HARVARD
GRADUATE SCHOOL OF EDUCATION

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How to Focus Your Problem Statement:
Tips for Identifying Core Issues

A problem statement helps clarify a challenge facing an organization, institution, or team, enabling a reflective approach to problem-solving. In other words, it minimizes the chance of you rushing into solutions without fully understanding the nuances of the problem.

At HGSE, problem-solving is a core skill you will develop and refine and which will serve you as you move forward with your career in education. This short guide is intended to support you as you identify and analyze problems as well as the core or root cause of that problem. The goal of this critical work is to be able to make meaningful recommendations for action.

Core elements of a problem statement

While the structure may vary, an effective problem statement typically includes the following:

Gap: The gap is the core issue or challenge; it is the problem that needs solving. Defining the gap helps clarify what's not working or what is missing. Without identifying the gap, it's extremely challenging to understand what needs to change or happen. Questions can help guide your understanding. Ask yourself questions like, "What specifically is going wrong? and "What gap exists between what's happening and what *should* be happening?

Orientation: This refers to the when, where, and how the problem was discovered. It places the problem in its broader context. Providing context ensures that everyone involved understands when and where the problem occurs, making it easier to address. You can apply this by explaining when the problem began, where it's happening, and any patterns or trends that are connected to it. Context is critical to effective solutions.

Impact: The measurable effects or consequences of the problem. This could include costs, time lost, or negative effects on quality or personal experience. Understanding the impact highlights why the problem matters and what's at stake if it's not addressed. Ask yourself questions like, "What's (or who is) being harmed or disrupted by this issue? and "What is the measurable consequences?" Clearly explain the effects of the problem.

Significance: Why solving the problem matters to the stakeholders or institution. It connects the problem to the broader goals or priorities of the organizations or stakeholders. This element makes the case for why resources and attention should be devoted to solving the problem. It ties the problem to larger institutional or societal needs. Ask yourself questions like, “Why does this problem matter to those involved”?

Steps to write a problem statement

The steps to writing a problem statement can be very iterative. Questions inform research and research informs questions. The more you research and learn about a problem the more you may begin to understand its core roots. Problem-analysis requires a kind of back and forth between research, writing, and mapping as you flesh out the nuances of the problem.

Step 1: Identify the Problem

Begin by trying to pinpoint the issue and gathering relevant data to fully understand it. This depends, of course, on the problem. You may need to conduct firsthand interviews or observations with those affected in addition to secondary research. When you are conducting research, look for recurring themes or trends that highlight the root of the issue.

Step 2: Put the Problem into Context

It can be easy to either give too much information or not enough, which can make it hard to understand the real problem or effectively address the problem with proposed solutions. The goal is to provide just the right amount of relevant information so that the reader understands why the problem matters and how it affects those involve (and who they are!).

Questions to ask yourself:

- Who are the people involved and affected? Who are the key stakeholders?
- How does this problem directly affect the people involved? in what ways?

Stick to information (and questions) that help explain *why the problem is important* (and to who and in what ways) and why it needs solving.

More about context

When explaining the problem, include specific facts about where, when, and how the problem started (and of course for who). This will help narrow down the focus to what really matters.

Example:

If scores dropped after a new curriculum was introduced, mention that change, but don’t go into the entire history of the curriculum unless it’s directly related to the problem.

When you are researching and analyzing the problem, be sure to look for patterns and not just one-off issues. It is important to show that the problem is part of a larger trend or

ongoing issue, not just an isolated incident. You should use data or examples to illustrate this.

It is also important to **limit the scope**. It can be easy to get lost in the details and in the research. When we get lost in the research and in the details we start to expand our scope until what we are trying to examine is no longer clear. When you are including background information, be sure that it helps explain the problem and is not just extra “noise” that serves as a distraction. In other words, if it doesn’t directly relate to the problem, leave it out.

> ***Example:***
>
> If you’re trying to solve low student engagement in online learning, it’s tempting to include everything that might affect it, like access to technology, family support, and teacher effectiveness. However, focusing on all these issues makes the problem too broad and hard to solve.
>
> To limit the scope, think about what’s most immediately affecting engagement. For example, you could focus on curriculum deign and how a lack of interactive activities in online courses impacts engagement. By narrowing it down to this one area, you can develop a clear, manageable problem statement.
>
> Instead of saying, "Low engagement is caused by technology access, family support, and curriculum design” you might say, "Students in the 10th grade are not engaging with online science classes due to a lack of interactive activities in the curriculum, leading to lower attendance and performance."
>
> This keeps your problem specific and easier to address, which is the goal. Be sure to ask yourself questions like, “Does this help explain the core problem?” and “Will this detail lead to a solution or better a understanding of the problem?” If the answer is “no,” it’s probably not relevant to include.

