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Creating and Implementing an Undergraduate Research Lab in Political Science

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ABSTRACT

Faculty members are increasingly recognizing the value of integrating high impact practices, such as undergraduate research, into the college experience. In this paper, I argue that one way of getting undergraduate students involved in political science research is to develop undergraduate research labs, wherein a small group of undergraduate students works collaboratively with a faculty member to carry out the research process from start to finish. I focus on how to develop and operate research labs at small to mid-sized institutions. I provide an overview of how I organized and conducted an undergraduate research lab and illustrate how the lab worked by describing a project that my lab recently carried out. I also describe how political science research labs can benefit students and political science programs. I end by reflecting on what I learned along the way, which I hope will be helpful to others who are considering developing similar experiences. Overall, I encourage other political scientists to develop undergraduate research labs but argue that, given the high teaching loads at many institutions, faculty should operate research labs as classes so that they count as part of one's teaching load.

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Introduction

Since the idea of “high impact practices” (HIPs) first emerged about 15 years ago, faculty members have increasingly recognized the value of integrating HIPs into the college experience. One important high impact practice is undergraduate research, and many universities and faculty members have worked hard to find ways to get students engaged in research.¹ According to the *Association of American Colleges & Universities*, “The goal [of undergraduate research] is to involve students with actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions.” Research on the effects of undergraduate research has illustrated that participation in an undergraduate research experience has a positive and statistically significant effect on deep learning, that is, “acquiring information and understanding the underlying meaning of the information” (Kuh and O’Donnell 2013). This is important since “students who use these [deep learning] approaches tend to earn higher grades and retain, integrate, and transfer

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information at higher rates” (Kuh 2008, 14). It is also worth noting that among students who are early in their college careers, participation in such experiences can lead to boosts in GPA and the probability of retention, especially among minority students.² In short, undergraduate research can yield important benefits for students, faculty members, and universities.

Within political science, there are a variety of ways to engage undergraduate students in the research process (see, e.g., Elman, Kapiszewski, and Kirilova 2015; Druckman 2015; Herrick, Matthias, and Nielson 2015). Perhaps the most commonly used approach is to have students work as research assistants or apprentices, which can be quite valuable. In this paper, I propose another way of getting students involved in political science research. More specifically, I suggest that faculty members consider creating undergraduate research labs in political science. Just to be clear, when I use the term undergraduate research lab, I am not talking about using undergraduate students as samples. Instead, I am talking about having a small group of undergraduate students work collaboratively with a faculty member to carry out the research process from start to finish. In a recent article in this journal, Becker (2020) discusses the idea of importing the laboratory model to political science. She focuses on the development of research labs at large research-intensive universities and describes one with 30 undergraduate students and five Ph.D. students. Here, I build on the research lab idea but focus on how to develop and operate research labs at *small to mid-sized institutions*. In addition, I argue that, given the high teaching loads at many institutions, faculty should operate research labs as classes.³ Offering a research lab as a semester-long course—rather than something offered in addition to one’s normal teaching duties—allows this type of work to be counted as part of one’s teaching load. Indeed, I offered my research lab as a 3-credit course and was able to count it as one of the three courses that make up my teaching load during Fall semesters. I have seen many colleagues teach 3–4 or 4–4 teaching loads and then offer research lab experiences on top of that with no credit toward their teaching load. It is important to make sure that faculty members get formal recognition for offering undergraduate research experiences, which can be time-consuming and labor-intensive.

In this paper, I describe my experiences developing an undergraduate research lab in political science, which I ran for the first time during the Fall 2019 semester, at the University of Wisconsin-Green Bay, a mid-sized (about 7,500 undergraduate students) university in the Midwest. This paper proceeds in a straightforward manner. I begin by providing an overview of how I organized and conducted the lab. I illustrate how the lab worked by describing the project that we carried out. Next, I describe how political science research labs can benefit students and political science programs. I end by providing some reflections based on what I learned along the way, which I hope will be helpful to others who are considering developing similar experiences.

