

# Teaching Undergraduates Research Methods: A “Methods Lab” Approach

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## ABSTRACT

This article introduces a “methods lab” approach to teaching undergraduates about different types of research in political science. In this approach, students are given explicit instruction on what a specific research method entails and the opportunity to practice it before conducting their own research. Methods labs can help students craft more creative research designs as well as understand the strengths and potential pitfalls associated with each method, making the subsequent process of writing a research paper or thesis easier. We provide two sample methods labs focused on conducting archival research and developing survey and interview questions. We discuss our experiences in implementing the labs in a thesis course, describe how the modular lab approach could fit into multiple types of courses, and offer suggestions for those interested in developing labs for other types of research methods.

Teaching undergraduate students research methods is a priority for many political science departments (Ishiyama and Breuning 2008). Understanding methods enables students to become better consumers of scholarship and to write stronger research papers and theses. Yet, explicit training in research methods for undergraduates—particularly in qualitative methods—remains rare (Parker 2010).<sup>1</sup> As a result, students often encounter difficulties when beginning their own research projects. Even those students who have excelled in substantive courses may struggle when attempting to work with primary sources or to generate original data for the first time. In our own experiences of teaching senior thesis courses, we also found many students to be unaware of the wide range of research methods open to them within political science.


This article describes a methods lab approach that can be used to introduce research-methods skills to undergraduates in the context of senior thesis, research methods, or substantive courses in political science. In this approach, students are given explicit instruction on research methods and the opportunity to practice them before conducting their own research. This training helps students to better understand the rules and


conventions that govern the practice of different types of research in political science and why those rules exist (Elman, Kapiszewski, and Kirilova 2015). Giving students the opportunity to practice using research methods before embarking on their own research projects can help them to craft more creative research designs. It also can help them to understand the time required and potential pitfalls associated with each type of research—making the subsequent process of writing a research paper or thesis easier.

This article presents two sample methods labs that we used in an honors thesis seminar for government majors at our institution, and it provides step-by-step instructions to implement them. In the first lab, students practiced drawing on archival materials to evaluate a set of competing hypotheses; in the second, they developed their own research question and practiced crafting both survey and interview questions to answer it. We discuss our experiences in implementing the labs and provide tips for instructors who are interested in developing their own labs or in integrating the approach into other types of courses.

## PROCESS AND IMPLEMENTATION

We piloted the methods lab approach in an honors thesis seminar for majors. In this seminar, methods instruction occurred alongside the mentorship of students as they embarked on year-long thesis projects covering a range of topics across all subfields of political science. We taught the honors seminar using the labs for two years; currently, the lab approach is being incorporated into a

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dedicated course on research methods in our department. Because each lab was designed to work as a self-contained lesson, these sample labs also could be incorporated into substantive political science courses.

A key feature of the lab approach was that it did not form part of a student's own individual research. Rather, we gave explicit instruction about a methodological tool or technique; selected a topic and gave the students a sample of existing scholarly literature; and then had them practice using the method in the context of the selected research topic. Students were allowed five days to complete the labs; they reported spending about 5 to 7 hours outside of class working on each lab.

Another key feature of the approach was that students completed the work in groups, beginning the lab during class and completing it outside of class. This approach had several benefits. We observed students collaborating successfully, both during the in-person class and in the course's virtual space. The group format

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also reduced the grading burden and allowed us to assess assignments more carefully. Although we taught the labs in the context of a relatively small seminar, the group format makes them also suitable for larger courses.

The final feature of the methods lab approach was the debriefing. When grading the assignments, we identified common problems and used them as the foundation of our debriefing lesson. This was an opportunity to teach the method again *after* the students had practiced using it. We found that the debriefing led to more student questions and deeper discussion because they had experienced roadblocks and wanted to discuss them. It also allowed us to highlight examples of student creativity.

#### **METHODS LAB #1: USING ARCHIVAL MATERIALS TO EVALUATE COMPETING HYPOTHESES**

The analysis of archival material is increasingly possible for undergraduates as important archival collections become digitized. This methods lab introduced students to an important

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and widely used archival collection—the Foreign Relations of the United States (FRUS) series online<sup>2</sup>—and had them practice using it to evaluate competing hypotheses about why the United States conducted covert operations to overthrow regimes in Latin America during the Cold War.

