

THE PROBLEM SPACE

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Opening Credits

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The Problem Space

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Choosing a Problem

You've already begun to identify the Homeland Security issues of interest to you as potential thesis topics.

Once you have identified a general topic, you can begin to zero in on the specific problem you wish to solve. We use this word "problem" in the scholarly sense of it, as a puzzle or analytical space in which inquiry may take place. Sometimes this will, indeed be a problem in the common sense: something flawed or inadequate, to which there is at least one solution. In other cases it will mean a smart practice that merits closer scrutiny or replication, a new idea to be modeled or explored, or a predictive or experimental inquiry. In all cases part of your job as the researcher is to set the parameters of your project, and explain the dynamics within them – to populate or contextualize the landscape of your project: this is what we call the problem space.

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Relevant and Applicable

Whatever kind of project you build – whatever the output of this research – it must be relevant and applicable. It must be relevant to Homeland Security (in other words address a Homeland Security-specific issue rather than, for example, a more general first-responder issue); it should contribute to the understanding or practice of Homeland Security.

You cannot produce relevant and useful research until you get your hands around the status quo: this step in the research cycle, the problem statement, is where you describe the background and the framework for your project, including contributing or compounding factors, unknown dynamics, previously attempted solutions, or other reasons you have placed the parameters of your project where they are, and the reasons this topic warrants further research. You “fill” the space you’ve marked out as your research territory.

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Focusing the Problem

It is important to remember that although this course lays out in linear fashion the discrete steps or stages of research, it is in practice an iterative and cyclical process. You may begin with a problem you know exists, and some idea of how to solve it. You will do some reading to supplement your understanding of the situation, and then begin the process of generating a research question; you will engage in a much more extensive search of the literature on your topic, looking for data, theories, other models, policies recommendations, arguments, and debate; you’ll eventually test your hypothesis, create a policy, or in some other way generate a product from your research, but throughout the entire process you will constantly question, check, and revise every prior stage. Every piece of information or evidence you find, every test you run or argument you construct, every question you ask may cause you to go back and rethink the steps before it.

In other words, it sometimes happens that the problem you thought you were solving turns out to be different from the one you actually do, or that the solution looks different from how you first envisioned it – this is normal. Research is in many ways a leap of faith, requiring a willingness to suspend yourself in a state of uncertainty, and courage to contradict, correct, or overturn your own thinking as you go. The process is one of discovery and of creative learning, not only because you will acquire skills or engage in ways of thinking likely new to you, but because the very process is about creating a nexus of the known, the unknown, and the possible.

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The Elevator Speech

The typical research project starts out very broad and amorphous, and gets systematically refined, narrowed, and focused with time and through each stage of the research process. Each of you will bite off far more than you can chew, propose a project big enough for 3 or 4 theses, and encounter difficulty achieving or maintaining focus. Again, this is normal (and

that's why you have an advisor – to keep you on track and out of the weeds). Eventually, you should be able to explain your entire thesis to a stranger in a minute or less (your “elevator speech”); in order to get to that level of distillation and clarity, though, you will need to go through all the intermediary stages of exploration and trial-and-error.

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Conditions and Costs

One way to identify a problem is through the traditional identification of its component parts: conditions and costs.

The *condition* of a research problem is the lack of knowledge or understanding associated with a certain topic, event, issue, datum, etc. In practical problems, the condition is generally more manifest as a situation unsatisfactory to the concerned parties or consumer. In both cases, the condition is linked directly to its costs or consequences: in economic terms, ignorance, lives, inefficiency, or some other cost the parties are ultimately unwilling to bear. Alternatively, you may find it more compelling or suitable to demonstrate the significance of your research not through costs, but through benefits: if you can identify tangible benefits to your research, you have just as satisfactorily improved the condition. In articulating the problem space, then, it is important to identify the condition and the costs associated with it, and thus the significance of solving it.

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Four Examples

Let's say you are interested in:

- a) Creating a new HS policy for your police department;
- b) Leveraging existing National Guard assets for your state's HS mission;
- c) Recommending the reorganization of DHS to accommodate changes in the intelligence community; or
- d) Building a model to anticipate activity and distribute personnel and resources along a border sector.¹

¹ These examples are based on actual CHDS thesis topics.

Those all seem like pretty good projects; but how does your consumer know the new policy or model is warranted, or that it will work? In order to demonstrate the relevance and utility of your research, you must begin by describing the status quo.

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Four Problem Statements

In our examples the problem statement has been reduced to a brief sentence or two where normally it is anywhere from several paragraphs to several pages:

- a) Law enforcement agencies have a very important role to play in Homeland Security. But mid-sized police departments have limited resources – personnel or funds – to apply to their HS activity, and inadequate federal guidance on how to prioritize resources or tasks in order to comply with federal HS guidelines and requirements.
- b) States do not have the capacity to perform all the necessary functions required to accomplish their HS mission – including investigation, enforcement, and protection – and do not control the assets available locally or regionally to do it.
- c) The current configuration of DHS causes redundancy, territoriality, conflicting missions, and stovepipes, especially in the areas of investigation and intelligence;
- d) There is unchecked traffic across the US-Mexico border of humans (potential terrorists), drugs (commerce that supports terrorism), and potentially WMDs. Current models and policies create a “bubble” effect in which traffic shifts around a temporarily controlled border sector into neighboring and uncontrolled ones, and an inefficient and ineffective management of resources.

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Don't Solve the Problem

Those problem statements – even the full-length versions – do not address the solution or potential solutions to those problems, but rather stick to the facts in evidence. Your job in the problem statement is only to explain or describe in as much detail as you are able the current situation (the condition), and the consequences and costs of that situation. This creates the context in which you will later be able to place your ideas, arguments, and solutions.

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Appreciative Inquiry

There is an important alternate way of understanding the problem space. Again, in academic jargon, a “problem” is not in fact necessarily problematic in the negative sense of failure, flaw, or weakness. Rather, it is more of a short-hand way of indicating a puzzle: a line of inquiry, evidentiary trail, or other condition that presents the researcher with a challenge.

We have used the term “problem” in the more conventional, everyday sense precisely because it is more common, perhaps more intuitive than the definition above. But this second definition is important to be aware of, because it provides the context in which to explore an entirely different hermeneutic: appreciative inquiry.

Appreciative inquiry is a branch of action research in the field of organizational development and change theory. It stipulates that the normative ways of seeing, leading, changing, and thinking – through problem-solving, trouble-shooting, and other fundamentally “negative” paradigms – are limiting, self-perpetuating, and inefficient. Instead, what proponents and practitioners of appreciative inquiry advocate is a pretty radical departure from the most basic assumptions about social dynamics and human nature. They argue there is a better way to trigger innovation and transformational change, throughout organizations or in leaders. There is a suggested reading at the end of this module if you are interested in learning more about appreciative inquiry, but in a research context what we’re talking about is the flip-side of problem solving. Another way to do research is to find something good, something right (in your case, about Homeland Security), and to figure out what makes it so. Instead of identifying a gap, weakness, failure, or other problem (in the literal sense), you may wish to identify a successful policy, organizational arrangement, practice, or protocol and figure it out not only why it works well and how, but also then how to replicate that success in other places.

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Closing Credits

Music