

INTRODUCTION

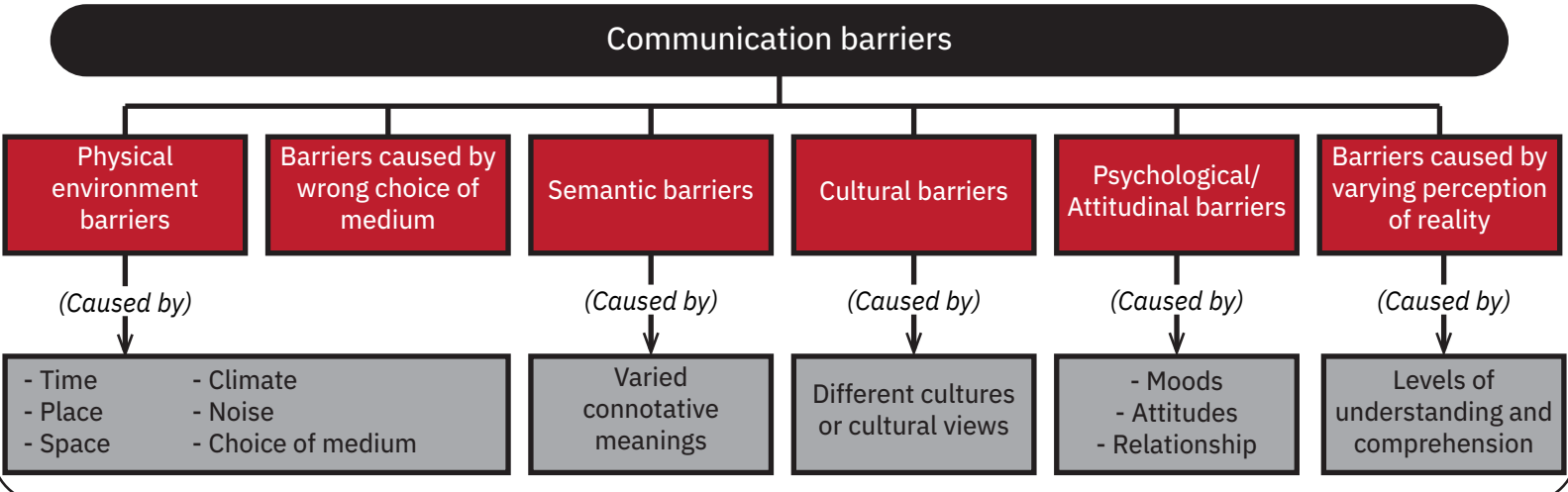
This worksheet was designed by MIT Materials Initiative for Comprehensive Research Opportunity (MICRO) to assist research mentors and undergraduate researchers in communicating effectively and inclusively. It contains strategies to identify and overcome communication barriers, mitigate stereotype threat, and provide constructive critical feedback in an inclusive way.

MAINTAINING EFFECTIVE COMMUNICATION ⁽¹⁾

Combining in-person, one-on-one, and group conversations, while respecting all party personal boundaries, helps to enhance learning and overcome communication barriers.

You can discuss with your mentor/mentee about the different means of communication you currently use and how they may be improved. This table and graphic can help you structure this conversation.

Barrier to Effective Communication	Solutions to Overcome Barrier	Indication of communication evolution
<i>Example: Lack of time to meet one-on-one</i>	<i>Frequent emails, or instant messages (e.g. Slack)</i>	<i>Fewer misunderstandings and stalls in research progress</i>



ENGAGING IN ACTIVE LISTENING ^(1,2)



Active listening from both mentors and mentees is an important component of constructive communication. It involves **making a conscious effort to listen, to ensure understanding of the speaker's intention.**

Active listening often includes maintaining eye contact, paying attention to what is said, as well as asking for clarification when there is a misunderstanding. However, active listening can be difficult in remote contexts. So here is a guide to active listening. In addition, keep in mind that attention in a remote setting can decrease more quickly, therefore:

- **Be mindful of the other person's attention span** and complement with additional communication means.
- **Turn off notifications and other surrounding distractions** when discussing.

Sources: (1) Entering Mentoring: First Edition, Christine Pfund, Janet Branchaw, and Jo Handelsman, W. H. Freeman, 2015, ISBN:9781464184901. (2) Adapted from the Center for Creative Leadership: "Coaching Others: Use Active Listening Skills" and the MIT Resources for Easing Friction and Stress (REFS) training material.

MITIGATING STEREOTYPE THREAT ^(3,4)

Stereotype threat is defined as a “socially premised psychological threat that arises when one is in a situation or doing something for which a negative stereotype about one's group applies”. In this section we will detail how stereotype threat can affect student performance in the lab and classroom, as well as ways to mitigate stereotype threat as mentors and in the academic context.

SOURCES

INTERNAL MECHANISMS

CONSEQUENCES

Situational cues



- Emphasizing one's stereotyped identity



- Solo status due to underrepresentation

Cognitive overload and physiological effects



- Stress and anxiety



- Physiological response



- Negative cognition and emotion



- Reduced working memory capacity

Underperformance

- Impaired performance

- Discounting validity of feedback

- Disengagement

Because stereotype threat relies on situational identity contingencies and the associated social cues and narratives, it means that there are ways to mitigate it in the academic setting through evolving practices.

GOALS

INCREASE MOTIVATION & RECEPTIVENESS

IMPROVE TRUST, COMFORT, & PERFORMANCE

IMPROVE SENSE OF BELONGING & ACHIEVEMENT

MACRO ACTIONS

(Institutional scale)

- Changing the way we introduce concepts and evaluations.
- Changing the way we give critical feedback.

- Improving a group's critical mass.
- Fostering inter-group conversations among students from different backgrounds.
- Allowing students to affirm their most valued sense of self.

- Helping students develop a narrative that explains their frustrations.
- Projecting positive engagement and success.

MICRO ACTIONS

(In the lab and classroom)

- Reframing the task.
Example: Young girls perform worse on a “geometry” task compared to another group of girls who are given the same task, but are told it is a “drawing” exercise.
- Emphasizing high standards with assurance of capability.

- Deemphasizing threatened social identities.
Example: “You may have heard that women don't do as well as men on difficult math tests, but that's not true for this test.”
- Encouraging self-affirmation.

- Providing role models.
Example: Introducing Stephanie Kwolek alongside Wallace Carothers for polyamide discoveries at DuPont.
- Providing external attributions for difficulties.
- Emphasizing an incremental view of ability.

GIVING CONSTRUCTIVE CRITICAL FEEDBACK ^(3,5)

Providing constructive feedback can greatly enhance students' motivation while reducing stereotype threat and perceived bias. Here is some guidance on how to structure feedback. Keep a positive attitude during the discussion to ensure that the conversation stays constructive.

FEEDBACK GUIDE

PREFACE

Invoke high expectations while assuring the student that he or she has the potential to meet them.

OFFER

- Do not force the feedback upon the student.
- Emphasize what should be maintained; describe expected added elements.

STRUCTURE

- Clear, Concrete, Concise, and Constructive feedback (The 4 Cs).
- Give specifics on what should be addressed.

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