Lab motivation and organization

As I would for any class, I started to develop my ideas for the research lab by outlining and then drafting a syllabus. In doing so, I thought about my overall goals for the experience. What would differentiate my research lab from other political science

classes? In my experience, political science classes often have students do part of the research process in a class (i.e., write a literature review, analyze data), but they typically don't engage in the all of the elements of the research process during the course of a semester. In addition, even if students engage in different parts of the research process across multiple courses (i.e., developing a question and hypothesis in one class, doing a literature review in another, etc.), it can be difficult for students to see how the steps fit together and what a finished (original) research paper looks like. Being able to carry out the research process from beginning to end, then, is a unique learning opportunity and one that many classes and programs do not provide. Ultimately, I decided that I wanted to create an experience that would get undergraduate students *doing the research process from start to finish*. In addition, I wanted to *foster a collaborative research environment* within my department and *generate a coauthored political science research paper* that could ultimately be submitted to a political science journal (with me and all of the lab members as coauthors).

Next, I thought about whether to do one large project or multiple smaller projects, how many students to have in the lab, and how to recruit students. Although some research labs tackle multiple projects at the same time, I decided that I wanted all of the students in my lab to collaborate on the same research project. Focusing on several projects simultaneously, as Becker (2020) describes, may work best when there are multiple faculty members running a lab (or a faculty member and numerous advanced graduate students). Next, I considered how many students I wanted to have in the lab. Given the value of HIPs discussed above, I wanted to make sure that I was able to include more than just a few students so that this unique opportunity would reach a sizeable number of students. However, I also didn't want to have too large of a group—since it would only be me operating the lab (with no graduate students to help supervise) and I wanted to make sure I could devote attention to each lab member throughout the semester (to foster a sense of mentorship and connection). Thus, I decided that I would aim for between 12 and 15 students. Ultimately, I ended up with 14 students enrolled in the lab, which was a manageable number for me and one that also allowed us to undertake an ambitious data collection project. Just to be clear, I am not advocating that all political science labs have 14 people (that was a workable number to me but you might find that a different number would work better for you), but it is important to consider how the number of students will impact different elements of the lab, such as how much attention you can devote to each student and the possible scope of your research project. My approach to recruiting students to the lab was to reach out directly to students I had in previous classes who I thought might be interested and also to ask my departmental colleagues for the names of students who they thought might want to participate in this kind of experience. Any student who I asked to participate in the lab was invited to enroll—no one was excluded after they were asked to participate. A few students who I invited to participate in the lab were unable to enroll (usually due to a scheduling conflict, such as having to work at the time the lab was offered or having another class at that time), but I encouraged these students to consider participating in a future section of the lab and/or to engage in undergraduate research in other ways (i.e., independent study, assistantship, etc.). I worked hard to recruit students with different backgrounds, experiences, and interests. For example, I made sure to get

Table 1. General overview of lab structure (15-week semester, meeting two times per week with 80 minutes per meeting).

Week	Key lab activities
Week 1	Introductions, overview of lab and goals, begin brainstorming topics that we could study.
Week 2	Continue brainstorming topics of interest. Discussion of what each student would like to learn this semester.
Week 3	Narrow down topic(s) to more manageable questions.
Week 4	Settle on research question(s). Start thinking about data we would need to answer our question(s).
Week 5	Start to identify data sources and develop a plan for data collection, measurement, and analysis. Groups decide on how to divide work among lab members.
Week 6	Begin work on data collection. Work through problems/questions.
Week 7	Continue data collection/preliminary analyses. Work through any problems/questions.
Week 8	Continue data collection/preliminary analyses. Work through any problems/questions.
Week 9	Continue data collection/preliminary analyses. Work through any problems/questions.
Week 10	Continue data collection/preliminary analyses. Work through any problems/questions.
Week 11	Work on analyses during lab. Divide paper into sections and split lab into subgroups to work on sections.
Week 11	Continue to work on analyses. Think about analyses to include in the paper. Subgroups have time during lab to begin work on their sections of research paper and consult with professor.
Week 12	Continue group work. Updates on status of different sections of the paper. Discussion of how to bring the sections together.
Week 13	Work on integrating sections of the article outside of lab. Send first draft to lab members by second meeting this week so that they can read and bring comments. Discuss current status of the paper and identify places for improvement as group.
Week 14	Work on polishing the article draft outside of lab. Send revised draft (based on feedback from last lab meeting) by second lab meeting so that lab can read and bring comments. Discuss any needed modifications to the paper as a group. Talk about what we would like to do with the article.
Week 15	Work on polishing the article draft outside of lab. Final draft of the paper should be circulated before final lab meeting. Make a decision about where to submit the paper. End of the semester lab celebration!

