



SoTL Research Questions

Writing a clear research question is essential because it influences the other steps in the SoTL study. You may already have a general area that you would like to investigate, and you will need to narrow down this general idea to a specific question that is clear and measurable. If you are starting out in SoTL, you will want to begin with a simple question without too many variables and complexities.

Most SoTL research questions fall into several categories. Listed below are categories and examples of questions that fit into each category. The “What works” category is frequently where SoTL researchers begin their journey, and it tends to be the most common type of SoTL research.

- **What works:** Study the effectiveness of teaching practices and approaches
 - Example: Will the think-pair-share method help students understand the “do while” loop?
 - Example: Do students using Peer Instruction (PI) in introductory physics courses increase mastery of conceptual reasoning and quantitative problem solving?
 - Example: Will students increase their confidence/enjoyment/knowledge of programming after a 2.5-week session using Alice? (3 questions)
 - Example: Is it more beneficial to student learning and student satisfaction to use guided learning activities rather than lectures in a biology class?
 - Example: Can the quality and quantity of in-class discussion be improved by a preceding online chat or a discussion board?
 - Example: Will students’ ability to think critically improve after engaging in a critical-thinking module?
 - Example: Is comprehension of material better for students who completed a reflective activity versus those who did not?
- **Why it works:** Study why teaching practices and approaches are or are not effective
 - Example: What aspects of gamified course design impact students’ motivation?
- **What is:** Describe students’ prior knowledge and how students learn
 - Example: What do novice programmers think as they solve computer programs?
 - Example: What are the study patterns for students preparing for a recent quiz?
 - Example: What conceptual barriers exist that prevent students from understanding how rocks form?
 - Example: What prior writing knowledge do my students bring to my first-year writing course?
- **Reflection:** Study whether teaching is structured to achieve its goals
 - Example: Do my exam questions measure the learning goals of my course?



Another dimension of research questions to consider is what domain you're interested in:

- **Cognitive domain:** Knowledge attainment and intellectual processes
- **Affective domain:** Emotions, including interest, attitude, values, motivation, beliefs, etc.
- **Psychomotor domain:** Motor skills that require physical coordination

Although the three domains are listed separately, they can strongly influence each other. For example, students must be motivated to learn before they can gain knowledge, and learning the course content might trigger interest.

The best research questions take time and involve an analysis of your own interests, a consideration of practical constraints, a review of what has been previously done, and feedback from colleagues.

Much of this information is modified from and inspired by the book *Engaging in the Scholarship of Teaching and Learning* (2012) by Cathy Bishop-Clark and Beth Dietz-Uhler. The CCRI Library has [multiple copies in the CTE collection](#). I encourage you to review the book for additional details, information, and examples, particularly Chapter 4 “Generating the Research Idea.” Additional information can be found at [Vanderbilt University Center for Teaching: Scholarship of Teaching and Learning: Doing SoTL](#).



SoTL Research Question Worksheet

Complete this worksheet to help you identify a research question. Much of this worksheet is modified from the book *Engaging in the Scholarship of Teaching and Learning* (2012) by Cathy Bishop-Clark and Beth Dietz-Uhler, available in [the CTE Collection at the CCRI Library](#). I encourage you to review the book for additional details, information, and examples, particularly Chapter 4 “Generating the Research Idea.”

Identify your research theme, the general idea you would like to investigate.

What category(ies) of research question are you most interested in and best fits your research theme?

- What works
- Why it works
- What is
- Reflection

What domain(s) are you most interested in and best fits your research theme?

- Cognitive
- Affective
- Psychomotor

Identify several options for your research question that address your research theme, category of question, and domain. Try to write the options at different levels of specificity.

Of your options, identify the question that is at the level that makes the most sense to you.

Why is this research question interesting or important (to you and/or to SoTL)?

What do you expect will be the answer to your research question?