging activity designed to launch the project and spark student interest. It is designed to hook students' attention and create excitement about the upcoming project. Entry events serve as the initial experience that draws students into the driving question and establishes the need-to-know for the project work ahead.

Here are some examples:	**Remember entry events should carry out the following:**
• A compelling video that raises questions about a topic • A guest speaker presenting a problem that needs solving • A field trip that introduces students to a community issue • A mysterious artifact or scenario that prompts investigation • A letter or message requesting student help with a challenge	• generate curiosity • establish relevance • create a memorable launch point that motivates students

Initial Research: During this phase, students begin gathering background information and developing foundational knowledge needed for the project. This often includes defining questions, identifying resources, and building context for deeper inquiry.

Skill Building: This phase focuses on developing specific skills students will need to complete the project successfully. It might include mini-lessons, workshops, or guided practice on particular techniques or content knowledge required for project completion.

Creating/Designing: In this phase, students actively construct, develop, or design their project products or solutions. This is where much of the hands-on project work occurs as students apply their learning to create meaningful artifacts.

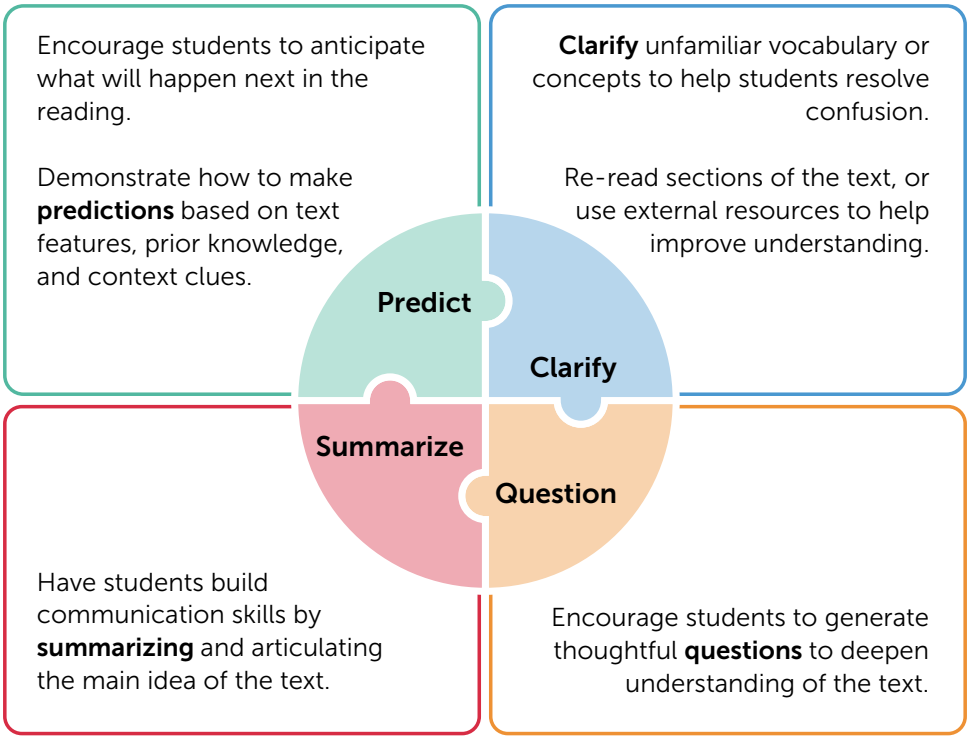
Critique and Revision: This critical phase involves structured feedback and improvement cycles. Students receive input from peers, teachers, or experts, then use that feedback to refine and enhance their work.

Public Presentation: During this culminating phase, students share their final work with an audience beyond just their teacher—potentially including peers, community members, experts, or stakeholders relevant to their project focus.

Reflection: The final phase provides structured opportunities for students to think about both what they learned (content knowledge) and how they learned it (process skills). This metacognitive practice helps solidify learning and develop self-awareness.

Reciprocal Teaching

Reciprocal teaching is an instructional approach used in collaborative learning that supports students in making sense of complex text. It utilizes four strategies: **predict**, **clarify**, **question**, and **summarize** to improve comprehension, build metacognitive awareness, and promote peer-supported learning.



Take these steps to get started:

- Teachers should **model** each of the four strategies to provide students with clear examples of how to apply them. Be sure to **verbalize** your **thinking aloud** to help students understand how to generate meaningful questions, identify key points, and make predictions.
- Provide **opportunities** for students **to practice** each strategy. **Coach** them to ensure they understand not only how to use the techniques but also when and why they are effective. This will help develop fluency and confidence in using each strategy.

Helpful Hint: After students practice each strategy, encourage them to **reflect** on what worked well and what challenges they encountered to help them gain insight into their learning process. This will help strengthen their ability to use the strategies effectively in the future.

- Regularly **check in** with small groups offering prompts or questions that encourage deeper thinking, help students overcome challenges, and keep discussions on track.
- As students gain confidence and a better understanding of the strategies, **integrate student roles** into the group (e.g., summarizer, questioner, etc.). Each role has clearly defined tasks which provide students with clear expectations for how they can contribute to and support their group during the collaborative process.
- Encourage students to engage in **peer teaching**. This will help reinforce their learning, deepen their understanding of the content, boost their self confidence, and foster a collaborative classroom environment.
- Allow **students** to **lead** small group discussions where they can **coach and support** one another and assume more of the responsibility for learning.
- Throughout the process provide **real-time feedback**, and monitor the class to ensure that all students participate meaningfully.
- Take a **step back**! Watch as the classroom gradually transforms from a teacher-led to a **student-led learning space**.
- Help students **consolidate** their learning using a **whole-class reflection**. As a class, discuss what worked well and any findings from the activity. Then, refine the strategies used based on the feedback.

