

## Learning Through Inquiry

# COMPANION GUIDE MODULE 5 CREATING AN INQUIRY MINDSET





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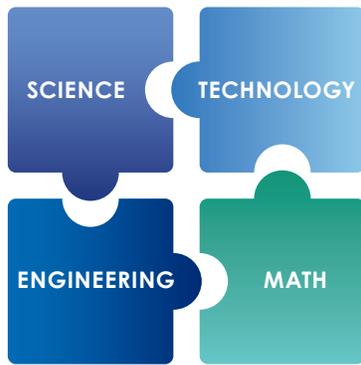
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## 1. HOW CAN I USE THIS GUIDE?

Creating an Inquiry Mindset is the fifth of six e-learning modules that encompass TGR EDU: Explore's platform delivering teaching strategies that focus on student engagement, with the goal of connecting all students—especially those from underrepresented populations—to success in school and beyond.

Creating an Inquiry Mindset will examine the importance of developing critical thinking skills and introduce you to the four types of inquiry—Structured, Controlled, Guided, and Free, and Question Matrixes. You will leave with a takeaway piece to help plan for lessons that incorporate student inquiry.

This is the fifth module and a great starting point, but all the modules can be enjoyed in any order. Be sure to work through each module at your own pace, reflecting on what resonates most to you and your teaching practice. This guide and the e-learning modules will help you to inspire and motivate your students to reach new heights.

## 2. WHY DOES THIS TOPIC MATTER FOR EDUCATORS AND STUDENTS?

### CURRENT TRENDS

There is no longer a need to focus on memorization of facts as data can change and are easily accessible. Students need to be able to find information, analyze it to parse truth from fiction, and reach a solution to their question. Through a student-centered inquiry approach, students are given authentic opportunities to develop critical skills, knowledge and practices that will help them thrive in postsecondary education, the workforce and community environments. Educators can use proven strategies and intentional practice to help foster an inquiry mindset with their students.

### CAREERS

The global workforce demands individuals who can become leaders with innovative solutions to challenging problems. The quality of high school and undergraduate education has been under much scrutiny. The disconnect between learning in the classroom to the real world could drive students to disengage from academic pursuits and exacerbate a growing problem: the lack of applicants for high-demand roles. Professionals, especially in STEM, require the ability to use an inquiry-based approach to create innovative solutions to complex problems. To prepare students for future careers, they should be given the same opportunities to authentically develop skills via an inquiry approach in the classroom. A classroom that fosters an inquiry mindset is one that ensures all students are actively engaged.

## 3. WHAT CAN I EXPECT IN THE MODULE?

### MODULE OBJECTIVES

At the end of the module, the participant should be able to:

- Define inquiry
- Articulate the benefits of increasing student inquiry
- Identify and understand types of inquiry
- Use Visual Thinking Strategies (VTS) and Question Matrixes
- Identify where you can begin to use questioning to integrate more inquiry in your classroom

**MODULE LAYOUT**

Lesson	Content	Key Points
Introduction	<ul style="list-style-type: none"> <li>How to engage students in the inquiry process</li> </ul>	<ul style="list-style-type: none"> <li>Traditionally, teachers ask the questions of students. We want to include students' observations and ideas to help them form their own questions.</li> </ul>
What is inquiry?	<ul style="list-style-type: none"> <li>Defining the term inquiry</li> </ul>	<ul style="list-style-type: none"> <li>Pivoting from a traditional classroom to an inquiry classroom allows for more student involvement and engagement.</li> </ul>
Inquiry Strategies	<ul style="list-style-type: none"> <li>Strategies that assist in creating a more inquiry-based classroom</li> </ul>	<ul style="list-style-type: none"> <li>Visual Thinking Strategies, Essential Questions and Question Matrices all serve as guides to lead the transformation to an inquiry-based classroom.</li> </ul>
Reflection	<ul style="list-style-type: none"> <li>Inquiry Integration Planning</li> </ul>	<ul style="list-style-type: none"> <li>Inquiry integration planning documents aid with the first steps into incorporating inquiry when planning your lessons.</li> </ul>
Summary & Resources	<ul style="list-style-type: none"> <li>Review of Learning Objectives</li> </ul>	<ul style="list-style-type: none"> <li>Defining inquiry and inquiry-based classrooms lead to strategies for improving engagement which in turn provide opportunities to create student success.</li> </ul>

**4. HOW DO I CONTINUE THE CONVERSATION IN SCHOOLS?**

This section of the companion guide provides overviews, pre- and post-activities, discussion questions and supporting resources that accompany the Creating an Inquiry Mindset module. This flexible model allows educators to apply the module objectives with school or district goals. Those goals could include literacy, culturally responsive instruction, career and college readiness or cooperative and collaborative classroom structures across disciplines.

