Collaboration Around Computation

Collaborative computing is the process of performing a computational task by working in pairs and on teams. Because it involves asking for the contributions and feedback of others, effective collaboration can lead to better outcomes than working independently. Collaboration requires individuals to navigate and incorporate diverse perspectives, conflicting ideas, disparate skills, and distinct personalities. Students should use collaborative tools to effectively work together and to create complex artifacts.

Students should...

Cultivate working relationships with individuals possessing diverse perspectives

Students should work collaboratively with others. Early on, they should learn strategies for working with team members who possess varying individual strengths. Eventually, students should apply strategies for mutual encouragement and support. They should express their ideas with logical reasoning and find ways to reconcile differences.

Create team norms, expectations, and equitable workloads to increase efficiency

Students may take turns in different roles on the project, such as note taker, facilitator, or “driver” of the computer. As students progress, they should become more adept at assigning roles within their teams. Eventually, students should independently organize their own teams and create common goals, expectations, and equitable workloads.

Evaluate and select technological tools that can be used to collaborate on a project.

Students should be able to use tools and methods for collaboration on a project. For example, in the early grades, students could collaboratively brainstorm by writing on a whiteboard. As students progress, they should use technological collaboration tools to manage teamwork, such as knowledge-sharing tools and online project spaces.

Sample Student Task:

Students can design a technology-focused business, including a plan for the service/product, identifying key audience, and developing a strategy to take the business to market. Students can self-identify areas of strength on the team and sort the team into specific roles or job titles around these strengths. Students can evaluate online project management tools and decide which program would best support their desired outcomes.

Resources:

- Collaborating Versus Cooperative Learning Video
- Collaborative Computing Blog Post
- Project Management Tools for Students

Source: K-12 Computer Science Framework