Scaffolding with Sentence Starters

Benefits of Using Sentence Starters

Sentence starters:

- help students express their thoughts more clearly.
- reduce cognitive load by providing a framework that requires less effort to formulate a response from scratch.
- promote inclusivity by supporting English Language Learners (ELL) or students who may still be developing their academic language.

Helpful Hint: Sentence starters can be a useful tool during the modeling process or to facilitate and support discussion among learners. Sentence starters are structured phrases or prompts that provide students with a scaffold to actively participate in discussion.

Predicting

"I think this part of the text will talk about... because..."

"Based on the title/heading, I predict that..."

"What do you think the author meant when they said...?"

"Before we read, I'm guessing that this event/idea might happen because..."

"From the images/words, I expect that..."

Questioning

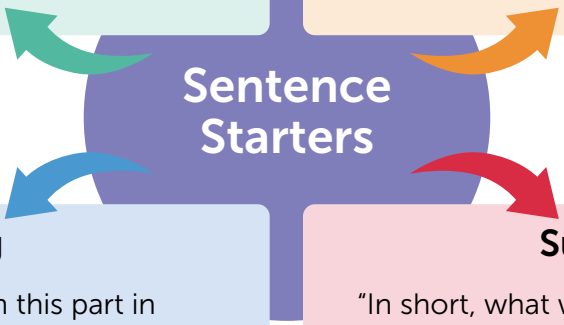
"What does this word mean in this context?"

"What evidence from the text supports this idea?"

"How does this connect to what we've read earlier?"

"What would happen if...?"

"What might happen next based on this information?



Clarifying

"Could someone explain this part in simpler terms?"

"I'm confused about this idea—can we go over it together?"

"This part of the text is unclear to me. Can someone help me understand?"

Summarizing

"In short, what we learned from this part is..."

"In a few words, this part is about..."

"So far, the key takeaways are..."

"Overall, this section tells us that..."

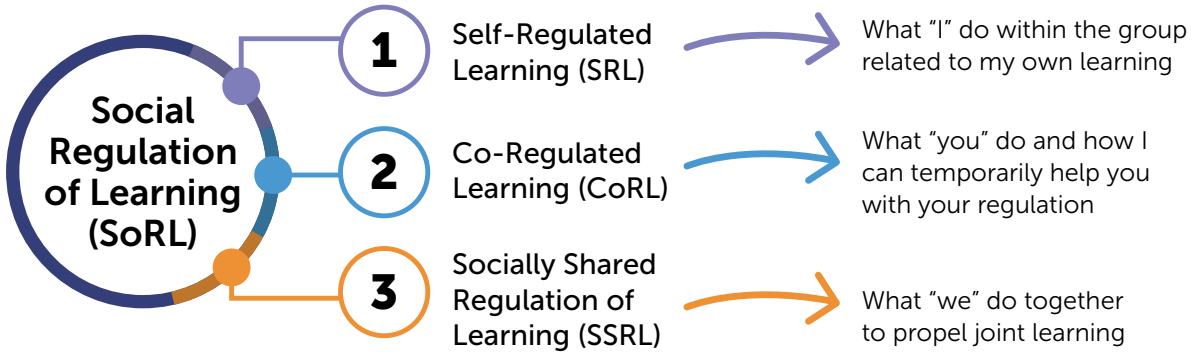
Regulation of Learning

Students don't always instinctively know how to handle the social, cognitive, and emotional challenges that surface when working together with others. Studies have shown that when students can manage social interactions **and** learning, they are better equipped to navigate these challenges, making social regulation of learning essential for successful group work.

Social regulation of learning (SoRL) occurs when group members plan, implement, and, if necessary, adjust their collective actions and behaviors to accomplish shared learning goals (Hadwin et al., 2018).

Learners demonstrate social regulation of learning when they strategically find ways to overcome challenges and achieve their goals through behaviors such as planning, monitoring progress, revising strategies, maintaining motivation, and many other regulative strategies.

It is accomplished through three interacting skills:



Note. Image created for this project, text adapted from Dragnić-Cindrić & Greene, 2021 and is licensed under CC BY 4.0.

1. **Self-regulated learning (SRL)** is characterized by what an individual student does within a group related to regulating their own learning. Self-regulation of learning can occur when students work independently or in groups.
2. **Co-regulation of learning (CoRL)** occurs when one group member temporarily supports one or more other members of the group. The goal is to transition the role of responsibility for regulating learning back to the student who received the support.
3. **Socially shared regulation of learning (SSRL)** means that all group members participate equally in the regulation of the group's learning. Group members think together, which means that they work together to identify problems, talk about ideas, and decide what the group should do. In SSRL students also manage group dynamics by motivating and supporting each other and navigating conflict.

What observable behaviors indicate high-quality SSRL is occurring?

Practical and observable indicators that suggest SSRL are necessary because the activities of the learner's minds are not visible. When students engage in high-quality SSRL, teachers can observe distinct behaviors that indicate how well students are working together to regulate their learning and support one another. These indicators are grouped below based on what students do, what a teacher does, and what the general classroom atmosphere should be. The table below offers a side-by-side comparison of behaviors teachers can observe in classroom environments where students have low quality vs. high quality SSRL. This table can also be used to help students develop better SSRL skills.

