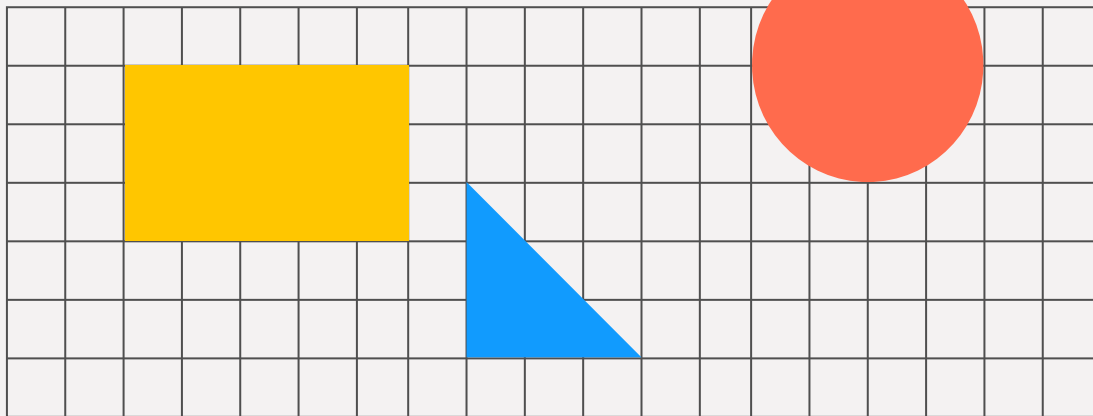


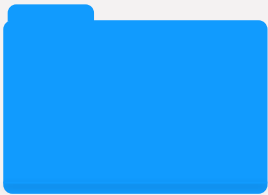
Improving Group Work in STEM Courses

How educators can encourage effective collaboration to promote learning in the STEM classroom.





Why
Collaborate?



The
Communication
Competency

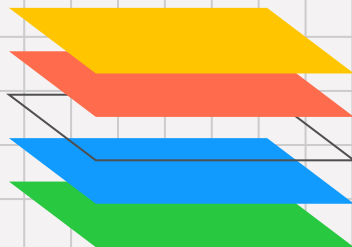


Real World
Examples



Citations

Why should STEM educators implement group work?



Inclusive

Students can solve problems with diverse partners to develop an inclusive worldview.

Students become more interested in learning when they are engaged in a “community of learners” (Kelley & Knowles, 2016).



Students can learn communication skills that are vital for the modern workforce (Stehle, 2019).

The Communication Competency

Big Idea

The communication competency is made of two sub-competencies: **Communicating**, and **Collaborating**.

Both competencies must be nurtured to help provide the foundation for a joyous life.



“I can...” Statements

“I can...” statements allow students to conceptualize competencies in student-friendly language.



I can...

- assess the impact of our groups findings and the findings of others.

- evaluate and revise plans with other group members as needed.

- give and receive constructive feedback to support our goals.

- develop relationships with my group members to support our goals.

Real world examples

Working in a Chemistry Lab



- Students work in teams to conduct an experiment, with each student taking a role such as:
 - **safety officer**
 - **equipment manager**
 - **data recorder**
- Students practise active listening by sharing observations and discussing results before drawing conclusions together. (Said, 2023)

STEM Design Challenge



- Students work together to design a water filtration system.
- Each student shares an idea before the group selects a design, ensuring everyone is heard.
- Students listen to feedback, test their prototype, and collaborate to make improvements. (Said, 2023)



Thank you!

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Citations

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