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## **Assessing Undergraduate Student Learning in Political Science: Development and Implementation of the "PACKS" Survey**

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**Abstract:** We describe the creation and implementation of a new online assessment program ("PACKS") for the Department of Politics at the University of Virginia. We discuss the benefits of online assessments, including ease of administration, minimal faculty involvement, the ability to link assessment data to existing student data such as GPA and courses completed, and the ability to track student progress over time. Our assessment can easily be adapted for use by other departments within the social sciences and by other colleges and universities. We discuss drawbacks of this type of assessment including the challenge of getting the highest number of respondents. We recommend using a strong incentive to ensure full participation, such as an advising hold that prevents students from registering until they complete the assessment. We argue that implementing survey-based assessment tools is an ideal way for departments to meet their accrediting institutions' assessment requirements.

Colleges and universities are bound by their regional accrediting body to incorporate department-level assessments of student learning into their programs. Departments are required to identify specific learning objectives for their undergraduates and to develop methods for determining whether those objectives have been met. A 2013 APSA survey of political science departments indicates that a variety of methods are used to assess student learning, including participation in a senior capstone course (used by 76 percent of political science departments surveyed), rubrics (77 percent), performance assessment and culminating projects (60 percent each) and a locally-developed exam (54 percent) (Young 2016).

Each approach to assessment requires different levels of commitment from faculty and staff. The four most frequently used approaches listed above – capstones, rubrics, performance assessment, and culminating projects – demand a heavy investment of time on the part of already-overburdened faculty. Student surveys, although used less frequently by political science departments, have relatively low administrative overhead yet provide data that allow departments to measure and track not only the effects of particular courses or programs, but also individual-level learning over the course of the program. We describe how our own political science department designed and implemented an assessment program that can be adapted for use by other departments within the social sciences. We argue that survey-based assessment tools are an ideal way for departments to meet their assessment requirements.

Drawing on our experience developing an assessment program at the University of Virginia, we demonstrate that online assessments reduce faculty and classroom time devoted to assessment, facilitate evaluation over time, and increase student participation. To further reduce the burden on faculty and to increase participation while minimizing selection bias, we encourage tying online assessment programs to registration holds, which require students to complete the assessment before they can register for courses. We find that without the registration hold, the assessment oversamples high-achieving students, skewing the department's perception of how well its learning objectives are being met.

In short, the assessment program we have developed minimizes the need for faculty to observe, conduct interviews, or assess final projects. In addition, the registration hold produces a response rate of nearly 100%.

## **Overview**

We are arguing for a particular method of program assessment: online surveys that can be adapted to whatever content an individual department wishes to assess. We begin by providing details regarding the requirements of our program and the logistics of our assessment – how it is administered, how students are notified, and how participation is monitored. Next, we compare several incentive structures to demonstrate selection bias in the absence of a compliance tool such as the registration hold. We also show that online survey responses can be connected to institutional student data to explore variations in student success between groups such as athletes, minority students, and students in honors programs.

We then present ideas about how shortcomings in our assessment program might be remedied. Finally, we offer several recommendations to departments interested in implementing a similar program: getting buy-in from faculty members and graduate student teaching assistants; providing strong incentives for students to participate; and, most important, utilizing technology to streamline the administration, analysis, and usefulness of the assessment.

### **“PACKS”: The Politics Assessment of Core Knowledge Survey**

We chose to name our assessment program the Politics Assessment of Core Knowledge Survey (“PACKS”). We began designing PACKS in 2012 in response to a university requirement that each department create assessments of student learning. Prior to the development of PACKS, our department had no method of assessing student learning on a programmatic level and instead relied on individual capstone courses.

Our department’s primary learning objectives are (a) core knowledge of our four subfields: American politics, political theory, comparative politics, and international relations, (b) research-focused analytic skills; i.e., the ability to understand and conduct basic social science research, and (c) critical thinking. PACKS assesses student achievement in two of our department’s three primary learning objectives: core knowledge and research-focused analytic skills. The third objective, critical thinking, is evaluated through the work students produce in seminar courses during their third and fourth years of study and will not be addressed here.

In creating PACKS, we turned to other assessments of factual knowledge in political science, culling from introductory texts in our field, exam questions from courses in our programs, exam questions from other political science programs, and Advanced Placement tests developed by ETS in American Government and Comparative Politics. Using these questions, we built a large

bank of multiple-choice and short-answer political science core knowledge questions.

The main content of PACKS consists of multiple-choice questions designed to measure objective knowledge in political science. Each administration of the survey also includes one of six questions<sup>i</sup> designed to evaluate students' ability to interpret graphical and quantitative presentations of political science-related information; these questions measure students' social science literacy by introducing them to the kind of data they might encounter in everyday life, such as a chart illustrating the changing perceptions of Santa Claus's partisanship over time. Overall, our bank of questions provides us with multiple, direct methods to assess student learning and program effectiveness.