**PRE-ACTIVITY**

What strategies do you use to encourage student inquiry?

**POST-ACTIVITY**

Use the following assessment tool—Generating Essential Questions—to reflect upon your current teaching strategies and generate ideas for increasing student engagement through inquiry-based instruction.

**DISCUSSION QUESTIONS**

- How has your definition of inquiry changed after navigating through the Creating an Inquiry Mindset module?
- What are specific ways you can intentionally work towards increasing student inquiry on a regular basis?
- The differences in inquiry and inquiry-based instruction are highlighted in this module.
  - What dimensions do you or your school need to improve upon?
  - In what areas are you doing well?
  - What are some specific examples of how you are effectively engaging students with inquiry?





## TAKEAWAY ACTIVITY

Now that you have ideas for how you can improve inquiry-based instruction in your school or classroom, you can inspire your colleagues by sharing these resources with them to encourage a holistic approach to student inquiry. Facilitate the lesson "Assessing Inquiry-Based Classrooms."

### Learning Objective

Participants understand how to plan lessons that promote student inquiry in their own classrooms and schools.

Use this lesson with your peers summarizing your learning from the Creating an Inquiry Mindset module.

### Activity Procedure

1. Introduce the activity by explaining that participants will analyze the level of student inquiry in their own classroom. Divide into teams of 3–5 participants. Give each team chart paper and writing utensils.
2. Review the Inquiry Integration Planning document.
3. Model with one example of a completed Integration Planning document as an example.
4. Tell each group to brainstorm and identify at least one strategy they will try and how they will use it in their classrooms.
5. Have each group select one person to be the recorder and use them to capture the ideas from the team.
6. Ask each group to share out with the larger group discussing the inquiry plans they recorded based on their chosen strategies and group discussion.
7. Ask participants to reflect on what they saw and heard and to commit to focusing on one of the strategies to promote inquiry in their classrooms.

## SUPPORTING RESOURCES FEATURED IN THE CREATING AN INQUIRY MINDSET MODULE

### HOW YOU CAN CONTINUE THE CONVERSATION

Please consider joining the TGR Foundation Educator Community Forum. This is a great network where educators receive support and learn together to continuously improve and hone their teaching practice.



### TGR FOUNDATION EDUCATOR COMMUNITY

Are you an educator looking for inspiration and support? Join our network of passionate professionals committed to building a brighter future for students around the globe.

[TGRfoundation.org/educator-community](https://TGRfoundation.org/educator-community)

## ADDITIONAL RESOURCES

### TGR EDU: EXPLORE CURRICULUM

Use these interactive resources, designed for grades 6–12, to develop problem-solving and decision-making skills with real-world applications in college access and STEM learning.

[TGREDUexplore.org/curriculum](https://TGREDUexplore.org/curriculum)

## REFERENCES

MacKenzie, Trevor, and Rebecca Batburst-Hunt. *Inquiry Mindset: Nurturing the Dreams, Wonders, and Curiosities of Our Youngest Learners*. Elevate Books Edu, 2019.

Szalavitz, Maia. "Inquiry Based Learning." *Inquiry-Based Learning: Explanation*, WNET Education, 2004, [www.thirteen.org/edonline/concept2class/inquiry/index.html](http://www.thirteen.org/edonline/concept2class/inquiry/index.html).

Wiederhold, Chuck, and Spencer Kagan. *Cooperative Learning and Higher Level Thinking: The Q Matrix*. Kagan Cooperative Learning, 1998.

Wiggins, Grant. "What Is an Essential Question?" *Authentic Education—What Is an Essential Question?*, Authentic Education, 15 Nov. 2007, Engagement by Design Creating Learning Environments Where Students Thrive, 2018 Douglas Fisher, et. al.

**INQUIRY INTEGRATION PLAN**

**Directions:** Use the following guide to add inquiry strategies to enhance an existing lesson or create a new inquiry instructional plan.

**Lesson Topic:**

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**Learning Objective(s):**

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Type of Inquiry (Structured, Controlled, Guided, or Free)	
Student & Educator Roles: What does this look like for both the students and educator?	
Student	Educator

**INQUIRY INTEGRATION PLAN**

<b>Inquiry Strategies</b> How will you incorporate inquiry strategies into your lesson?	
<b>Strategy</b>	<b>Details:</b> How/when will the strategy be incorporated?
<b>Essential Question</b>	
<b>Visual Thinking Strategies</b>	
<b>Question Matrixes</b>	

**Assessment:** How will students demonstrate their learning?

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**Lesson Plan:** Use this section to map out the lesson plan in the format of your choosing from opening to closing.