Writing is a social activity, and practicing discussing the problem with others can also help you limit the scope and determine relevancy of information. Our listeners can also ask questions where there are gaps or confusion further aiding in the discernment process.

Step 3: Finding the Root Cause

It is common to focus on symptoms of a problem (what you can see) rather than the core issue or the real cause(s). When finding the root cause of a problem it’s important to keep asking yourself ***why*** the problem exists without settling for surface-level answers. Continue to dig deeper until you have a solid understanding of the real reasons(s) behind the problem.

> Example:
>
> Why are students performing poorly in math? The answer may be that they aren’t completing their homework, but ***why*** are they not completing their homework? Well, one reason is because they don’t have structured support after school. Continue to ask why.

Why do students not have structured support? Is this the core of the issue? If not, keep digging deeper until you understand the core reason or reasons the problem exists.

As you continue to dig for the core of the issue, don't stop at the first explanation you come up with. It is crucial to be open to the idea that your initial understanding may not be the whole story, and more information could change how you see the problem. Sometimes all the "why" questions lead to new understandings of the problem that enable you to envision more specific actionable solutions. **Be a nimble researcher and thinker willing and able to adapt.**

As you gather information, use specific data to support your analysis. Stick to data that helps you explain the following:

- Who is affected (students, teachers, etc.)?
- When and where the problem happens
- What the consequences are (e.g. cost, quality)

If, for instance, data shows that poor math performance only happens in classrooms with substitute teachers, this could be an important clue to the root cause. Follow the lead.

There are also frameworks that can help you with focus. The **5 W's** (what, who, where, when, why) and how are valuable tools. Use the 5 W's throughout the research and writing process. Not only do these questions keep you focused, but they also help you determine what information is necessary to include in order to understand the problem and its causes.

Symptoms vs the root cause

When analyzing a problem, it's crucial to differentiate between symptoms and the root cause. Symptoms are the observable effects or manifestations of a problem. They are the surface-level issues that indicate something is wrong but do not explain why it's happening. For example, if a school experiences high student absenteeism, that is a symptom of a deeper issue. Symptoms can mislead if treated as the main problem, as addressing them may only provide temporary relief without resolving the underlying issue.

The root cause, on the other hand, is the fundamental reason that gives rise to the symptoms. It's the core issue that, when addressed, can lead to a more sustainable and long-term solution. Continuing with the absenteeism example, the root cause might be factors like bullying, lack of engagement, or transportation issues. Identifying the root cause requires careful analysis and asking deeper questions, often starting with "why" multiple times to dig beneath the surface. Understanding this difference can help you provide more effective and targeted solutions in your case analysis.

More on symptoms

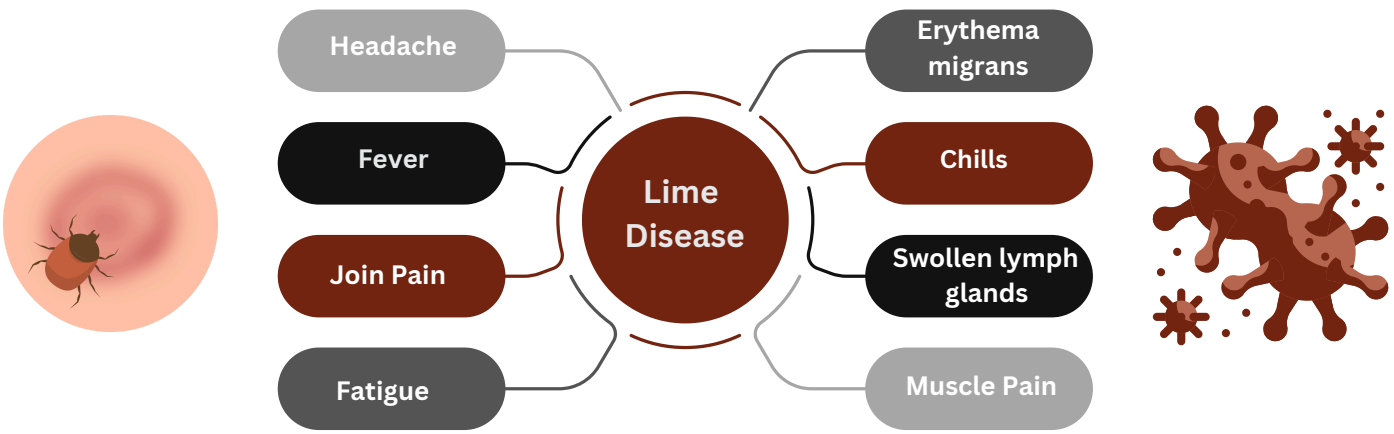
Have you ever gone down the Web MD rabbit whole when you weren't feeling well? It can sometimes be a little overwhelming to see all the possible conditions you might have based on your symptom or symptoms. This is because no one symptom can help diagnose the