recommendations for possible students from colleagues who teach in different subfields of political science, use different methodological approaches, have different backgrounds, etc. My goal in doing this was to try to avoid *only* picking students who had similar interests and backgrounds as me. In addition, the literature on high impact practices has shown that it is important to expose a diverse set of students to HIPs given that they “can enhance academic and social engagement for all students” but “can have increased benefits for first-generation and other historically underserved groups” (Soria and Stebleton 2012, 681).⁴ As Becker notes, it is important to recruit a mix of students into lab experiences and to include some students “who may not see themselves as future social science researchers” (7).

My next step was to think about how the lab would be organized. Given that I decided to operate the lab as a class with its own credits (the lab counted for 3-credits, which is the typical number of credits for a course at my university), I knew that I would have a 15-week semester to work with (consisting of two meetings per week, each of which was 80 minutes long). In Table 1 below, I provide a general overview of the key lab activities throughout the semester. Generally speaking, the first few weeks of lab were focused on developing a topic of interest and some specific questions that we could answer during our semester together. In terms of generating research questions, I found it useful to come to the first few lab meetings with some general ideas to get us started. Since one of the goals of my research lab was to generate a scholarly article, I wanted to make sure that we did not deviate too far from my research interests and

expertise, which is in the area of American political behavior. During one of our early lab meetings, I brought in a recent blog post that I had written for a media outlet that focused on the nationalization of state supreme court elections in Wisconsin—nationalization simply refers to the increasing correlation between presidential and subpresidential election results (Sievert and McKee 2019). Based on previous classes I taught, I suspected that the students might be interested in a topic related to partisanship. We read the blog post I had written, which contained some basic analyses that I had done using scatterplots and correlation, and thought about ways to build upon the work. Given that my blog post focused on just one state, a natural follow-up would be to examine whether the county-level patterns that I found in Wisconsin were also occurring in other states. Students immediately picked up on this idea when I asked them what else they would want to know after reading the blog post. The students were very interested in this topic and we quickly decided that this would be our project. I think part of the reason why students liked this idea was because they could see some preliminary analyses (the idea wasn't just an abstraction) but they could also imagine what else we could do to build on and improve the research. Throughout the semester, I had students do readings to brush up on social science methods⁵ (I required students to have taken or be enrolled in social science statistics as a prerequisite), but after we decided on our research topic, I located a number of recent scholarly articles and chapters on the nationalization of elections, which we read and discussed.⁶ When discussing the readings, I made sure that we went through each element of the research (What is the research question? What does the previous literature tell us? What are the hypotheses? What are the measures/methods/data? What are the key findings? Any concerns with the research?) so that students could see how the steps in the research process fit together. In general, I found it useful to have the students take the lead in describing the key pieces of each study. Although they often lacked confidence in their answers or noted that they didn't understand some parts of a given study, it is important that students get practice engaging with academic research. The more that students read, scrutinize, and discuss scholarly research, the better they tend to get at it.

Our next step was to figure out the scope of our project—how many other states besides Wisconsin had state supreme court elections? After doing some digging, we discovered that a fairly large number of states elect their supreme courts. Thus, we would have a fair amount of data to gather. The students also learned that some states have partisan elections and some have nonpartisan elections, which led us to a discussion of whether institutional differences might influence the nationalization of supreme court elections. We decided that a good way to proceed would be to divide up the lab into smaller groups, each of which would gather data (and become experts) on three or four states. Groups were allowed to choose their states so that students would hopefully get at least one or two states of interest to them. We also decided that for each state, we would try to get data for each election from 2000 to 2018. This would allow us to gather a reasonably large amount of information (over a fairly long time period) but would also keep the project manageable since we knew that we had just one semester to collect data, conduct the analyses, and write the paper.