Indicators of Low-Quality SSRL during Group Learning	Indicators of High-Quality SSRL during Group Learning
Sustained and frequent non-task behavior	Temporary and intermittent non-task behavior, especially social behavior that improves group climate
Unequal contributions of group members or a "divide and conquer" strategy to complete a task	Balanced contributions from all group members as they complete all parts of a task together
Frequent hostility, criticism, and frustration among group members	Group members support and respect one another and each member feels a sense of belonging
The group frequently requires teacher intervention to overcome comprehension challenges or negative group dynamics	The group frequently works together to overcome comprehension challenges or negative group dynamics

*** It is important to note that many of these indicators are likely to be present simultaneously and intermittently.**

Remember, if learners do not have the regulation skills required for collaboration, those skills can be explicitly taught (Järvelä & Hadwin, 2013).

What role do teachers play in the regulation of learning?

In a highly effective collaborative learning environment where social regulation of learning is present, teacher intervention is minimal yet impactful, timely yet infrequent, and subtle yet targeted. It may appear as if the teacher is not doing much other than listening intently and asking a few scripted questions; however, the teacher takes these actions:

- circulates the room to observe and only intervene when it's absolutely needed.
- uses prompting questions rather than instructive statements to help clarify students' misconceptions and guide them toward a deeper understanding.

- provides small amounts of direct instruction only when no one in the group can answer the question or if the misconception continues as they elaborate and go deeper in their thinking with continued teacher questioning.
- provides feedback that encourages students to adjust their strategies and actively involve all group members, rather than simply giving them the correct answers. The goal is to use feedback as a tool to support deeper learning and enhance collaboration.
    - Effective feedback helps students know what they're doing, how well they're doing it, and what they should do next.

      The **most useful feedback** focuses on three areas (Hattie & Timperley, 2007):

      1. the task itself (Is it correct?),
      2. the process used to complete a task (strategies or steps),
      3. and how students plan and reflect on their learning (self-regulation).

      When providing feedback about the task, it should only build on knowledge that a student already has. If they don't have basic knowledge, then instruction is necessary. Feedback about the process should give students tips or strategies they can use not just for one assignment but for many tasks in the future. This type of feedback can help learners become more confident. Feedback related to how students plan and reflect on learning can help create internal feedback routines, which make them more effective and self-regulated.

      Conversely, **feedback focused on the student as a person** (e.g., you're so smart) is the l**east effective** for supporting learning because it doesn't provide any information about the task or how to improve.

      Although it is nice to praise your students, praise alone doesn't support learning. For the biggest impact, teachers should combine task, process, and self-regulation feedback.

Why does regulation on learning matter?

When students work together to plan, monitor, and reflect on their learning they develop the following traits:

1. Become more engaged, confident, and responsible
2. Build strong learning habits, which in turn boosts student agency
3. Sharpen their thinking skills

Engaging in meaningful group work in which high-quality SSRL is present strengthens the students' regulation and collaborative skills, leading to better outcomes, stronger relationships, and higher-quality work. The table below highlights the regulation and collaborative skills students develop as they become more regulated learners.

Regulation Skills	Collaborative Skills
maintain motivation	analyze different perspectives
goal-setting	build trust with peers
implement strategies	problem-solve
pre-plan	express ideas clearly
monitor progress	negotiate and compromise
reflect	active listening
revise strategies	

What key student outcomes are related to regulation?

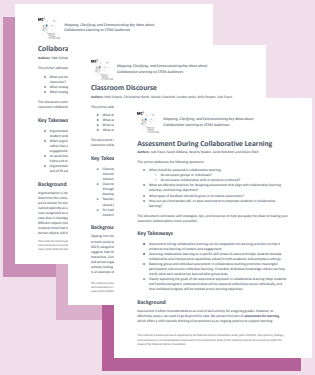
- **Students learn to listen and collaborate better.** By practicing shared regulation, students become more willing to listen to each other, work together for longer periods, and stay open to different perspectives and ideas.
- **Students take ownership of their learning.** When students see themselves as active participants who shape their learning experiences, they develop confidence and a stronger sense of purpose as learners.
- **Students think about their thinking.** Working together helps students reflect on their own thought processes and understand how others think. This strengthens critical thinking and leads to deeper, shared learning.
- **Students become better teammates.** Through goal-setting, listening, compromising, and solving problems together, students build important interpersonal skills that help them function well in any group setting.
- **Students build resilience.** When students face challenges together, they develop perseverance and learn to support one another. This leads to stronger outcomes and a higher quality of collaborative work.

Teachers can manage the classroom conditions that enable students to self-manage their learning instead of managing students directly. The table below includes research-based "moves" teachers can use to help students regulate their learning.