condition; usually a condition involves a constellation of symptoms that when put together help diagnose the problem which then opens up the possibility for effective treatment.

For example, let's say that you are experiencing shortness of breath. You are not sure if you have a condition, but you search the symptom online to see if you can find a condition that *explains your symptoms.* Based on your search, you see that there are many possible conditions such as asthma, anemia, or even a pulmonary embolism (blockage of lung artery). The search wasn't all that successful, however, since you only searched for one symptom.

To improve your search, you want to consider all the new symptoms you are presenting so that you can accurately identify the condition and solutions (although you should go to the doctor!). This is similar to the problem-solution based case analysis assigned in your courses. Often, you are presented with a context (school, organization, etc.) that is experiencing a specific constellation of symptoms that reflect a larger problem. While the symptoms do not help you understand the *why* or *root cause* of the problem, they will help you diagnose it.

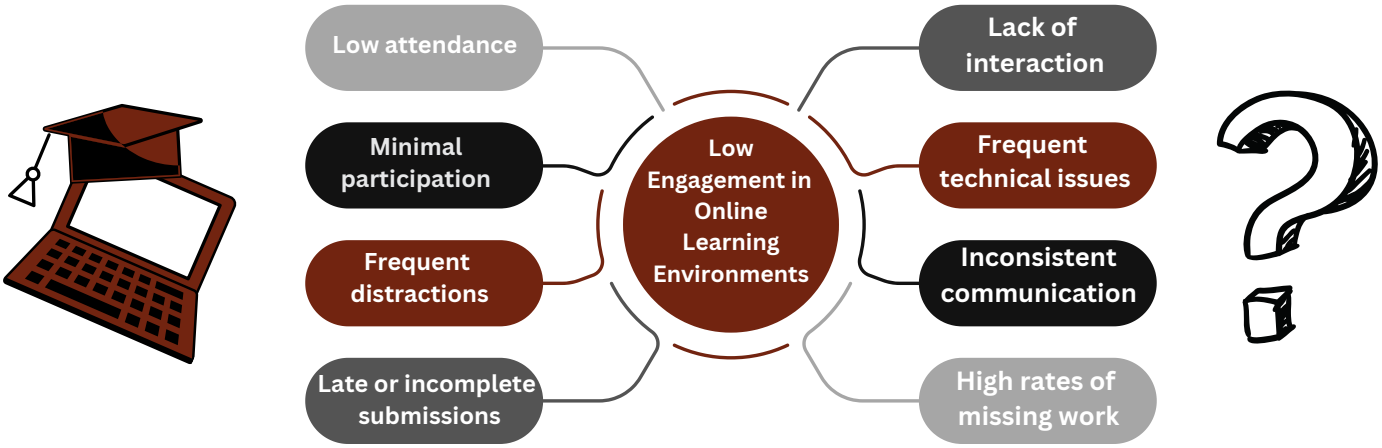
Let's use Lyme Disease as an example as it is very common in the northeast U.S.



There is a constellation of 8 symptoms that together help diagnose the condition Lyme Disease. However, each symptom on it's own could indicate a variety of conditions. In order to make an accurate diagnosis, it is important that all symptoms are presenting at the same time. It is the specific combination of symptoms that make the condition what it is. This is true when analyzing educational contexts that are experiencing a particular condition; they may be presenting a range of symptoms, but not all may be indicative of the same condition.

In the case of Lyme disease, having a fever and joint pain as symptoms is not enough to say that it is definitively Lyme disease. More tests and analysis needs to be done in order to determine the possible condition. In the case of a problem analysis, more analytical work and research likely needs to take place. It can be easy to focus or fixate on the symptoms, which could reflect multiple conditions or problems. However, this makes it very difficult to come up with realistic and effective solutions. The problem or condition needs to be specific.

Let's take a look at an education and learning related condition and its prominent symptoms:



The problem observed here in this context is low engagement in online learning environments. The symptoms of this problem (what we can observe in the context) include low attendance, high rates of missing work, and inconsistent communication with students.