We drew on our bank of questions to produce six short, five-question assessment surveys. Each survey contained one question from each of our four subfields (American politics, comparative politics, international relations and political theory) and one methodological question. We administered PACKS using LimeSurvey, a free, open-source survey platform that was customized by the University of Virginia's Political Cognition Laboratory. Administering the assessment through LimeSurvey has important advantages. For example, the flexibility of LimeSurvey, especially the use of identifying tokens, allows us to link assessment scores to existing student information such as year in school, cumulative GPA, enrollment in our methods course, and whether the student has declared as a Foreign Affairs or Government major (the two options offered to students in our program). The LimeSurvey platform—or any similar online survey platform—provides a quick and easy way to send reminders, keep track of who has completed the assessment, and ensure that each student only participates once. Another important benefit is that using customized survey software gives us complete control of the data we collect.

Students were randomly assigned to one of the six versions of PACKS and were sent an email (through LimeSurvey) explaining that they must take the assessment to have their registration hold lifted. LimeSurvey uses “tokens,” unique identifiers that permit us to know who each respondent is; the token system makes it easy to send reminders to students who have not yet completed PACKS. The text of the initial email and the reminders that students received is included in Table 1.

[Table 1 goes here]

Online administration of assessments might raise concerns that students will collaborate or

look up the answers to our assessment questions or, alternatively, that students will submit answers without reading the questions. We do not believe either scenario occurs with any regularity. First, students take our university's honor code seriously and understand that outside assistance with PACKS is a violation. Second, the average and median scores on these assessments hovered around 60%. If students were looking up answers or collaborating, it seems likely that our average would be much higher. If students were randomly guessing, the median score should be closer to 20%. Instead, as Figure 2 shows, the scores of students taking PACKS in order to have their advising hold lifted are normally distributed. Third, online tests and quizzes are regularly used at our university; our students are familiar with the processes and rules that govern online assessment. That being said, we recommend that departments adopting online assessments determine whether cheating or randomly checking answers might be affecting results by either recording the amount of time students spend on each question or including attention-check items in each survey.

[Figure 2 goes here]

### **Using Registration Holds to Increase Participation**

Compliance was the biggest hurdle we faced with PACKS. Because students are inundated with university e-mails, they often do not open e-mails from department administrators. Even if they did read our e-mails, many students accidentally deleted the e-mail containing their unique link to the assessment or simply did not respond in time. To add to the problem, students have little interest and no incentive to complete assessment materials, even those that require minimal time or effort. To improve our PACKS response rate and ensure that all of our students completed the assessment – not just those who are highly motivated, interested or responsible – we offered different incentives during various administrations of the assessment, including the chance to win tickets to a campus event featuring Secretary of State John Kerry, gift cards to a local bagel shop, and t-shirts. Ultimately, we found that we could get an almost 100% response rate by preventing students from registering for classes until they completed the assessment.

We designed a system to let faculty advisors know which students had completed PACKS<sup>ii</sup> and emphasized to faculty the importance of making sure their advisees complete PACKS before removing the students' registration hold. Graduating seniors, however, are not subject to the registration hold. Having these students take PACKS was important to us for three reasons. First, seniors should display the greatest amount of core knowledge and analytical skills.

Second, from a methodology standpoint, seniors provide data on response rates for a group not tied to the registration hold. Third, having graduating seniors take the assessment helps us determine the difficulty of the various combinations of PACKS questions. To get the most from our graduating seniors' participation, we asked them to complete the questions from all six PACKS, a total of 31 questions, in order to compare the difficulty of different sets of questions for the same individual. In 2013 we offered seniors an incentive: a chance to win a department t-shirt that included the names of all graduating Politics majors (a \$15 value). We did not offer an incentive in 2014.

As you can see from Table 2, the registration hold makes a significant difference: completion of PACKS varied greatly based on the incentive offered, with the registration hold being the most effective.

[Table 2 goes here]

### **Measuring Program Effectiveness**

As students complete PACKS we are able to report program-level statistics, controlling for student background and progress in our programs. As PACKS becomes institutionalized, it will also be possible to analyze individual-level student data to determine which courses and academic milestones are producing significant factual and analytic learning.

Because the assessment was online and tied to registration holds, we can easily connect it to existing academic information – such as GPA, race or ethnicity, gender, or athletic status – without inadvertently priming stereotype threat by asking students to self-report this information (Steele 2010). We can easily access a range of data points for accreditation agencies and track students' learning as they make their way through our program. For example, to investigate concerns about the academic success of minority students compared to white students, we can use our linked data to quickly compare the PACKS scores of minority students to those of white students. Alternatively, we can show whether gender or race are tied to learning outcomes in our program. Using OLS regression of PACKS scores on the demographic and academic characteristics mentioned above, our own analysis shows that in 2014, the largest statistically significant ( $p < 0.01$ ) predictors of a student's score on PACKS were year in school<sup>iii</sup> and GPA (see Table 3). However, controlling for all other factors,

minority students were also likely to do systematically worse on PACKS than white students ( $p=0.011$ ), suggesting that we should learn more about the learning experiences of our minority students.

[Table 3 goes here]

Not only does this data integration facilitate cross-sectional analysis of different groups within our major, it also facilitates a “within-subjects” form of assessment. After students declare their major in their sophomore or junior year, they will take PACKS multiple times. We can examine their scores over time – the equivalent of a pre- and post-test design – allowing us to establish how our program is contributing to student learning outcomes.