Research Findings	What it Means For Teachers	Teacher Moves
The teacher's expectations and level of involvement influence how the group responds to the encountered challenges.	***Why, how, and how much*** we intervene during group work influences how quickly groups learn to regulate their own learning. In general, we need to gradually release control to our students.	Be explicit about the goals of the group work. Clearly state content learning objectives and regulation of learning objectives for the activity.
		Teach and model social regulation of learning knowledge, skills, and dispositions (e.g.,) goal setting, progress monitoring, attention focusing, frustration management, teammate leveraging, etc.
		Provide specific feedback on social regulation of learning skills so students can improve more efficiently. This could be done verbally while visiting groups or more formally using a rubric.
		During collaborative activities, intervene as often as needed but as little as possible. Model regulation, but do not regulate learning for the group except in a just-in-time, as needed manner.
Groups with a positive group climate tend to engage in more high-quality regulation of learning than groups with a negative climate.	Students don't automatically know how to work well in groups. We have to set and reinforce expectations for ***positive interactions*** as a part of our classroom cultures.	Establish collaborative norms, and nurture positive interactions from the first collaborative engagement. Set clear expectations for group work up front such as these: • You're expected to become a more patient listener. • You're expected to share the workload equitably. • You're expected to run into challenges and manage frustrations productively. • You're expected to reflect on how you did as a group and how you can improve next time.
		Model specific words and actions group members can use to diffuse difficult interactions.
		Occasionally prompt students to reflect on their group interactions using a rubric and brainstorm how to improve.
Group-level regulation of learning unfolds as a response to the challenges faced during collaborative sessions.	Our ability to recognize challenges that require group-level regulation of learning is key to providing a thoughtful and measured level of support ***when*** needed.	When a challenge arises, if needed, prompt students to monitor and control their responses to it.
		At the end of each collaborative session, prompt groups to engage in both individual and joint reflection on what did and did not go well for them during group work to help them learn and internalize effective social regulation of learning skills.
With opportunities for practice and support, a groups' regulative skills will improve over time.	If we want students to learn how to work well in groups and regulate their own learning, we have to give them ***opportunities to practice***.	Identify where collaborative learning activities work best in each unit and plan for multiple collaborative opportunities throughout the year.
		Keep students in the same groups over several collaborative sessions so they can continue building on regulation of learning skills without starting over with new group dynamics each time.
		Phase out support as the groups' regulation of learning improves.

Adapted from "Social Regulation of Learning and Insights for Educators" by S. Hampton & D. Dragnić-Cindrić, 2023, Educator CIRCLS Blog. Adapted with permission. https://circls.org/educatorcircls/social-regulation-of-learning-and-insights-for-educators

Related Resources


Mapping, Clarifying, and Communicating Key Ideas about Collaborative Learning in STEM Audiences

Collabora

Mapping, Clarifying, and Communicating Key Ideas about Collaborative Learning in STEM Audiences

Classroom Discourse

Mapping, Clarifying, and Communicating Key Ideas about Collaborative Learning in STEM Audiences

Assessment During Collaborative Learning

Primers Affiliated with this Series:

- Assessment
- Classroom Discourse
- Collaborative Argumentation
- Social Regulation of Learning
- Teacher's Roles in Supporting Collaborative Learning

Additional Resources

- Regulation of Learning: What is it, and why is it Important?
- Social Regulation of Learning and Insights for Educators
- Overcoming Barriers to Teaching Regulation of Learning
- Foundations of Collaboration

Working Together, Learning Together

Student Worksheet: Social Regulation of Learning

What is Social Regulation of Learning?

Social Regulation of Learning happens when you work with classmates to plan, monitor, and evaluate your learning together. It's about becoming aware of how your group thinks, learns, and works together—then making adjustments to improve.

SECTION 1: The Planning Phase

Self-Check Questions:	**Helpful Sentence Starters:**
☐ Have we discussed and agreed on our learning goals? ☐ Do we understand what success looks like for this task? ☐ Have we created a plan with clear steps and responsibilities? ☐ Did we consider everyone's strengths when assigning roles?	"Our main goal should be..." "I think we should first... and then..." "Who feels comfortable taking on the role of...?"

Our Group Plan:

Task: _____

Our goal is to: _____

Steps we'll take:

1. _____
2. _____
3. _____

Who will do what:

_____ _____

_____ _____

_____ _____

SECTION 2: The Monitoring Phase

Self-Check Questions:	Helpful Sentence Starters:
☐ Are we following our plan, or do we need to adjust it? ☐ Is everyone participating and contributing their ideas? ☐ Are we listening to each other and building on different perspectives? ☐ What's working well in our collaboration? What isn't?	"I notice that we're struggling with..." "Are we all clear about what we're trying to accomplish?" "Should we try a different approach to...?"

Mid-Point Check:

What's working well: _____

_____

Challenges we're facing: _____

_____

Adjustments we need to make: _____

_____

SECTION 3: Problem-Solving Framework

When your group faces challenges:

1. **Pause**: Stop and acknowledge the issue.
    - What's happening right now? _____
2. **Identify**: Name the specific problem.
    - The main issue is: _____
3. **Brainstorm**: Generate possible solutions together.
    - Possible solutions:
        - _____
        - _____
        - _____
4. **Decide: Select an approach to try.**
    - We will try: _____

5. **Implement**: Put your solution into action.
    - Our action steps:
        - _____
        - _____
        - _____

6. **Reflect**: Evaluate if it worked.
    - Did our solution work? Why or why not?
        - _____
        - _____

SECTION 4: Evaluation Phase

Self-Check Questions:	**Helpful Sentence Starters:**
☐ Did we achieve our learning goals? ☐ How did our strategies help or hinder our progress? ☐ What would we do differently next time? ☐ What did we learn about working together effectively?	"One thing our group did well was..." "Next time we could improve by..." "I learned that I work better when we..."

Group Reflection:

Our main accomplishments: _____

_____

What we learned about the content: _____

_____

What we learned about working together: _____

_____

For next time, we will: _____

_____

SECTION 5: Personal Reflection

After completing group work, reflect on these questions:

1. How did our group make decisions today?

   _____

   _____

2. What was my most valuable contribution?

   _____

   _____

3. How did we handle disagreements?

   _____

   _____

4. What strategy helped us learn most effectively?

   _____

   _____

5. What would make our collaboration even better next time?

   _____

   _____

Assessment During Collaborative Learning

Assessment plays an important role in teaching and learning processes. While it has traditionally been used to assign grades at the end of an activity, it is more valuable when used as an ongoing process. **Assessment is a tool that allows teachers to gauge student understanding, uncover misconceptions, and identify areas where additional support may be required.** When used thoughtfully, it becomes a tool to both measure and drive learning.

