



Understanding gender barriers in STEAM

This activity helps you recognize and address gender biases in STEAM mentoring. Through discussions, case studies, and role-playing, you'll explore common stereotypes—such as the belief that men are better suited for technical roles—and how these biases impact mentees' confidence and participation. By practicing empathy and inclusive mentoring strategies, you'll learn how to create a more supportive and empowering environment for your mentees.

In just 30 minutes, you'll gain practical insights and tools to challenge gender biases and support mentees in overcoming barriers in STEAM.

Process

1. Introduction (5 minutes)

- Briefly review common gender biases in STEM, such as stereotypes that men are more suited for technical roles and the resulting effects on women's confidence and participation.

2. Case Study Analysis (10 minutes):

- Choose a case study from the provided scenarios that highlights gender bias in STEM (e.g., a female student consistently given less technical tasks).
- If working in a group, discuss the impact of the bias on the mentee and explore possible mentor interventions together.
- If working individually, reflect on the scenario by considering how the bias might affect the mentee's confidence and participation, and brainstorm strategies to create a more inclusive mentoring approach.
- Consider writing down your thoughts or discussing them with a colleague or peer for further insight.

3. Role-Playing exercise (10 minutes):

- If working in pairs, take turns playing the role of a mentor and a mentee experiencing gender bias. Practice empathetic listening and offering supportive responses.
- If working alone, imagine yourself in both roles—consider how you would respond as a mentor and what kind of support you would want as a mentee.
- Reflect on how different responses might impact the mentee's confidence and engagement.
- Optionally, write down key phrases or approaches you could use in real mentoring situations.

3. Role-Playing exercise (10 minutes):

- If in a group, discuss strategies to address gender bias in mentoring, focusing on empathy and inclusivity to support mentees.
- If working individually, reflect on your own mentoring practices and identify areas where you can be more inclusive and supportive.
- Consider writing down one or two actions you can take to challenge gender biases in your mentoring approach.
- You can also seek feedback from peers or mentees to further improve your mentoring style.

Case study 1: The Technical Tasks Divide

Maria, a highly capable student in a robotics program, is often assigned administrative or organizational tasks during group projects, while her male peers are given hands-on technical roles. Despite expressing interest in technical tasks, she hesitates to assert herself, fearing she will be seen as pushy.

Reflection Questions:

- How might this situation impact Maria's confidence and career aspirations?
- What can a mentor do to support Maria in gaining equal opportunities for technical experience?

Case Study 2: Unconscious Bias in Feedback

During feedback sessions, Emma, a software engineering mentee, is frequently praised for her "diligence" and "hard work," while her male peers are recognized for their "innovative ideas" and "technical skills." She feels her contributions are being overlooked and starts doubting her abilities.

Reflection Questions:

- How might this type of feedback reinforce gender biases in STEM?
- What steps can a mentor take to ensure feedback is balanced and promotes growth for all mentees?

Case Study 3: Assumptions About Career Paths

Sarah is a talented mentee in an engineering internship program. Her supervisor often assumes she would be more interested in project management or human resources roles rather than technical engineering positions. Sarah enjoys engineering but feels pressured to conform to these expectations.

Reflection Questions:

- How might these assumptions limit Sarah's career choices?
- How can a mentor advocate for Sarah's interests and aspirations?

Case Study 4: Impostor Syndrome

Lucy, an accomplished mentee in computer science, often downplays her achievements and attributes her success to "luck" rather than her skills. Despite her strong performance, she frequently doubts her abilities and hesitates to apply for advanced opportunities.

Reflection Questions:

- What signs of impostor syndrome are present in this situation?
- How can a mentor help Lucy build confidence and recognize her achievements?