After the groups had their states, we decided that the next step would be to develop an Excel file that listed each state/number of counties per state, each year, and the

number of elections in each state/year. This would provide us with a sense of how much data we would have to gather. It would also allow us to keep track of our progress on the data collection portion of the project. Given that we had a sense of how to measure nationalization based on the literature we read and my blog post (which used two-party vote share in state supreme court and presidential elections), our next order of business was to spend time identifying data sources. Lucky for us, we found out that most of the county-level state supreme court election data that we needed was available online from the Secretary of State website for each U.S. state. We also located a file from the MIT Election Lab that contained county-level presidential election returns for each state, which we could use to merge into our state-level election data.

For the next part of the semester, each group worked to gather the county-level election data for each of their states. (We developed a template for data entry so that the data would be consistent across groups, which was helpful and something I would strongly advise others to do). I should note that I also took part in the data collection process to show the students that *all* members of the lab, even the faculty leader, were involved in carrying out the project. In addition to gathering election returns, the groups worked on figuring out the partisan leanings of candidates in nonpartisan states since part of our project focused on examining where there is a different relationship between presidential vote patterns and state supreme court vote patterns in partisan and nonpartisan states. The data collection portion of the project was especially interesting to students, most of whom had never gathered original data like this before.⁷ When collecting the state supreme court election results, for example, students were able to see the variation in data quality and reporting across different states. In some states, students could easily find Excel files containing county-level state supreme court election results for all of the years they needed. In other states, though, students could only find PDF documents with election results, which we then had to figure out how to digitize or convert into a more workable format. In addition, students working on some states had to contact government officials in order to get the necessary data. We spent roughly six or seven weeks of the semester on the data collection part of the project. In total, we collected roughly 15,000 county level datapoints across 18 states, and we also gathered information on the partisan leanings of each candidate in every election. The data collection experience was also valuable because it got students thinking about what other variables we might want to consider. At one point when we first started in on the data collection, a student said “We learned a lot about the incumbency advantage in your Congress class. Shouldn’t we gather data on the incumbency status of each candidate for this project?” That led to a discussion about whether incumbency could influence the relationship of interest to us. Ultimately, we decided that incumbency would be an important variable to collect and each group was tasked with gathering that information as well. Overall, I agree with Druckman (2015) that faculty members should *not* treat classes as simply “a team of research assistants... the students need to be treated as at least partial partners in the project, offering them some control over aspects of the project” (53). I should also note that an added benefit of having sets of students focus on particular states was that they learned a lot about each of their states. For instance, students quickly discovered that some of the states in our dataset changed their electoral institutions during the time frame we were studying (i.e., some states moved from

nonpartisan elections to partisan elections or vice versa). This led to interesting discussions about how we should analyze the data from such cases.

One important thing that we did while collecting data was to carve out time to do some preliminary analyses. Every so often, we would use some of the data that we had collected to see how relationships looked up to that point (i.e., creating a basic scatterplot). While it was important to stress to the lab members that our results might change once we had all of the data, students seemed to really appreciate seeing that their hard work was actually going to yield something.

Once the data collection was done, we had to decide what information to include our paper. For several weeks, we spent time during lab meetings doing analyses together using our completed dataset. Generally speaking, I would show students some basic techniques (we used SPSS statistical software), and then I would give them time to conduct further analyses, improve the appearance of graphs, ask questions, and the like. Overall, this helped them improve their data analysis and visualization skills, which is something that many of them said they wanted to get better at when we started the semester. I also think that because they were analyzing data that *they collected from scratch*, it helped them realize that the tables and charts they encounter when doing readings for other classes take a lot of work to produce.

After several weeks of working with our dataset and deciding what to include in our project, we were ready to write the paper. Again, the lab decided that the best approach would be to have smaller groups work on different sections of the paper. We spent a bit of time as a large group outlining how the paper might look and then the smaller groups were able to get to work on their sections. Once groups had drafts of their sections, we compiled them into one document, and I spent a bit of time outside of the lab meetings making sure the sections meshed well. We then went through several rounds of editing, critiquing, and improving. On the final day of the semester, we celebrated our hard work with a lab pizza party and also made a decision about which peer-reviewed journal we wanted to send the manuscript to first. I am pleased to report that our paper was accepted for publication at a peer-reviewed journal in April 2020 (Weinschenk et al. forthcoming).⁸

What do students (and political science programs) gain from a research lab?