Types of Assessments

There are two main types of assessments: **summative assessment**, which summarizes and gives information about where the learner ended, and **formative assessment,** which informs where the learner is in the learning process and if they are achieving the learning goals.

Formative assessment is an important tool for providing timely feedback on content knowledge, collaborative processes, and outcomes. Formative assessment demonstrates the following:

- shows what learners do or do not understand and what they need to continue growing content knowledge and skills.
- informs teachers about whether their methods are yielding the intended learning outcomes.

Assessment Focus: What We Access

When compared to individual performance, assessment in the context of collaborative learning is more complicated because it involves evaluating both group and individual content learning and collaborative skills. The table below lists areas that can be evaluated during both individual and group assessments.

Assessment Focus	What is Assessed	How Learning is Assessed
Individual	Content knowledge a student has learned	Quizzes, tests, individual reflections or journals, exit tickets, individual roles or products, one-on-one conference
	Collaborative skills a student has developed	

Group	Shared knowledge created through social interactions including multiple perspectives on the task, concept, or lesson	Group presentation or product, observation checklist or rubric, peer assessment, or group reflection
	Collaborative skills that the group possess	
	Shared regulation of learning or ways to monitor and manage learning process together	
	Group work (i.e., the work the group produces)	

Individual and group assessment both occur throughout collaborative activities. While they are distinctively different and serve different purposes, they work best when used together as a complement to one another. Balancing these two types of assessment can be challenging, so being intentional about when, what, and how you assess is important.

To effectively assess collaborative work, the following must be considered:

1. what the individual learned
2. what the group learned about the content together
3. the quality of interactions
4. shared knowledge construction
5. the development of teamwork skills

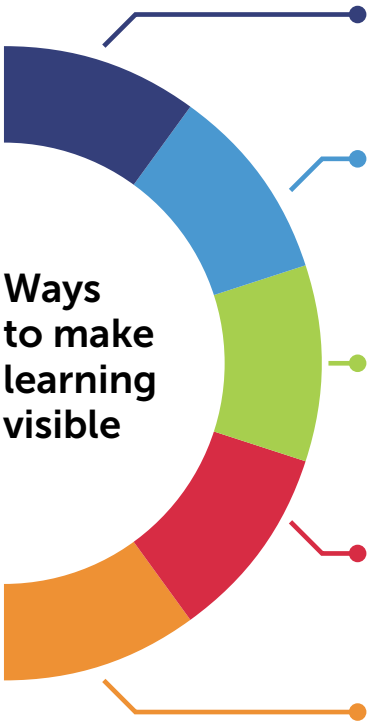
The skills developed during collaborative activities are equally as valuable as the content knowledge gained. Collaboration involves communication, negotiation, conflict resolution, and developing shared understanding among the group. Each of these skills are highly valued among employers and should be assessed when students work together.

When used in tandem, group and individual assessment provide a more complete picture of overall learning and skill development. But **remember, not all types of learning need to be assessed in every assignment**.

Assessments should be designed to help reveal what students know and can occur before, during, and after learning. When determining what to assess, start during the planning phase by ensuring that assessments are aligned with both the collaborative activity and the learning

objectives. To support this alignment, it is important to clearly identify the goals of the collaborative activity from the start, as this helps clarify which aspects of individual and group learning should be prioritized. To assist with this process, sample activities designed to evaluate group progress or process, student content knowledge, and collaborative skills are included in tables at the end of this section.

One advantage of assessing collaborative activities is that **students make their thought processes visible** when working as part of a group. As they explain ideas, ask questions, and build on each other's contributions, teachers can obtain valuable insight into how students understand and process the content. During a collaborative activity, it is impossible for teachers to be in every group 100% of the time. This can make it difficult to know what is happening, but there are strategic ways to gain insight into student learning. Five strategies are included below.



Create targeted checklists—Develop observation guides or rubrics focused on specific learning goals to use while visiting groups and monitoring group work.

Listen actively to group discussions—Student conversations can give evidence of learning and collaboration.

Ask probing questions—If productive discussion or understanding of a topic isn't evident, creating strategic questions to ask group members can help identify misconceptions or determine if students need assistance.

Reinforce positive collaboration—Prepare students to actively participate in group activities. Monitor their engagement and recognize those who contribute meaningfully. Provide positive reinforcement through praise, feedback, or incentives to promote effective teamwork.

Use exit tickets—They are a valuable tool to collect quick reflections on both content understanding and collaboration at the end of the day to inform the next day's teaching.

Assessment Mode: How We Assess

Though assessment can be **focused** on an individual or a group, the **mode** of assessment refers to how or by whom the assessment is being carried out. When designing assessments for collaborative learning, it's important to consider both who is being assessed and how the assessment is being conducted as each works together to shape how learning is evaluated. Self-assessment is a reflective process that allows students to critically evaluate their own

learning based on a pre-defined criteria. It encourages students to be responsible for their own learning processes and helps them become more aware of their own learning needs. Peer assessment enables students to develop their constructive critique skills by providing structured feedback to classmates. This process allows students to gain insight into how their peers approach a task and can increase student engagement. Collaborative assessment evaluates students as they work in groups. During a collaborative assessment, students engage with their peers while being assessed. Typically, they have two components: an individual assessment such as a test or quiz and a group assessment in which the team answers a similar set of questions together.