#### **Pre-Reading**

Students were assigned two readings in preparation for the lab. The first reading, a chapter from Howard's (2017) *Thinking Like a Political Scientist* entitled "Using Documents as Evidence," introduced students to strengths and potential pitfalls of working with archival documents. It emphasizes attention to authority, bias, and currency in written records, and it describes the process through which scholars can triangulate different sources of evidence. The second reading, the introduction to O'Rourke's (2018) book entitled *Covert Regime Change: America's Secret Cold War*, provided substantive background for this lab.

#### **Instruction on Working with Archival Evidence**

Before receiving the assignment, students were given explicit instruction on conducting archival research (see the online appendix). We discussed advantages and limitations of archival research as well as how to become oriented to the organizational scheme of

an archive, interpret individual documents, and use documents as evidence in their analysis. We provided practical tips for working with large amounts of archival material. The lesson also highlighted several collections of archival materials that have been digitized, and we provided a list of additional resources on archival research that were well suited for undergraduates.

#### **Introducing the Lab**

We assigned students into groups of four or five and distributed the Archival Methods Lab assignment (table 1). The lab asked students to draw on an assigned set of documents from the FRUS series to evaluate competing hypotheses about what motivated American regime-change efforts in the Dominican Republic in the 1960s. We also gave them a handout adapted from O'Rourke's (2018) book that explains each hypothesis and provides brief background information on the politics of the Dominican Republic (see the online appendix).

The lab instructed students to proceed in three steps: (1) specify the observable implications of each potential hypothesis; (2) read

and analyze the assigned set of documents; and (3) write a memo drawing on their documents to evaluate the plausibility of each hypothesis. In class discussion, we encouraged students to think about whether the material in their set of documents would "be consistent with" or "cast doubt on" potential explanations instead

Table 1  
Archival Methods Lab

**Learning Objectives**

After completing this lab, students will be able to:

- Identify the strengths and limitations of using archival materials to test hypotheses.
- Specify observable implications of hypotheses.
- Interpret and contextualize archival documents.

**Pre-Reading**

- Howard, Christopher. 2017. *Thinking Like a Political Scientist: A Practical Guide to Research Methods*. Chicago: University of Chicago Press, 143–68 (chapter 6).
- O'Rourke, Lindsey. 2019. *Covert Regime Change: America's Secret Cold War*. Ithaca, NY: Cornell University Press, 1–21 (chapter 1).

**Substantive Set-Up**

What motivated American efforts at regime change in the Dominican Republic in the 1960s? Scholars have put forth several different hypotheses. Some argue that the United States intervened to protect the economic interests of American firms. Others contend that the United States intervened to preserve regional hegemony or to preempt a growing Soviet threat. A final set of scholars argue that the interventions occurred because the Central Intelligence Agency “went rogue”—acting without the approval of the Executive Branch.

**Assignment Instructions**

*Prompt:* In a two-page, single-spaced memo, draw on an assigned set of archival documents from the Foreign Relations of the United States (FRUS) series online to evaluate these rival hypotheses about why the United States intervened in the Dominican Republic in the 1960s.

Step 1. Specify observable implications:

- For each hypothesis, what would you expect to see in the archival materials if the hypothesis were correct? What information would cast doubt on each?

Step 2. Read and analyze your assigned selection of archival documents:

- As you read your set of documents, compile evidence that supports or casts doubt on each hypothesis. In light of the evidence that you found, which hypotheses seem most plausible? Which, if any, can be eliminated?

Step 3. Write a memo evaluating the rival hypotheses:

- In writing your memo, be sure to identify and cite all sources transparently; triangulate from different perspectives whenever possible; and acknowledge the limitations of what you can say with the material you have.

of “proving” that one was correct. We allowed students about 30 minutes of class time to begin working on the lab. This gave them an opportunity to ask questions of the instructors and to work out a plan with their group for tackling the assignment. Each group was assigned a specific set of documents from the FRUS series (see the online appendix) and had five days to complete the assignment.

