

Lab 1: Problem Discovery Report

John Doe (Instructor Example) | SE 395-2: AI Tools for Social Impact | August 28, 2026

Section 1: Problem Landscape

Issue: Food Insecurity on College Campuses

I chose food insecurity on college campuses because I have watched friends skip meals during finals week, not because they were too busy, but because they could not afford to eat. It felt strange to be at a school with a dining hall and a meal plan and still know people who went hungry. When I started looking into it, I realized this was not a handful of students at one school. It is a systemic problem affecting millions of students nationally.

Who is affected

According to a 2020 report from The Hope Center for College, Community, and Civic Engagement (now called The Hope Center at Temple University), 39% of students at two-year institutions and 29% at four-year institutions reported food insecurity in the prior 30 days. The populations most affected include first-generation students, students of color, LGBTQ+ students, and students who are financially independent from their parents. International students are also disproportionately affected because many visa restrictions prohibit off-campus employment.

Verification note: I asked Claude to verify the Hope Center statistic. It confirmed the study exists and is widely cited, but flagged that the methodology (opt-in surveys rather than random samples) may overestimate the rate. The actual rate could be lower. I looked up the Hope Center website independently and confirmed the organization and report are real.

Root causes

- **Rising tuition absorbs available funds.** Students prioritize tuition and housing, leaving little for food. Between 2000 and 2024, average tuition at four-year public institutions rose 135% in inflation-adjusted dollars.
- **Meal plan inflexibility.** Many campus meal plans are expensive and "use it or lose it." Students who run out of swipes mid-semester have no fallback.
- **Stigma.** Students who need help often do not seek it. Campus food pantries exist but are underused because students feel embarrassed or do not know about them.
- **Gaps in federal aid.** SNAP (food stamps) eligibility rules exclude most full-time college students unless they work at least 20 hours per week, which creates a catch-22 for students who cannot work that much and still keep their grades up.

Organizations working on this

- **Swipe Out Hunger** (verified) — Founded in 2010 at UCLA. Runs meal-sharing programs at 170+ campuses where students can donate unused meal swipes. I confirmed this organization exists and checked their website.
- **The Hope Center at Temple University** (verified) — Conducts the largest annual survey on student basic needs. Their #RealCollege survey is the primary source for food insecurity data in higher education.
- **Feeding America** (verified) — National food bank network. Some local affiliates partner with universities, but college students are not their primary audience.
- **Campus food pantries** — The College and University Food Bank Alliance (CUFBA) reports over 700 campus food pantries nationwide. I verified CUFBA exists, though their exact count may be outdated.

What the AI got wrong: Claude initially mentioned a program called "Campus Kitchens Project" as a major national initiative. When I asked for verification, it said it was "fairly confident" but could not provide a working URL. I searched independently and found that The Campus Kitchens Project does exist (it is a program of DC Central Kitchen), but Claude described its scale incorrectly, claiming it operated at 80+ campuses when the actual number appears to be closer to 60.

Biggest gaps

The biggest gap is not a lack of food. It is a lack of connection between students who need help and the resources that already exist. Most campuses have some form of emergency food assistance, but awareness is low, stigma is high, and the application processes are often complicated. A second gap is data: most schools do not systematically measure food insecurity among their students, so they are making decisions without knowing the actual scope of the problem.

Section 2: AI Claims Evaluation

Five AI applications explored

1. **Predictive analytics to identify at-risk students.** AI analyzes financial aid data, meal plan usage, and academic performance to flag students likely experiencing food insecurity before they ask for help.
 - *Maturity:* Experimental. Georgia State University uses predictive analytics for retention, but not specifically for food insecurity. Claude cited this as "proven" but when I pushed back, it revised to "experimental with adjacent evidence."
 - *Hype score:* 5/10. The technology works for retention prediction, but applying it to food insecurity adds privacy concerns and has not been validated.
2. **Chatbot-based resource navigation.** A conversational AI that helps students find food pantries, emergency funds, SNAP eligibility, and meal-sharing programs based on their specific situation.
 - *Maturity:* Proven (for general resource navigation). Several universities use chatbots for student services. Adapting one for food resources is straightforward.