The table below defines **self**, **peer**, and **collaborative** assessments and outlines the **advantages and disadvantages** of each mode:

Assessment Mode	Assessment Focus	Definition	Advantages	Disadvantages
Self-Assessment	Individual	Students evaluate their own learning, performance, or contributions.	• Encourages reflection and metacognition • Promotes responsibility for learning • Can identify personal strengths and areas for growth	May lack objectivity Can be influenced by overconfidence or low self-esteem
Peer Assessment	Individual or Group	Students assess the work or contributions of their peers.	• Fosters critical thinking and evaluative skills • Encourages accountability • Promotes collaborative learning	Potential for bias or discomfort Requires training to ensure fairness and accuracy
Collaborative Assessment	Group	Students work together to assess their group's process or final product.	• Builds consensus and shared responsibility • Enhances communication and teamwork • Reflects authentic group dynamics	Can mask individual contributions May lead to conflict or unequal participation

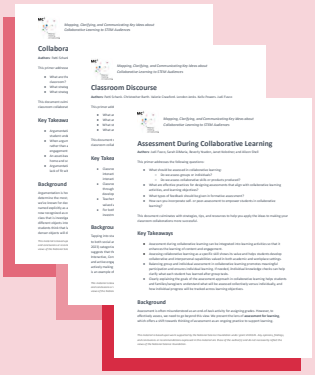
Introducing Self and Peer Assessment

When students learn to self- and peer assess they become more independent, self-directed learners. Teachers can help facilitate this process by following the tips below.

1. Teach students to use rubrics or checklists independently.
    a. Once students understand how to use a rubric for self-assessment, you can provide prompts or sentence frames to model the process and expectations for peer assessment.
2. Start small by focusing on positive peer feedback. Encourage students to share "glows" with each other using a simple template.
3. Gradually introduce constructive feedback by having students share "grows" alongside "glows." These are gentle suggestions for improvement, framed as next steps. To keep feedback supportive, use "I wonder" prompts, such as these:
    - I wonder how we could stay more focused in our next group session?
    - *I wonder how we could build on each other's ideas more during discussion?*

Intentional assessment planning is essential to ensure that both individual and group learning are supported and valued. By thoughtfully designing assessments that address not only content knowledge but also collaborative skills and individual contributions, educators can create a more balanced and meaningful evaluation process that promotes deeper learning, accountability, and effective teamwork.

Related Resources



Primers Affiliated with this Series:

- Assessment
- Classroom Discourse
- Collaborative Argumentation
- Social Regulation of Learning
- Teacher's Roles in Supporting Collaborative Learning

Additional Resources

- Formative Assessment in Action
- Foundations of Collaboration

Assessments of Collaborative Group Progress and Process

Goal / Purpose of Assessment	Title and Description	Formative / Summative	Feedback to Students	Feedback to Teacher
Monitoring group dynamics	**Group Observation Checklist** The teacher observes the group during any collaborative task, using a checklist to assess specific behaviors like participation, communication, problem-solving, and role distribution. This tool can be used repeatedly across different group tasks.	Formative	Immediate feedback on their collaboration skills, including strengths and areas for improvement.	Provides a consistent method for tracking group dynamics and identifying patterns or recurring issues in group work.
Evaluating individual contributions	**Peer Evaluation Form** After completing any group task, students fill out an anonymous peer evaluation form. They assess each group member's contributions, collaboration, and reliability. The feedback is aggregated to provide an overview of individual performance within the group.	Formative/ Summative	Reflects on individual contributions and receives feedback from peers, which can motivate improvement and accountability.	Offers insights into group dynamics from the students' perspectives, helping the teacher identify any disparities in contributions or conflicts.
Measuring group progress	**Collaborative Task Rubric** A rubric is provided before any collaborative task, outlining clear criteria for successful group work, such as communication, teamwork, and task completion. The rubric is used to assess the group's performance at the end of the task.	Summative	Provides clear expectations and feedback on how well the group met the criteria. Helps them understand what areas to focus on in future tasks.	Ensures consistent and objective assessment across different collaborative tasks, allows for easy comparison of group performance over time.
Reflecting on group processes	**Group Process Journals** Each student keeps a journal where they briefly reflect on their group's process after any collaborative task. They note what worked well, what challenges arose, and what they would do differently next time. This reflection helps to internalize learning about collaboration.	Formative	Encourages deep reflection on group processes, helping students identify personal and group strengths and weaknesses.	Provides insights into the group's internal dynamics and processes from the students' perspectives, aiding in targeted interventions if needed.
Assessing group communication	**Group Communication Self-Assessment** After completing any collaborative task, the group fills out a self-assessment form focusing on communication aspects like listening, idea sharing, and conflict resolution. This self-assessment promotes awareness of effective communication strategies.	Formative	Encourages self-reflection on communication skills within the group, highlighting areas for improvement.	Offers a snapshot of how the group perceives their communication effectiveness, helping the teacher to guide future interactions.
Continuous feedback loop	**Group Exit Tickets** At the end of any collaborative task, each student completes an exit ticket where they briefly summarize what the group accomplished, what they contributed, and how well the group worked together. This quick assessment helps to capture immediate reflections and feedback.	Formative	Provides quick and immediate feedback on group performance and individual contributions, fostering continuous improvement.	Allows the teacher to gather ongoing feedback on group dynamics and task completion, helping to identify areas for real-time adjustments.