**Debriefing**

In debriefing the lab in the following class session, we asked students to describe their approach and identify any challenges. We then shared common themes that we observed in their memos. We found that the groups that struggled the most were those who did not clearly specify observable implications in advance or were too broad in what they understood to constitute evidence in support of a particular hypothesis. For example, some groups counted any mention of American firms as evidence that economic motives drove US actions, whereas other groups made a similar leap with references to the Soviet Union and the hypothesis about superpower rivalry. As a possible solution, we discussed looking at an initial sample of documents to refine the observable implications before reviewing the remaining documents. This discussion led to (1) the insight that actions taken to “preserve regional hegemony” and “preempt a Soviet threat” might appear similar to one another; and (2) the conclusion that the sample hypotheses must be specified more clearly in advance to be distinguished.

Another challenge students faced was in providing sufficient context for archival evidence cited in the memos. It was common

for memos to include a quotation without indicating the type of archival document from which it originated or the author. In the debriefing discussion, students recognized that some familiarity with the actors and institutions mentioned in a document was a prerequisite to understanding its meaning and purpose. For example, documents with “talking points” for telephone calls with counterparts in the Dominican Republic differed significantly from intelligence briefings intended for internal consumption. We emphasized to students that providing this type of context was crucial when using quotations in support of their claims. We also discussed what students did with conflicting evidence; asked them to reflect on which perspectives were missing from the material they reviewed; and asked them to brainstorm other potential sources that they might use to triangulate evidence if they were to continue this research. After the conclusion of the lab, students reported greater comfort working with archival materials; several incorporated archival sources into their theses; and we observed an improvement in their ability to specify observable implications.

**METHODS LAB #2: DEVELOPING SURVEY AND INTERVIEW QUESTIONS**

In this lab, students learned how to design survey and interview questions. Because both methods require students to work with human subjects, understand research ethics, and apply for Institutional Review Board (IRB) approval, we decided to group them together. Both methods also share an important focus on question design yet call for different styles of questions. Finally, undergraduate

research-methods textbooks commonly cite interviews and surveys as potentially useful tools for students who are conducting primary research (e.g., Baglione 2020; Johnson, Reynolds, and Mycoff 2019).

### Pre-Reading

In preparation for this lab, students were required to read the Tomz and Weeks (2013) article, “Public Opinion and the Democratic Peace,” which used survey data to explore how individuals in the United States and the United Kingdom view military action against democracies. They also were required to read the associated appendix, which included survey questions and how they were coded for analysis. We also asked students to read the introduction and appendix from Mosley’s (2013) edited volume, *Interview Research in Political Science*. Mosley’s introduction sets up the usefulness of interviews in political science research, describes examples of their use in the discipline, and discusses decisions and challenges related to using interviews. The appendix includes examples of multiple scholars’ interview materials, such as sample consent scripts and questionnaires.

### Instruction on Interviews and Surveys

As we did with the archival lab, we began the survey and interview research lab with concrete instruction on each method (see the online appendix). We discussed research ethics and explained the

process required for our institution’s IRB approval to conduct research with human subjects. We then discussed surveys, explaining their advantages and disadvantages, with a primary focus on the practical aspect of survey design. Finally, we discussed the benefits and drawbacks of interviews, highlighting how the two methods require the researcher to craft different types of questions. This lab illustrated how scholars can approach the same research question with different research methods.

### Introducing the Lab

In this lab, students first crafted a research question to build on the existing scholarship on attitudes toward immigration summarized in Hainmueller and Hopkins’s (2014) article, “Public Attitudes Toward Immigration.” Second, they developed survey questions that could help them answer their question. Third, they brainstormed a relevant group of interview subjects who were accessible to them and crafted a set of interview questions that would shed light on their question. Fourth, students prepared answers to several questions on our institution’s IRB form and drafted an informed consent letter (table 2).

### Debriefing

When we graded the interview and survey labs, we noted strengths in particular groups’ write-ups as well as common

Table 2

## Survey and Interview Methods Lab

### Learning Objectives

After completing this lab, students will be able to:

- Understand how to protect people participating in a research study and prepare IRB materials.
- Identify the strengths and limitations of surveys and interviews.
- Design survey and interview questions that take advantage of the strengths of each method.

### Pre-Reading

- Tomz, Michael R., and Jessica L. P. Weeks. 2013. “Public Opinion and the Democratic Peace.” *American Political Science Review* 107 (4): 849–65, and the associated online appendix ([OnlineAppendixTomzWeeksAPSR2013.pdf](#)).
- Mosley, Layna. 2013. *Interview Research in Political Science*. Ithaca, NY: Cornell University Press, introduction and appendix.
- Optional: Hainmueller, Jens, and Daniel J. Hopkins. 2014. “Public Attitudes Toward Immigration.” *Annual Review of Political Science* 17:225–49.