- *Hype score*: 7/10. This is the most realistic application.

3. **AI-optimized meal planning on a tight budget.** An app that generates weekly meal plans based on what is on sale at nearby grocery stores, dietary restrictions, and a student's food budget.

- *Maturity*: Experimental. Apps like Mealime and Eat This Much exist, but none specifically target college students with extreme budget constraints.
- *Hype score*: 6/10. Useful but does not address the root problem.

4. **Demand forecasting for campus food pantries.** AI predicts when demand will spike so pantries can stock appropriately.

- *Maturity*: Theoretical at the campus level.
- *Hype score*: 2/10. Most campus pantries are run by volunteers with donated food. They do not have the infrastructure for AI-driven logistics.

5. **Automated SNAP eligibility screening.** AI walks students through SNAP eligibility questions and pre-fills applications.

- *Maturity*: Experimental. General benefits screening tools exist, but none handle the unusual SNAP rules for college students.
- *Hype score*: 6/10. The need is real and the technology is feasible, but state-level variation makes accuracy difficult.

Most overblown claim

The predictive analytics application. Claude initially presented it as nearly ready to deploy, citing Georgia State as evidence. But Georgia State's system predicts academic risk, not food insecurity. Applying the same approach to basic needs raises serious privacy and consent issues that Claude did not mention until I asked directly. The gap between "we could theoretically do this" and "this is ethical and effective" is large.

Most interesting finding

The chatbot for resource navigation. It is the least exciting-sounding application, but it is the one most likely to help students right now. The barrier is not that resources do not exist. The barrier is that students do not know about them or find the application process too complicated. A well-designed conversational tool that walks someone through their options in five minutes could actually move the needle.

Section 3: Discovery Questions

These questions are designed for an interview with someone who runs a campus food pantry.

1. **"Walk me through what happens when a student comes to the pantry for the first time."**

- *Trying to learn*: The actual intake process, including any friction points that might discourage students from returning.
- *Strongest question*. This gets at the real experience without asking for opinions.

2. **"Tell me about the last time you ran low on a specific item that students were asking for."**

- *Trying to learn:* How supply and demand mismatches happen and how they currently handle them.

3. **"How do students typically find out you exist?"**

- *Trying to learn:* Current marketing and awareness channels, and whether they are working.

4. **"What does a typical week look like in terms of how many students come in, and has that number changed over the past year?"**

- *Trying to learn:* Scale of demand and whether it is growing, plus how they track (or do not track) usage data.

5. **"What is the most time-consuming part of running the pantry that you wish you could hand off to someone or something else?"**

- *Trying to learn:* Operational pain points where technology might genuinely help, rather than assuming where AI should be applied.

Questions I cut: I originally had questions about whether they thought AI could help (hypothetical), whether students would use an app (hypothetical), and what their dream technology solution would look like (leading). The AI helped me see that all three were variations of "would you like this thing I am imagining" rather than questions that surface real information.

Section 4: Reflection

Going into this lab, I assumed food insecurity was primarily a money problem and that the solution was getting more food to more students. The AI challenged that framing by pointing out that most campuses already have food resources and that the real gap is awareness, stigma, and navigability. That reframing was uncomfortable because it means the problem is harder to solve than I initially thought. You cannot just raise money and buy more groceries.

The most surprising thing was how many of the AI's initial claims fell apart under scrutiny. The predictive analytics application sounded impressive in the first response, but when I asked for specific evidence, Claude basically admitted it was extrapolating from adjacent use cases. That taught me something I will carry through the rest of the course: the first answer from an AI tool is a draft, not a conclusion.

Working with AI as a collaborator felt fundamentally different from a Google search. With Google, I would have found articles and statistics and assembled them into a report. With Claude, I had a conversation where my understanding actually changed. The AI pushed back on my assumptions, forced me to verify claims, and helped me see blind spots. The output was not just information. It was sharper thinking.

One thing I still need to explore: I framed this entirely from the perspective of students and pantry operators. I did not consider the university administration's perspective, including budget constraints,

liability concerns, or how food insecurity data might affect a school's public image. That is a blind spot the AI identified in Step 5 that I want to dig into during partner visits.

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