



Problem Statement

- About 500 words
- Written component

Establishing that a Problem Exists

The first step in many workplace projects is to explain to a supervisor that there is a problem that needs to be addressed. Your proposal will need to contain a well-reasoned, documented, and persuasive argument to your instructor that there is a topic—it has to be a process or something with parts—in your chosen discipline that some students struggle to understand. The topic might be something that you understand really well. Perhaps it's something that your peers have asked you to explain to them, or perhaps it's something you personally struggled with at first but now understand really well. The topic could be standard deviations, partial derivatives, Kirchhoff's Rules, cellular mitosis, a grand piano, metabolic pathway, buffer strips, the procedure from arrest to trial—any topic coming out of your discipline. (Note: Your instructor may ask you to submit your ideas before you start working on the proposal to ensure that your topic fits the requirements.)

Your problem statement will need to include evidence that the problem exists; such evidence might be:

- An analysis of current materials (textbook, lectures, labs, workbooks, etc.) and the ways that they fail to help students understand the topic
- Sources that discuss effective ways to learn Topic X, comparing what these sources recommend with the materials that are currently available to students
- An analysis of YouTube videos explaining the topic badly
- Information from professors, such as an average of previous grades on a given test or assignment covering that topic or insight from an interview or correspondence with that professor
- The *Iowa State Daily* list of recently dropped classes, with a clear and established connection to your specific topic

Your instructor may have more specific guidelines for the type and amount of source material you should use for your statement of the problem in your proposal, so make sure you are aware of those specific guidelines. The following is a general breakdown of the steps you will need to take to complete the problem statement within the proposal:

Step 1: Choose a topic.

You need to choose a topic (Topic X). If you need help finding an idea, ask your peers about concepts that they struggled with and listen for common frustrations across coursework. Consider asking your professors. They will know topics that their students find challenging; in fact, they might even have statistics showing the percentage of students who incorrectly answer test questions on Topic X.

Step 2: Find potential source material.

Once you have chosen a topic, start searching for a variety of sources on your topic. Remember that the most successful arguments use a variety of source material and are written by an author who read more source material than is needed in the final argument.

Look for explanations of Topic X, sources that discuss ways to learn Topic X, and sources that students can use to learn Topic X. ([Our course's Library Guide has a list of databases that will help.](#)) Aim for a large number of sources (15 or more) and a variety of types (for example, book chapters or sections, articles from trade magazines, articles from scholarly journals, online guides and manuals, online help pages and FAQs). As you search for potential sources, look for and choose *quality* sources (see [the "Evaluating Information" page](#) for our course's Library Guide.)

As you find sources, make sure to list them using one documentation style. The Library Guide [lists documentation styles](#). Use a documentation style that people in your discipline commonly use, and use it correctly and consistently.

Step 3: Weed out source material.

Once you have a list of potential sources, read the sources thoroughly. Make sure your source material is relevant to your chosen topic. Separate the source material into two categories:

- **Irrelevant to your topic.** The title or abstract seemed at first to be relevant to your topic, but after reading the source, you learned that it isn't what you thought it was about. Write a note about each source, briefly explaining why it is irrelevant.
- **Relevant to your topic.** Aim for at least seven relevant sources. Note that you may have to search for more sources depending on how many sources you discarded as irrelevant.

Step 4: Develop a deeper understanding of the source material.

Write a short summary, 50 words or so, for each relevant source. Each summary should (1) identify and explain the source's argument or main point and (2) explain the ways in which the argument or main point relates to your topic. If students are the main audience for the source (for example, a textbook or online resource), identify its positives and negatives as a learning tool. Put your summary under the citation that you created for the source.

Step 5: Organize the content.

Once you have identified your sources and have written summaries for all of them, you need to organize your materials into categories. You need to show that there is a gap between what students currently receive in terms of learning Topic X and what they need in order to learn Topic X successfully, so organize your relevant citations and summaries into the following categories:

- **List learning resources that are currently available for students:** What resources about Topic X have others developed? What other supportive materials for learning Topic X exist? How effective are these resources?
- **Establish need:** What do sources say students need to learn about Topic X? How successfully do students learn with the current materials? What evidence is there that students are having difficulty learning Topic X with the current materials?
- **Establish the gap:** Explain why students need additional materials to learn Topic X even though some materials already exist.

Step 6: Highlight ideas to include.

Read through your summaries in each of the three categories from Step 5, and highlight the most important points. Make sure to include the positives and negatives of the existing materials for learning Topic X.

Step 7: Write a draft of your problem statement.

At this point, you should have the content that you need to develop your problem statement.

- Explain the **reason for writing the proposal**: Students struggle to learn Topic X. Provide evidence from your research that students are not learning Topic X successfully.
- Explain the **sources that are currently available**: Synthesize the highlighted material from “List learning resources that are currently available for students.” Provide evidence from your research about sources that are currently available, and briefly explain the ways those sources are lacking.
- Explain **what students need** to learn Topic X. Provide evidence from your research about what students need in order to learn Topic X successfully.
- Connect all the dots and explain the gap—why the **available materials are not enough** for students to learn Topic X successfully.

Step 8: Finalize style and documentation.

Once you have a complete draft of your problem statement, revise the order of ideas, transitions, and phrasing until you can smoothly read through the draft. Ask a friend to read through your draft as well, and note the points at which your friend hesitates or stumbles. Revise those spots for clarity. Make sure that you have documented all of your sources with **in-text and reference list citations**.