Pearson

Collaboration

Executive Summary for Educators

Education researchers at Pearson teamed up with the Partnership for 21st Century Learning (P21) to conduct a review of the research literature on teaching and assessing collaboration skills in K-12 and college classrooms. What follows is a summary of the most significant findings.

Why Is Collaboration Important?

The ability to collaborate is increasingly identified as an important educational outcome in and of itself rather than a means of organizing instruction to teach other subjects. The P21 Framework for 21st Century Learning includes collaboration as one of the four Cs, along with creativity, critical thinking, and communication. Research suggests that a focus on developing collaboration knowledge and skill is important for several reasons:

- People who know more about collaborating go on to enjoy higher performance in team settings.
- Training students to work together makes collaborative or cooperative learning approaches to teaching more successful in terms of student learning.
- Strengthening students' collaboration skills can also enhance their prospects for employment and job advancement once they leave school.
- Teaching young learners how to work with others within a community on social issues can improve students' commitment to civic participation.

What Does Good Collaboration Look Like?

Many frameworks for collaboration and teamwork exist, but the elements that are common across multiple frameworks include:

- interpersonal communication;
- conflict resolution;
- task management.

Individual skill in collaborating varies depending on a person's willingness and ability to consider the views of others, to coordinate ideas and problem-solving processes with those of teammates, to forge consensus, and to use negotiation strategies to compromise and resolve conflicts.

How Can I Teach Students to Collaborate?

Like any skill, collaboration must be taught explicitly. Educators can no longer assume that simply putting students into groups is enough to support learning. Rather, instructors should engage in some amount of direct instruction, teaching students what good collaboration looks like in terms of desirable behaviors and useful strategies for managing tasks and resolving conflict. Students

must also have opportunities to practice their collaboration skills with instructor support and to receive feedback on their performance.

Research points to several aspects of collaboration instruction that may enhance student success. For example,

- Peer evaluation: Peers can reliably rate their teammates' collaboration skill, and receiving this type of feedback can lead to improvement. Thus, peer evaluation using defined rubrics or scales can be implemented as part of an effort to increase collaboration skills.

- Group formation: Aspects of forming groups (size of the group, group composition, and method of forming groups—whether teacher-selected or student-selected) may affect students' interactions and experiences. In general, educators should use smaller, heterogeneous groups. Although students may prefer self-selected groups, group composition is more difficult to control when teams are self-selected. Therefore, educators can consider using self-selected teams for learning activities when students are not being graded. However, when group interactions are being assessed, instructor-selected teams can provide a more level playing field.

- Role assignment: Embedding specific roles (e.g., moderator, summarizer) into group assignments may encourage students in those roles to demonstrate desirable collaboration behaviors. Thus, instructors should experiment with using different types of functional roles in group activities.

How Should I Design Collaborative Activities for My Classroom?

When designing activities for teaching and assessing collaboration skill, it is important to consider all three elements of collaboration — interpersonal communication, conflict resolution, and task management — and to design activities that are accessible to students displaying a range of skill levels. Different types of tasks require differing levels of interdependence, coordination, and consensus. Thus, task demands — what students are asked to do — should be carefully designed to correspond to their current skill level and to the target instructional objective.

For example, if a task simply requires groups to generate a lot of ideas but not to prioritize those options or make any selections, there will be little need for students to coordinate their ideas and contributions. Similarly, if a task calls for consensus but everyone in the group already agrees about the best course of action then there is no opportunity for students to practice their conflict-resolution skills.

How Should I Evaluate Students' Collaboration Skill?

In order to assess all three elements of collaboration, educators should collect a mix of evidence of group interactions and team processes. Evidence of team interactions can come from first-hand observations of peers or instructors, whereas evidence of team processes can come from artifacts like planning or scheduling documents that illustrate a group's approach to managing the task and sharing the workload. Recent advances in technology can supplement observations by enabling real-time capturing and automated scoring of these aspects of verbal communication and group decision-making.

The main conclusions and implications of the research for classroom practice are as follows:

CONCLUSION	IMPLICATION	TIPS FOR CLASSROOM PRACTICE
Collaboration skills are associated with more effective performance at school and on the job, and are highly valued by employers.	Educators should develop collaboration skills in students as an end in themselves not simply as a teaching method by which to learn other skills.	Establish learning objectives around collaboration. Plan for and use group activities as opportunities to reinforce and practice these skills.
The elements of collaboration shared across multiple frameworks include interpersonal communication, conflict resolution, and task management.	When teaching and assessing collaboration, educators should see the skill as multidimensional, looking at the elements both individually and together.	Show and explain what good collaboration looks like. Design activities that require learners to use the elements of collaboration in concert but provide feedback on each element individually.
It is possible to define less and more sophisticated levels of collaboration skill.	Educators should use these levels when assessing and teaching collaboration.	Help learners understand their own skill level in terms of observable behaviors.

CONCLUSION	IMPLICATION	TIPS FOR CLASSROOM PRACTICE
There are different types of collaborative tasks that require greater or lesser degrees of collaboration skill.	Educators should select or design the appropriate task type for the situation and the learners.	Make sure group activities require students to work together and to negotiate to forge consensus.
Assessment of collaboration requires collecting evidence of group interactions and team processes such as language used for communication, reactions to obstacles, planning documents, and approaches to decision-making.	Educators should capture group interactions and processes either through observation (by the instructor or peers) or by using technology that captures and automatically analyzes verbal communication and group decision-making.	Pick and choose from a diverse mix of evidence, including your own in-class observations, peer ratings, chat logs, discussion boards, email threads, documentation of task planning and organization of labor, and the group product during various stages of drafting, commenting, and revising.
Collaboration skill does not tend to develop in the absence of explicit instruction.	If students' collaborative skills are to improve, educators need to provide some combination of direct instruction in the skills of collaboration, opportunities to practice collaborating, and feedback.	Spend time in class directly teaching collaboration skills, including strategies for interacting productively with others, resolving conflicts, and managing taskwork.
Peers can reliably rate others' collaboration skill, and these ratings can result in skill improvement.	Peer evaluation using defined rubrics or scales can be implemented as part of an effort to increase collaboration skills.	Create your own peer rating scale that aligns to the definition and levels of collaboration and train students to use the rating scale. Model how to provide constructive feedback on collaboration.
Aspects of forming groups (size of the group, group composition, and method of forming groups) may affect students' interactions and experiences. Even though students appear to prefer self-selected groups, group composition is more difficult to control when teams are self-selected.	Generally, educators should use smaller, mixed-ability groups. Educators should consider using self-selected teams for learning activities but instructor-selected teams for assessment purposes.	Rotate groups so that students gain experience working with different types of individuals and teams.
Assigning specific roles (e.g., moderator, summarizer) may be one way of encouraging students to demonstrate desirable collaboration behaviors.	Instructors should experiment with embedding specific functional roles into collaboration tasks, particularly roles that emphasize desirable collaboration behaviors.	Allow students to choose which of the defined roles in a task they would like to play but encourage them to practice playing different roles over time.