

Designing Your SoTL Study

Before beginning this worksheet, ensure that you have identified your SoTL research question(s) and started exploring relevant literature. This worksheet will walk you through the many components needed to design your SoTL research study. If you would like to use AI to brainstorm possible study designs, see the [Brainstorming Study Design with AI Supplement](#).

Part I: Research Question(s)

What are your research question(s)?

Part II. Develop Your Study Design

- A. Identify the ***type of methods*** you will use: qualitative, quantitative, or mixed methods.
- B. Identify any ***interventions*** that may be a part of your study (i.e., intentional changes in your teaching, the learning environment, or course structure to study their impact).
- C. Identify the ***study framework*** you will use (e.g., descriptive, quasi-experimental).
- D. Identify the ***sources of evidence*** that align with your methods and will help answer your research question(s) (e.g., artifacts, surveys, interviews/focus groups, observations, etc).
- E. Many research designs can be ***illustrated with a figure***; try drawing a figure of your research design. (Need inspiration? See [Exploring Study Design Frameworks](#), Slide 17)

Part III. Review Alignment

Now, review your research questions and your study design for alignment.

Alignment Check 1: Question ↔ Design

- Does your study framework (i.e., descriptive, quasi-experimental) match the type of question (i.e., descriptive, differences within/between, associations) you are asking?

Alignment Check 2: Design ↔ Data

- Will your data sources produce the kind of evidence your design requires?

Alignment Check 3: Data ↔ Question

- Will your data actually answer your research question?

Based on your responses to these questions, consider any changes needed to align your research questions and study design. Articulate those changes below:

Part IV. Study Design Details

Clarify the procedures you will follow as you execute your SoTL research:

- Identify your general **time frame**.
- Identify the **participant group(s)** you will study.
- Estimate the approximate **number of people** you will study.
- Combining your research design and logistics, write a brief **descriptive paragraph** (example below) describing your research approach. Be sure to include the following:
 - Context** of the study (i.e., What course(s), student(s), and/or intervention(s)?)
 - Research questions** (i.e., What is/are your research question(s)?)
 - Study design** (i.e., What are your method, framework, sources of evidence, etc.?)
 - Data collection plan** (i.e., When are you collecting the data? From whom?)

Example Descriptive Paragraph: TA Perceptions of TA Training

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Teaching Assistants (TAs) are the primary point of contact for students in lab courses, yet they have little, if any, training on how to teach and support student learning. In introductory chemistry laboratory courses, TAs are responsible for implementing the inquiry-based laboratory curriculum and supporting student groups in designing and implementing their experiments. They also assess and evaluate student learning through lab reports, presentations, and quizzes. A week-long pre-semester TA training was developed to support TAs in the labs, and the present study aims to understand how TAs perceived this training as supporting their development as TAs and teachers. The research question is: *How did the TAs perceive the training supported their ability to implement the guided inquiry approach?* In this descriptive qualitative study, TAs will be surveyed and interviewed about their experiences with TA training and perceptions of how the training has helped them in their TA role. There will be three survey timepoints: pre-TA training, post-TA training, and post-semester. The surveys will be administered through Qualtrics and completed by TAs during meeting times. A subset of TAs will be selected for two interviews, conducted by a grad student/postdoc. These interviews will occur in the middle of the semester and after the end of the semester.