Overall, creating and offering an undergraduate research lab was valuable and rewarding for me as a faculty member. But what practical skills do students get out of such experiences? That is, what skills do such experiences help students develop or refine? First of all, students in my lab came to *recognize the importance of collaboration in political (and social) science research*. Given the scope of our project, it would have been very difficult and time-consuming for just a few students to complete all of the data collection and analyses on their own. Having the students work together on a larger project, as opposed to breaking the lab into three or four smaller research projects with a few students per project, seemed to foster a sense of collaboration. It also seemed to foster a sense of accountability. Students always completed their share of the work and were virtually never unprepared for lab. If they encountered issues or had questions when

working on data collection outside of lab meetings, students often visited during my office hours for assistance. Second, students *gained a better understanding of the steps in the research process and how those steps connect*. In many political science classes, we ask students to write papers, but rarely do such papers entail having students carry out all aspects of the research process. We might have them write a literature review, come up with a hypothesis, develop a research design, or write a survey, but they typically don't carry out the research process from start to finish. By having students engage in each element of the process, they seemed to develop a better sense of how knowledge is created and disseminated in political science. They also learned how difficult political science research can be. During our project, every single group had questions or encountered issues while gathering data. Third, students *developed their data analysis and visualization skills*. Once we completed our dataset, we spent a fair amount of time doing statistical analyses. Quantitative skills are increasingly important in today's job market, where companies, nonprofits, and governments are gathering massive amounts of data that need to be analyzed (Lohr 2012). Indeed, such skills are highly marketable and regularly top the list of things that employers are looking for in prospective employees. One of the valuable skills that political science (and the social sciences in general) can provide students with is the ability to work with and understand quantitative information. Finally, students left the lab *better able to assess social science research*. During lab meetings, we regularly talked about research design, potential problems or shortcomings with research, and ways to improve studies. Students are most likely to become good producers and consumers of research when we give them opportunities to practice.

It is also worthwhile to consider the effectiveness of the lab model for the long-term development of students and political science programs. From the standpoint of students, participation in a research lab can help differentiate them from others when applying to graduate school. Of course, not all students who partake in a research lab will be interested in post-graduate education, but it is likely that at least some of them may eventually want to pursue graduate studies. For such students, participation in a research lab is an activity that they can include on their curriculum vitas and discuss in application letters; it is also an experience that I can highlight in recommendation letters if I am asked to write on their behalf. (Of course, if the lab's project ultimately gets published, being a coauthor on a peer-reviewed journal article is something that would almost certainly help set a student's application apart from others). Since the research lab model I used entailed a fairly small group of students, I was able to work closely with each lab member, observing how they work with others in a group setting, go about solving problems, and analyze and synthesize information. Based on my experience, these are just the types of factors that admissions committees and graduate faculty members are interested in hearing about in recommendation letters. As I noted above, I have only operated the lab one time so far, but I have already had students integrate the lab experience into graduate school application materials. In fact, one of my lab students was recently accepted into law school and was offered a research assistantship (and funding). She described her work in my research lab in her application letter, and I talked about her research skills in the recommendation letter I wrote for her. Although I am certain that numerous factors contributed to her getting a research

assistantship offer, I suspect that her participation in a research lab was looked upon favorably by those assessing her application materials—it showed that she already had some hands-on experience doing research. I should note that although participation in a research lab is an experience that is well-suited to those interested in graduate studies, it can also clearly be used by students who are applying for jobs. Similar to those applying to graduate school, students can talk about their participation in a research lab (and the skills they developed) in a cover letter or during an interview. Indeed, the activities that we engaged in throughout the research lab connect to a variety of different tasks that many of today's jobs entail—working as part of a team, managing large amounts of information, interpreting data, and developing new ideas and questions. During a job interview, being able to provide real-life examples of different skills, abilities, and experiences can be helpful in showing that one is well-prepared for the job.