Your job as an analyst here is to start asking yourself *why* there is low attendance and *why* there are high rates of missing work. The symptoms do not necessarily help you explain the *root cause* of the problem, but by using tools like the 5 W's (what, where, why, when, who), you can start to use them as avenues for analysis that can lead to a problem identification.

For instance, if we follow the "high rates of missing work" trail it might look like this:

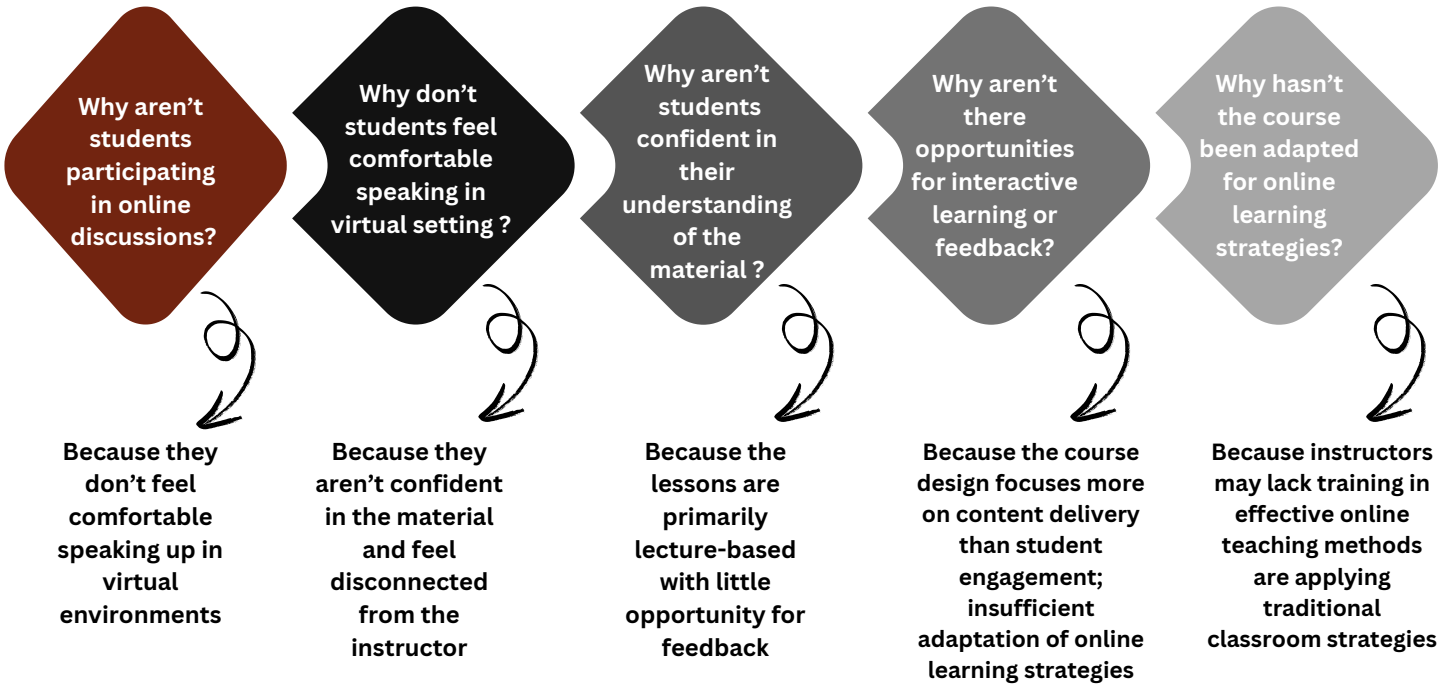
- Does the symptom appear consistently across different classes, students, or times? Recurring problems often point to a systemic cause, while situational problems may be influenced by temporary factors.
- What changes have been made recently that could contribute to this symptom? This could include shifts in curriculum, class sizes, or even broader societal issues.
- Are there any external factors influencing the symptom? Could outside influences like home environment, social factors, or community issues be contributing to the symptom?
- Why is this symptom happening now? Ask "Why" repeatedly (the "5 Whys" method) to drill down deeper into potential root causes.
- What would happen if we only addressed this symptom? Consider whether solving the surface-level issue would truly resolve the problem or if the issue might reoccur.
- What data or evidence do we have that connects this symptom to a deeper cause? Use available data, like performance trends or feedback, to explore connections between the symptom and potential root causes.