Activities that Assess Content Knowledge

Goal / Purpose of Assessment	Title and Description	Formative / Summative	Feedback to Students	Feedback to Teacher
Assessing group knowledge	**Think-Pair-Share: Concept Clarification** Students individually think about a question or problem posed by the teacher, then pair up to discuss their thoughts. Finally, pairs share their conclusions with the class. This activity focuses on clarifying understanding of key concepts through peer discussion.	Formative	Provides immediate feedback on students' understanding and ability to explain concepts to others. Encourages active listening and peer learning.	Allows the teacher to gauge students' grasp of concepts in real-time and identify any misconceptions that need addressing.
Evaluating problem-solving	**Collaborative Quiz: Rapid Fire Round** In small groups, students answer a series of quick questions or solve problems related to the day's lesson. The quiz is designed to be completed in a short time frame, encouraging collaboration and quick thinking.	Formative	Immediate feedback on their knowledge and ability to collaborate under time pressure. Encourages quick recall and teamwork.	Provides a quick check on how well students have understood the day's lesson, highlighting areas that may need more attention.
Testing collaborative skills	**Quick Group Discussion: Pop-up Debates** Students are randomly assigned to small groups to discuss a prompt or question related to the course material for 10-15 minutes. Each group then shares their conclusions with the class. This exercise tests students' ability to quickly collaborate and articulate their thoughts.	Formative	Provides immediate feedback on collaboration and communication skills. Encourages active participation and engagement.	Observes group dynamics and identifies students' strengths and areas for growth in discussion settings.
Assessing project outcomes	**Collaborative Design Sprint: Performance Task** In a short time frame (1-2 class periods), students work in teams to create a simple design or solution to a problem related to the course. This could be a prototype, a concept map, or a draft proposal. The focus is on creativity, teamwork, and applying course concepts quickly.	Summative	Evaluates ability to work under time constraints, creativity, and application of knowledge. Offers insights into time management and team coordination.	Provides a snapshot of students' ability to collaborate effectively and apply knowledge in a pressured situation.
Reflecting on team learning	**Team Self-Assessment: Quick Reflection** After completing a group task, students individually fill out a brief reflection form to assess their own knowledge contributions, what content or new understanding they learned or gained from the collaboration, and what they may still wonder about. This reflection encourages honesty and self-awareness in assessing group work.	Formative	Encourages self-reflection on content knowledge and areas for growth.	Gives the teacher insights into how students perceive their content knowledge, helping to guide future lessons.

Activities that Assess Collaborative Skills

Goal / Purpose of Assessment	Title and Description	Formative / Summative	Feedback to Students	Feedback to Teacher
Assessing group collaboration	**Group Mind Map: Collaborative Concept Mapping** In groups, students create a mind map on a key concept from a lesson. Each student contributes ideas, and the group organizes the information collectively. The focus is on how well the group can synthesize their understanding and create a cohesive map together.	Formative	Feedback on group organization, idea integration, and how effectively they collaborate to build the mind map.	Observes the group's ability to communicate and integrate ideas, providing insights into group dynamics and individual roles.
Evaluating group decision-making	**Consensus Building Exercise: Group Agreement Task** Students are given a scenario with multiple possible solutions. As a group, they must discuss and reach a consensus on the best course of action. The assessment focuses on the group's ability to engage in productive discussion, consider diverse viewpoints, and arrive at a decision collectively.	Formative	Feedback on the group's ability to discuss, negotiate, and compromise to reach a consensus.	Assesses the group's decision-making process and the effectiveness of their communication and collaboration.
Testing teamwork effectiveness	**Role Rotation Task: Collaborative Role Play** In this task, students take on different roles within the group to complete a shared activity (e.g., a discussion, a problem-solving task). Roles might include leader, recorder, presenter, and researcher. After the task, the group reflects on how effectively they collaborated and supported each other in their roles.	Formative	Feedback on how well they adapted to different roles and supported each other in the collaborative process.	Provides insight into each student's adaptability and the overall group's ability to function effectively with clear role distribution.
Evaluating group coordination	**Collaborative Story Writing: Group Narrative** Students work together to write a short story, with each group member contributing a different section. The assessment focuses on how well the group coordinates their efforts to create a coherent and unified narrative.	Summative	Feedback on the cohesiveness of the story and how well the group communicated to ensure continuity and unity.	Assesses the group's ability to coordinate and integrate their individual contributions into a single, cohesive work.
Assessing group problem-solving	**Escape Room Challenge: Team Problem-Solving** Groups work together to solve a series of puzzles or challenges in a classroom "escape room" scenario. The focus is on how well the group collaborates under pressure to solve problems and complete the challenge.	Summative	Feedback on their problem-solving process, communication, and how effectively they worked as a team under time constraints.	Observes group dynamics, problem-solving strategies, and how well students manage stress and collaborate in a high-pressure situation.
Reflecting on team collaboration	**Group Reflection Circle: Collaborative Reflection** After completing a group task, students gather in a circle and take turns reflecting on their group's performance. They discuss what went well, what challenges they faced, and how they could improve in future collaborations.	Formative	Encourages honest reflection and constructive feedback on group collaboration. Highlights areas for improvement and acknowledges strengths.	Provides insights into group dynamics, individual contributions, and areas where additional support or guidance may be needed.

Giving and Receiving Feedback Like a Pro

A Student Guide to Meaningful Peer Feedback

Why Peer Feedback Matters

Giving and receiving feedback is a skill you'll use throughout your life—in school, careers, and relationships. Learning to share constructive comments helps both you and your classmates create better work and develop stronger critical thinking skills.

1. Use the Rubric as Your Guide

When giving feedback, always refer to the assignment rubric. Using the rubric keeps your feedback focused on learning goals rather than personal preferences.

- What specific criteria are being evaluated?
- Which aspects meet or exceed expectations?
- Which areas could use more development?
- How does the work compare to the examples provided?

2. Start with Strengths: The "Glows"

Begin your feedback by highlighting what works well. Starting with positives builds trust and helps your classmate feel that their work is valued before discussing areas for improvement. The list of sentence starters below can help you express things your peers did well.