In addition to the abovementioned benefits that a research lab can have for students, it is worth noting that political science departments can benefit by offering such experiences. One obvious benefit is that students improve their research abilities and can make use of the skills they have developed in other classes. Numerous colleagues have told me about students in my lab integrating ideas that we have talked about in lab into their classes. A second obvious benefit is that a research lab can enhance the scholarly record of faculty members if their lab research ultimately gets published. An additional benefit of having a research lab is that it is something a department can use in promotional materials and presentations to prospective students to demonstrate the unique curricular opportunities it offers. Potential students are often interested in learning about the different types of high-impact experiences they could participate in while completing their studies. Typically, the chance to work closely with faculty members is something that appeals to students. Thus, a research lab could be a valuable “selling point” when trying to recruit majors.

Reflections on what I learned after offering a political science research lab

Based on my experiences operating a research lab for the first time, I have a few ideas that may be useful to others considering developing a lab. First, if you have ongoing research projects, it is useful to show students different elements of your own research. At several points during the semester, I brought in some of my own research (i.e., a paper that had just received a revise and resubmit invitation) and talked to the students about the challenges and triumphs of doing research. (I shared some of the substantive findings as well). I also spent time explaining the peer review process and even showed them a few referee reports from my own research so that they could see how the scientific process unfolds. By seeing all parts of the research process, my hope is that students developed an appreciation for the scientific process. Students also found topics like this particularly interesting since most of them did not realize that scholarly articles go through peer review prior to publication.

Second, I learned that students will make mistakes when collecting and entering data. Any time a student would send me their dataset, I would do some basic checks (i.e., running descriptive statistics, looking at scatterplots) and in nearly every case I found a few mistakes (i.e., a student would enter 701 rather than 70.1 or a student wouldn't

realize that the ordering of counties was slightly different from one file to the next and would incorrectly merge two datasets). Rather than getting frustrated, my view is that we should turn these occurrences into learning experiences. Thus, when I identified an error, I would spend time with the student figuring out where they went wrong and then we would correct it. Students seemed to appreciate this approach since it was their first time gathering and entering large amounts of data. In addition, it created an opportunity to show the students how to identify potential errors in a dataset and helped them learn about the importance of accuracy when gathering and entering data.

Third, it is important to foster an environment that is positive and enjoyable. This can be done in a number of ways. For instance, every so often I would bring in food for lab members to enjoy while we worked. In addition, I did not get upset when students chatted with each other (often about topics not related to the lab) while gathering and entering data. Rarely do scholars who are collaborating on research together only talk about the research. One of the most enjoyable parts of working with other researchers on a project is the chance to learn about their background, interests, and ideas inside and outside of academia. Thus, I encouraged students to get to know each other and to chat while working on mundane tasks like data entry.

Finally, I would recommend that faculty members use social media platforms to promote their lab's work. I used Facebook and Twitter to share information about our project throughout the semester. This led to a number of positive outcomes. For instance, other scholars engaged with our work (some retweeted graphs and tables that we shared and a few even emailed us copies of manuscripts they were working on that were relevant to our project). Students were very excited when I told them about the scholars who were seeing and sharing our research. Our social media posts also created opportunities for my institution and university system to share the information that we posted. Prospective students, parents, alumni, and fellow faculty members often appreciate the chance to see and learn about what students are working on (Waite and Wheeler 2014).

Concluding remarks

In this article, I have described the creation and implementation of an undergraduate research lab in political science. Although it is clear that undergraduate labs work well in the context of research-intensive universities (Becker 2020), I have argued that it can also be valuable to operate research labs on a smaller scale. Indeed, I described the process of running a lab of 12–15 students at a mid-sized university with only an undergraduate program in political science. As I stated at the outset, faculty members must get credit for operating research labs. Thus, I would advocate for the idea that research labs be integrated into the curriculum (i.e., as an elective) and that faculty members offer research labs as part of their teaching load.

I would highly encourage other political scientists to consider creating undergraduate research labs. It was one of the most rewarding teaching experiences I've had in my career so far. It is also an ideal way to merge teaching and research, which scholars have argued we should try to do for some time now (Druckman 2015). Although my lab focused on American political behavior and used quantitative methods to analyze observational data, I want to note that I believe the lab model can be used by scholars

working in a wide range of subfields in political science and that it can also work using other methodological approaches. Indeed, it certainly seems possible to have a research lab employ approaches that differ from the one that I used in my lab (gathering election results and conducting statistical analyses), such as creating and fielding a survey, designing and implementing an experiment, conducting content analyses, or coding original texts—just to name a few. Of course, with every project it will be important to think about the scope and complexity of the project given the amount of time that is available. Having students analyze data from a preexisting survey dataset (i.e., the General Social Survey) is almost certainly going to be more straightforward and less time intensive than having students design, field, and analyze an experiment from scratch. I would note that for those who are worried about not being able to complete a project within a given semester, it may be safer to have a project thought out in advance with knowledge that the data are available. One drawback of this approach is that it gives students less input into the formation of the research idea, although I believe that students would still learn a great deal even if this approach was used because they would be doing all of the remaining steps in the research process.