By repeatedly questioning and using data to guide analysis, you can move from surface-level symptoms to the core root of a problem. Tools like the 5 W's method and other root cause analysis tools used in education highlight how asking targeted questions helps in identify the true underlying issue. Leveraging available data and evidence is also crucial to this process.

Sometimes there may be other symptoms you observe that are problematic, but they may not directly connect or relate to the problem you have identified; they may reflect another problem altogether. It is important to make sure that you don't get lost in the many

symptoms present in the context or case your analyzing. When this happens, it can be difficult to clearly identify a problem and even harder to identify a root cause of the problem.

Example of using the 5 Whys



When you follow the rabbit whole of "whys" you are, in a sense, digging for the root cause. The more you ask yourself questions like "why" the more likely you are to arrive at a clear understanding of not only the problem, but the root cause of the problem. In the case of the problem of low/poor engagement in online learning environments, the cause in this context could be inadequate instructor training in online engagement techniques, leading to a virtual classroom environment that is not conductive to interactive learning virtually. This seems to be where the "why" trail has taken us; but of course, the **data** should take you there as well.

Problem-Analysis Guiding Questions

1. Identifying the Problem: Framing the Issue

- What is the specific issue we are trying to address?
- Is it related to performance, process, or outcomes?
- What gap exists between current outcomes and expected?
- Who is impacted by this problem, and how are they affected?
- What is at stake if the problem remains unresolved (e.g. academic achievement)?
- When and where is this problem occurring?
- Is it a new issue or part of a recurring trend?
- Is the problem localized (e.g. one class, school) or widespread across settings?
- Why does the problem need to be solved?
- What happens is this issue continues to be unaddressed? (e.g. broader implications)

2. Distinguishing Between Symptoms and Root Causes: Breaking Down the Problem

- Are the issues direct outcomes (symptoms), or caused by a deeper problem?
- Ask yourself if you're we observing surface-level symptoms, or if there is an underlying issue that is *causing* these symptoms?"
- What observable and/or measurable effects are present, and how do they manifest?
- Could these symptoms stem from larger systemic, structural or environmental issues?
- What structural or environmental conditions might be contributing to this?
- If we only address the symptoms, what would happen?
- Would addressing the symptoms eliminate the problem, or would the issue resurface?

3. Digging Deeper: Conducting Root Cause Analysis

- Why are these symptoms occurring?
- Apply the 5 Whys method and ask "why" repeatedly to dig deeper into the problem.
- What data or evidence can (or does) help reveal the deeper cause?
- Does the evidence point to recurring patterns that indicate a systemic cause?
- Could external factors be influencing the symptoms?

4. Contextualizing the Problem: Defining the Scope and Focus

- How much information is too much or too little to include? Be mindful of overload.
- Ask yourself if the piece of information helps explain *why* the problem exists, or is it distracting from the core issue.
- Is the problem isolated or part of a broader trend? Look for patterns.
- Have you included all necessary context to understand the problem? Outline any contributing events, changes, or decisions that have led to the problem.

5. Evaluating Potential Solutions: Testing Your Understanding

- What will happen if we address the root cause?
- Have you adequately explored alternative root causes?
- Have you examined all the evidence and asked enough "why" questions to fully understand the root cause?
- What data supports your conclusion that you have identified the root cause?
- Do you have strong evidence linking the root cause to the problem?

Final Thoughts

Mastering problem analysis is crucial for effectively addressing challenges in educational settings. A well-crafted problem statement helps you focus on the core issue and avoid rushing into solutions that only address surface-level symptoms. By distinguishing between symptoms and root causes, you'll be better equipped to develop meaningful solutions.

It's important to remember that symptoms are what you can observe, while the root cause is often hidden beneath the surface. By continually asking questions like "why" and using frameworks such as the 5 W's, you can dig deeper to uncover the reasons behind a problem.

Effective problem statements rely on clearly identifying the gap between what is happening and what should be happening, providing context to place the issue within a broader framework, and explaining the impact of the problem on stakeholders. These steps help ensure your analysis is targeted and aligned with the needs of the organization or individuals involved.It’s also important to gather data and use research to guide your understanding of the problem. When analyzing issues, remember it’s easy to get caught up in too much information, which can be a distraction. Stick to relevant data and focus on what matters.

As you develop your problem-analysis skills, keep in mind that this process is iterative. You may need to revise your understanding as new information emerges. Flexibility and a willingness to adapt are key. By applying these strategies, you’ll become a more reflective, thoughtful problem-solver, ready to address complex challenges in education and beyond.