### Substantive Set-Up

In this lab, you will develop a research question about attitudes toward immigration in the United States that interview and survey data can help to explain. Immigration is a hot-button political issue, but scholars still do not fully understand what drives individual attitudes about immigration policy. Hainmueller and Hopkins (2014) surveyed the empirical findings, some of which include:

- Explanations based on the idea that attitudes are driven by immigration’s effects on an individual’s financial self-interest have not been well supported empirically (227).
- Cultural explanations seem to fare better but tend to “lack the theoretical precision of the self-interest approach” (227).
- Having more education is consistently correlated with less-restrictive immigration views, and the evidence suggests that this relationship is not driven by its connection to competition for immigration (228).
- Perceptions about the national economy as well as perceptions of national levels of immigration have been shown to influence attitudes toward immigration (230–31).
- Perhaps unsurprisingly, valuing cultural homogeneity and having negative perceptions of various immigrant groups affect immigration attitudes (231). However, “scholarship on immigration attitudes has too often treated them as isolated from partisanship and political ideology, leaving important questions about the role of party cues in immigration attitudes unanswered” (227).
- In addition, there is evidence that media coverage and portrayals of immigrants and the issue of immigration matters (234).

### Assignment Instructions

Step 1. Identify a concrete research question that your group will address to fill a gap in our current understanding of what drives attitudes on immigration.

Step 2. Develop survey questions:

- Craft two or three survey questions that you could administer to a nationally representative sample of adults to help answer the research question you have identified. Pay attention to question wording and order, and remember to see how other surveys have measured the attitudes, concepts, or behaviors in which you are interested.

*Table 2 (Continued)*

Step 3. Define your interview subjects:

- With the research question your group designed, identify the types of people who would serve as good interview subjects.
- Using the actual resources that members of your group have, how will you recruit participants?

Step 4. Develop interview questions:

- Craft five or six interview questions to help answer your research question. Pay attention to question wording and order.

Step 5. Craft an informed consent letter and responses to the following questions required for an IRB proposal:

- Will the participants incur any psychological, social, physical, or legal risk? If yes, please explain the nature of the risk and why it is necessary. Is there any alternative way of conducting the research that would be less risky to participants? If so, why have you not chosen the alternative?
- What steps will be taken to minimize the risks to participants?
- What steps will be taken to ensure confidentiality of personal data? Be specific. How will confidentiality be preserved as data are collected, stored, analyzed, and published? When will data identifying individual participants be destroyed?

*Table 3*

### Tips for Developing New Methods Labs

1. Make labs group assignments. Students will learn from working through challenges together, and it will make grading more manageable.
2. Keep it short. Students should be able to do the assignment in a week or less.
3. Situate the assignment in an existing literature. Students need some substantive background to be able to develop or interpret research questions.
4. Consider asking students to apply different research methods to the same research question. This can illustrate methods' comparative strengths and limitations.
5. Dedicate class time for beginning the lab work and debriefing. This ensures that you can identify and resolve early difficulties and address common misunderstandings.

problems. We found that our students were able to develop a research question to address a gap in the literature based on the information that they were given.<sup>3</sup> However, they struggled to frame questions in ways that would give them useful survey data and fruitful interview material. They had trouble remembering that they should not ask their participants to directly answer their research question but rather should ask questions that help them—as researchers—to answer the question. In the surveys, this meant that students often were drafting questions that asked respondents to directly assess cause and effect (e.g., “On a scale of 1 to 5, how much do you think the media you consume has impacted your policy views?”) as opposed to crafting ques-

craft questions that encourage participants to tell stories. We were able to use the debriefing to brainstorm ways to refine the questions the students had developed. At the end of the discussion, students displayed a stronger understanding of the different strengths and limitations of interviews and survey work. Some students subsequently incorporated these methods into their thesis projects.

#### ADAPTING THE LAB APPROACH FOR OTHER RESEARCH METHODS AND TYPES OF COURSES

Table 3 draws on our experience in developing labs focused on archival, interview, and survey research to provide practical sug-

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tions that capture a single concept. They needed to be reminded that survey analysis allows them to explore whether different questions have correlated responses.