One other important factor that faculty members will need to consider is the issue of how to fund research (if needed). In my example, the election results we needed were publicly available online for no charge. Of course, some studies may necessitate the purchase of a sample or money to pay subjects/participants. At many small to mid-sized universities, there is little (if any) money available to buy samples (especially an expensive one like a nationally representative sample) or to pay subjects in an experiment. If one encounters a situation like this, it may still be possible to gather data, even though it is not exactly what is preferred. For example, a research lab might be able to write a survey and field it to a representative sample of students at their university. This would still provide students with data to analyze and could be useful as a preliminary way of answering a research question or demonstrating proof of concept. As another example, it might be possible to design an experiment and field it to an undergraduate or community sample. In addition, there are now online platforms like MTurk that can be used to field surveys and experiments at relatively affordable rates. This could be worth considering if one was able to secure even a small amount of funding. Again, while it might be preferable to conduct an experiment using a nationally representative sample, this is often not feasible given the tight budgets that exist at many universities. It is important to note, though, that data from student, community, or online samples studies can still be used in publications. Indeed, many articles in political science have used student samples in experiments and some have even used such samples in survey-based research (see, e.g., Testa, Hibbing, and Ritchie 2014).

I want to end by recognizing that a research lab might start out with a manageable research idea but then hit obstacles that prevent the completion of the project. Many faculty members have probably encountered this situation in the context of their own research. My perspective is that while such an outcome may be disappointing, it is likely still possible to create a positive learning experience for students. For example, it might be valuable to have the lab discuss how things could have been done differently or to spend time outlining an approach that would have been better suited to the research. If at least some data has been collected, it may be worthwhile to have students undertake

some analyses, recognizing that the dataset is incomplete. Students can still learn about interpreting and presenting information even if you are unable to complete data collection.

In the end, my hope is that in the coming years we will start to see more undergraduate political science research laboratories emerge at universities across the globe. As I noted above, there are a wide range of considerations to think about when developing and implementing an undergraduate research lab. However, given the benefits for faculty, students, programs, and universities, I believe that research labs are well worth the effort.

Notes

1. HIPs have the following traits: they demand considerable time and effort, facilitate learning outside of the classroom, require meaningful interactions with faculty and students, encourage collaboration with diverse others, and provide frequent and substantive feedback (Kuh 2008).
2. See Tables 1–3: <https://www.radford.edu/content/dam/departments/administrative/high-impact/aacu-high-impact.pdf>
3. At my university, my research lab counts as an upper-level elective in the political science program. We have 100, 200, 300 and 400 level courses in the program, and I offered it as a 300-level course.
4. Overall, 77% of the students in the lab were women, 50% were first generation college students, and roughly 10% were from a minority racial/ethnic group.
5. I used chapters from Buttolph Johnson, J., H. T. Reynolds, and Jason D. Mycoff. 2019. *Political Science Research Methods*, 9th edition. Sage.
6. Students read Sievert and McKee (2019) and Hopkins (2018).
7. Groups did not all work at the same speed, although it was typically possible to have a group that had it completed its work assist another group with data collection. Generally speaking, I did not set many ground rules for the group work. After the first few meetings of group work, I found that groups were generally on task and working hard (I think because this was a new and exciting experience and they wanted to take advantage of it). In addition, there were really no issues around group dynamics. Again, I think that people who enrolled in the lab were genuinely excited to be a part of it and were happy to be working on original research with a faculty member and fellow students in their program. Thus, students generally came to lab meetings with a positive and collaborative attitude.
8. The paper was desk rejected at the first journal we submitted to. It then received a revise and resubmit decision at *Justice System Journal* and was accepted after two rounds of revisions.

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