- "I really liked how you..."
- "The strongest part of your work was..."
- "Something that stood out to me was..."
- "I was impressed by your..."

3. Next, Move to Growth Areas: The "Grows"

After sharing strengths, offer suggestions for improvement:

- "One thing that might make this even better is..."
- "Have you considered trying..."
- "I wonder if this part could be stronger if..."
- "Something I'm curious about is..."

Receive Feedback Gracefully

Getting feedback can be challenging, but it helps to follow these steps:

- Listen or read completely before responding.
- Ask clarifying questions if needed.
- Thank the person for specific suggestions.
- Remember that feedback is about the work, not about you.
- Consider each suggestion thoughtfully before deciding whether to use it.

Practice

Before evaluating your classmates' work, take these steps:

- Practice giving feedback on sample work provided by your teacher.
- Try evaluating anonymously to build confidence.
- Start with simple feedback tasks before moving to more complex evaluations.
- Give feedback to your teacher about classroom activities to practice in a low-pressure setting.

Remember, learning to give helpful feedback is like developing any other skill—it takes practice, but it gets easier over time!

Peer Feedback Worksheet

Reviewer Name: _____ Date: _____

Assignment/Project Being Reviewed: _____

Creator's Name or ID: _____

STEP 1: Identify the Strengths ("Glows")

Find at least 3 specific things you like or that work well:

1. I really liked how you _____
   _____
   _____
2. The strongest part of your work was _____
   _____
   _____
3. Something that stood out to me was _____
   _____
   _____

STEP 2: Check Against the Rubric

Look at the assignment rubric and evaluate the work:

Rubric Criteria	Rating (1-4)	Evidence From the Work

STEP 3: Suggest Improvements ("Grows")

Offer 2–3 specific suggestions for making the work even better:

1. One thing that might make this even better is _____
   _____
   _____
2. Have you considered trying _____
   _____
   _____
3. I wonder if _____
   _____
   _____

STEP 4: Ask Questions

What questions do you have about this work?

- _____
- _____
- _____

STEP 5: Final Thoughts

What is the most valuable aspect of this work that the creator should definitely keep?

_____
_____
_____

Remember:

- Start with strengths before suggestions.
- Be specific in your comments.
- Refer to the rubric criteria.
- Focus on the work, not the person.
- Offer constructive suggestions, not just criticism.

FOR THE CREATOR:

How I'll Use This Feedback:

Changes I'll make based on this feedback:

- _____
- _____
- _____

Questions I have for my reviewer:

- _____
- _____
- _____

Classroom Group Observation Checklist

Teacher:_____ **Date:**_____ **Task:** _____

Group # / Name	Active Participation	Effective Communication	Problem-Solving & Decision-Making	Role Distribution & Accountability	On Task?	Notes / Feedback
Group 1	☐ None ☐ Some ☐ All	☐ Weak ☐ Mixed ☐ Strong	☐ Rare ☐ Developing ☐ Evident	☐ Unclear ☐ Partial ☐ Clear	☐	
Group 2	☐ None ☐ Some ☐ All	☐ Weak ☐ Mixed ☐ Strong	☐ Rare ☐ Developing ☐ Evident	☐ Unclear ☐ Partial ☐ Clear	☐	
Group 3	☐ None ☐ Some ☐ All	☐ Weak ☐ Mixed ☐ Strong	☐ Rare ☐ Developing ☐ Evident	☐ Unclear ☐ Partial ☐ Clear	☐	
Group 4	☐ None ☐ Some ☐ All	☐ Weak ☐ Mixed ☐ Strong	☐ Rare ☐ Developing ☐ Evident	☐ Unclear ☐ Partial ☐ Clear	☐	
Group 5	☐ None ☐ Some ☐ All	☐ Weak ☐ Mixed ☐ Strong	☐ Rare ☐ Developing ☐ Evident	☐ Unclear ☐ Partial ☐ Clear	☐	
Group 6	☐ None ☐ Some ☐ All	☐ Weak ☐ Mixed ☐ Strong	☐ Rare ☐ Developing ☐ Evident	☐ Unclear ☐ Partial ☐ Clear	☐	

Legend / Rating Guide (Optional for Teacher Use)

- **Active Participation**: None = 0 students; Some = < 50%; All = majority engaged
- **Communication**: Weak = off-topic or dominating; Strong = collaborative and respectful
- **Problem-Solving**: Rare = reliant on teacher; Evident = self-directed resolution
- **Roles**: Unclear = no evident roles; Clear = all members contributing within roles

Group Observation Checklist: **Monitoring Group Dynamics**

Purpose: To observe and assess group behaviors during collaborative tasks. Use this tool to provide immediate, formative feedback and track group dynamics over time.

Group Name/Number:_____	**Date**: _____	**Task**:_____

Key Collaborative Behaviors:

Behavior	Observed? ✓	Notes / Evidence (Examples or Comments)
Active Participation		
- All members contribute ideas		
- Students stay engaged in the task		
Effective Communication		
- Members listen to each other		
- There is respectful discussion of ideas		
- Members clarify or build on ideas		
Problem-Solving & Decision-Making		
- Group identifies challenges		
- Team brainstorms multiple solutions		
- Members reach decisions collaboratively		
Role Distribution & Accountability		
- Roles are clearly assigned		
- Members fulfill their roles		
- Group self-monitors progress		

Overall Group Dynamic | Group works cooperatively and stays on task | ✓ / ✖

Comments: _____

Formative Feedback (For Group Use)

- Strengths Observed: _____
- Areas for Improvement: _____
- Next Steps / Suggestions: _____

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