For the interview questions, students had trouble crafting open-ended questions and often phrased them in ways that might cause a participant to feel as if they were being quizzed (e.g., “What did you learn about immigration in school?”). They needed to be reminded that interviews are best for generating in-depth explanations about motivations, reasoning, and processes and that the best way to elicit this type of information is to

gestions for instructors interested in developing additional labs. The methods lab approach could be used to introduce many other types of research accessible to undergraduates, such as working with focus groups composed of their peers, conducting content analysis on published speeches, developing online survey experiments, and/or building an original dataset using newspaper sources or human rights reports. Each lab could introduce a specific research method or be designed to illustrate how different methods can shed light on the same question—similar to our approach in combining interview and survey methods.



Although we taught these labs in the context of a thesis course, teaching methods as a series of lab modules could provide the structure for a dedicated research-methods course. This would allow students to practice various methodological skills without the burden of fitting new skills into a substantive research project. The lab approach also is flexible enough to incorporate into a course dedicated to substantive topics in political science. In the context of substantive courses, the labs could be built around research questions drawn from course material.

### CONCLUSIONS

During our two-year pilot program using this approach in an honors thesis seminar, we observed students develop more creative senior thesis projects with more varied research methods than those developed in previous years. In addition, whereas we had been cautioned that students would be resistant to being taught research methods, many found the lab approach quite engaging. As one student wrote in a teaching evaluation: “I found the methods labs the best part of this class—they were genuinely fun and challenging tasks.” Although not all students were as enthusiastic, both informal and formal feedback included two common refrains: (1) the labs helped them to feel better prepared to tackle their thesis projects, and (2) this type of explicit methods instruction would have been even more helpful earlier in their college career. In summary, the methods lab approach can serve as an engaging, hands-on way for instructors to introduce students to the mechanics of conducting research in political science.

### SUPPLEMENTARY MATERIALS

To view supplementary material for this article, please visit <http://doi.org/10.1017/S1049096522001366>.

### CONFLICTS OF INTEREST

The authors declare that there are no ethical issues or conflicts of interest in this research. ■

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### NOTES

1. In a survey of 200 American political science departments, Parker (2010, 123) found that only 27% required any training in research methods or design for undergraduates.
2. See <https://history.state.gov/historicaldocuments>.
3. For example, “If not economic competition, what does explain the relationship between higher education and immigration attitudes?” and “How does the media affect public attitudes about immigration?”

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### REFERENCES

- Baglione, Lisa A. 2020. *Writing a Research Paper in Political Science: A Practical Guide to Inquiry, Structure, and Methods*. Thousand Oaks, CA: CQ Press.
- Elman, Colin, Diana Kapiszewski, and Dessislava Kirilova. 2015. “Learning Through Research: Using Data to Train Undergraduates in Qualitative Methods.” *PS: Political Science & Politics* 48 (1): 39–43.
- Hainmueller, Jens, and Daniel J. Hopkins. 2014. “Public Attitudes Toward Immigration.” *Annual Review of Political Science* 17:225–49.
- Howard, Christopher. 2017. *Thinking Like a Political Scientist: A Practical Guide to Research Methods*. Chicago: University of Chicago Press.
- Ishiyama, John, and Marijke Breuning. 2008. “Assessing Assessment: Examining the Assessment Plans at 50 Political Science Departments.” *PS: Political Science & Politics* 41 (1): 167–70.
- Johnson, Janet Buttolph, Henry T. Reynolds, and Jason D. Mycoff. 2019. *Political Science Research Methods*. Ninth edition. Thousand Oaks, CA: CQ Press.
- Mosley, Layna. 2013. *Interview Research in Political Science*. Ithaca, NY: Cornell University Press.
- O’Rourke, Lindsey. 2018. *Covert Regime Change: America’s Secret Cold War*. Ithaca, NY: Cornell University Press.
- Parker, Jonathan. 2010. “Undergraduate Research-Methods Training in Political Science: A Comparative Perspective.” *PS: Political Science & Politics* 43 (1): 121–25.
- Tomz, Michael R., and Jessica L. P. Weeks. 2013. “Public Opinion and the Democratic Peace.” *American Political Science Review* 107 (4): 849–65.