

# Unit 4

## Different Learners, Different Minds

### Major principles

- Our perception of problems and our approaches to solving them are influenced by our profiles of neurological, emotional, and cognitive strengths and weaknesses and by our experiences.
- People differ in their abilities for attention and working memory, and teachers can help all students learn.
- Because “normal” depends on context, it makes more sense for teachers to analyze the match between learner and context than to expect everyone to learn in some standardized fashion.
- Bringing school learning (“school science,” for example) and actual practice (“real-world science”) closer together might improve education.

In “A Tale of Two Cases,” while discussing the remarkable success of Nico and Brooke, Immordino-Yang writes that “their families and teachers may have played a major role in their recoveries, through allowing these boys the freedom to actively engage in their own learning, without restricting them to preconceived notions about how they would function or recover after surgery.” Faced with a completely new challenge, these teachers had to abandon their customary curriculum and approaches and take their lead from the boys. The teachers had to find out what the boys could and couldn’t do under what circumstances (discover their strengths and weaknesses in specific contexts) and build lessons that facilitated learning. Unit 4 emphasizes the importance of truly meeting students where they are. As you work on the assignments, keep this goal and the major principles in mind.

The first two assignments for this unit are experiments for you to conduct in your classes. You are to study the results, draw conclusions about what the results suggest about specific students in your class and about your teaching, and discuss these conclusions with your colleagues. (It is not possible to provide an expectation for how much time these experiments might take. Keep track of the time in a log or journal.)

**Assignment 1:** Try new approaches to reduce stress and demands on attention in one or more of your classes.

The unit suggests many possible interventions for reducing the stress and demands on attention, interventions that are likely to help not only those who may have neurological difficulties, but all students as well. Try some of these approaches in one or more of your classes for at least a month, and invent others that seem particularly appropriate to your students (even individual students) and circumstances. Examples might include:

- If you tend to use pop quizzes, replace these with announced quizzes.
- Replace timed tasks with untimed tasks.
- Consider allowing students to work in pairs on some assessments and activities, rather than working alone.
- If you have some students who never seem to complete all the homework, reduce the amount for them—being mindful to keep only the most critical and engaging tasks, the tasks that support what you really need the students to understand.
- If memorization has been your primary focus, replace it with open-book or real-world exercises that ask students to apply the knowledge they usually memorize.

**Assignment 2:** Have your students identify the circumstances under which they focus as best as they possibly can.

1. Ask your students to think about and then to tell you the circumstances under which they seem to learn best and to demonstrate their best learning—when they feel they can really focus. It’s important that they understand that their ability to focus is the central issue in this experiment. Have them consider every factor they can imagine—the environment, sitting or lying down or pacing, the presence of music or quiet, isolation or the presence of others, talking or typing or writing, and so on. The circumstances may differ for different tasks. And the ability to focus will vary from student to student: You are simply encouraging them to identify the circumstances under which they focus as best as they possibly can. (Be mindful that emotional relevance is likely to be a factor.)
2. Then, within the constraints you face (and explain these to your students), let your students work as much as possible under these circumstances. Let them study and demonstrate their understanding in contexts that are most conducive to their doing their best work with real focus. Finding ways to accomplish this goal will likely require you to think outside the boxes of classroom and daily schedule. Be creative.

**Assignment 3:** Write about and discuss ways to increase students’ success in school.

Recall the distinction between “school science” and science as it is done in practice,

and recall the examples of successful people who had various learning difficulties. Try to imagine the specific practices and policies that you might change in your classroom or in the school as a whole to increase the likelihood that more students will succeed in school instead of having to wait until after they graduate. In other words, how might school work become more like world work?

**Assignment 4:** Analyze a case study.

*Case study:* “I teach self-contained special education in a large city school to a group of students (grades 1 to 5) with developmental problems learning disabilities, and emotional disorders. One academic problem perplexes me as well as the speech language pathologist with whom I work. For the great majority of my students, whether or not they have language disorders, if you ask them to give the definition of a word, they give an example. I might ask Olivia what ‘foot’ means while teaching multiple meaning words, and, instead of answering that it’s a unit of measurement or a part of the body, she’ll say, ‘I have a foot.’ I’ve worked with them several times on how defining and giving examples are separate; but the next week when we read a text and I ask what a word means to check their understanding, I get examples again or examples for similar sounding words. I don’t know how to better explain that I want an abstraction, not a concrete example—and the difficulty is compounded by the enormous difficulties some of my students have with all abstract concepts.”

Based on what you have studied in this unit, write down the answer to the following question: How might you help this teacher?

**Assignment 5:** Analyze a case study.

*Case study:* “As the assistant head of an elementary school, I am constantly faced with the challenge of helping teachers understand the importance of thinking of alternative methods of teaching and of assessing and modifying expectations for children who have mild-to-moderate learning disabilities. It is sometimes difficult for teachers, especially of upper grades (4–6), to realize that modifying expectations does not mean they are lowering their standards. They are excellent teachers who have very high expectations of themselves and their students. It is difficult for them to accept when their students, regardless of whether they have a disability, slip in their expected performance. Their frustration with these students comes through when they write reports at the end of the year. I have had numerous conversations with them. They agree at that moment that they need to change their perceptions of these students, but they seem to find it difficult to change.”

Write down the answer to the following question: How might you advise this administrator to work with his teachers if he sought your help?

### ***Suggested readings between Unit 4 and Unit 5:***

Possible review:

Immordino-Yang, M.H. "A Tale of Two Cases: Lessons for Education from the Study of Two Boys Living with Half Their Brains." *Mind, Brain, and Education* Vol. 1, Issue 2 (June, 2007): 66–83.

Immordino-Yang, M.H., and K.W. Fischer. "Neuroscience bases of learning." In V. G. Aukrust (Ed.), *International Encyclopedia of Education*, 3rd Edition, Section on Learning and Cognition. Oxford, England: Elsevier, 2009.

Possible preview:

Fischer, K.W., and L.T. Rose. "Webs of Skill: How Students Learn." *Educational Leadership* Vol. 69, No. 3 (November, 2001): 6-12.

Schwartz, M. "Cognitive Development and Learning: Analyzing the Building of skills in Classrooms." *Mind, Brain, and Education* Vol. 3, Issue 4 (December, 2009): 198-208.