In summary, PACKS is a powerful assessment tool not only because of its ties to registration holds but also because of our ability to integrate PACKS with existing demographic data to facilitate comparisons within and across groups.

### **Limitations**

One limitation we currently face with PACKS is content validity: it is too soon to determine whether our questions accurately reflect the knowledge students are gaining from our courses. However, as PACKS continues, we will have pre- and post-course data that will improve the accuracy of our measures. Collaboration with faculty and graduate students on question development has improved significantly and questions are more frequently tied to specific course learning objectives and knowledge.

Our biggest limitation is the way advisor holds are placed and released. While we have the ability to place an advisor hold for every major in the department, releasing the hold is at the discretion of the students’ faculty advisor, and although we have a method for informing advisors about student participation, the tracking notification system requires time and resources from our department administrative staff. We are working with the university registrar to gain permission to place a special “PACKS hold” controlled by the assessment coordinator. The PACKS hold would be similar to the type of hold students are subject to if, for example, they have excessive library fines. Being able to use a separate hold would reduce the burden on faculty by limiting the necessity for day-to-day involvement during the weeks we administer PACKS.

We are not arguing that assessment strategies like PACKS should be the *only* form of

assessment a department implements – our own department uses multiple forms of assessment. As currently designed, PACKS is best at assessing factual recall, analytical thinking, and data literacy. It cannot assess a student’s writing or ability to synthesize information gathered across the range of classes in the political science major. For departments interested in examining these learning outcomes, a capstone class or culminating project is more useful. Our department uses PACKS in conjunction with a capstone course.

### **Recommendations**

We have three recommendations for departments interested in designing a new assessment program. First, those in charge of department assessments should do everything they can to get buy-in from not just from faculty, but from graduate teaching assistants as well. We chose to create our initial question bank from multiple sources, but subsequent iterations have included more questions written by our faculty and graduate students. These questions not only improve the validity of PACKS but also demonstrate increased departmental support of the endeavor.

Second, we recommend that department assessments be tied to a very strong incentive to ensure full participation. Letting students “opt-in” to the assessment led to skewed results; once we instituted the advisor hold, our results were more varied, and, we believe, more representative.

Third, and most important, we highly recommend using technology to conduct assessments. The Limesurvey program is free and customizable, making it a good choice for departments unwilling to use their limited budget on assessment. The relatively low cost of PACKS provides an advantage over other existing survey instruments from professional organizations, such as the ETS field test. However, any online survey tool, such as Qualtrics or Google Forms, would work just as well. By using an online assessment platform we are able to connect individual assessment scores to information we already have about each student, such as race, gender, GPA, and whether they have taken a specific course. The technology gives us a way to notify students about the assessment requirement and to track student participation. Having the assessment online also makes analysis easier, especially as we track students’ progress through the program, and allows us to quickly respond to requests for data from multiple stakeholders at the department and university level. Once the online assessment is up and running, there is very little maintenance to be done, and the work can easily be handled by administrative assistants

and/or trusted graduate students.

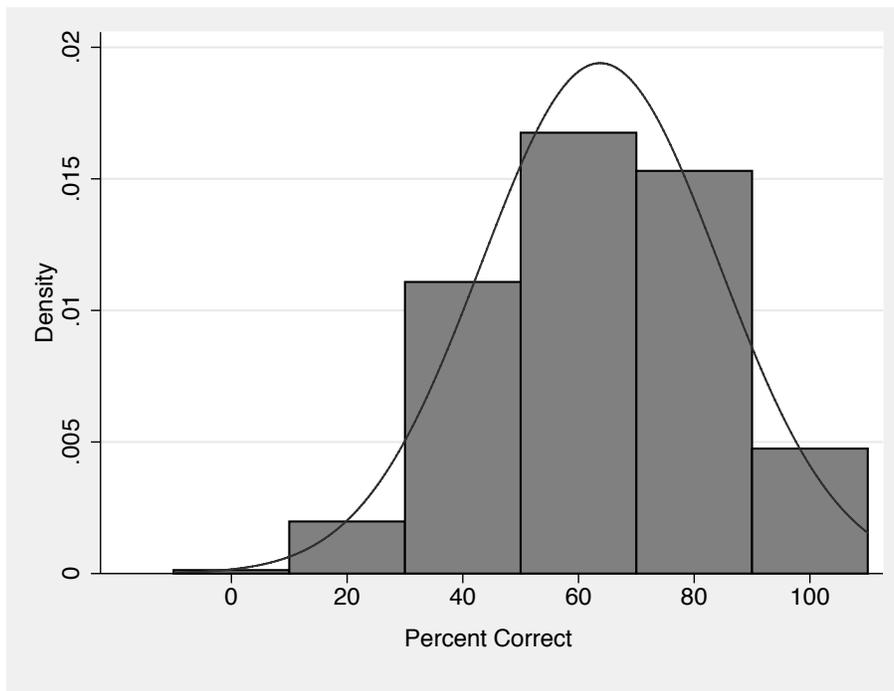
We recognize that department-level assessments are a controversial issue. Though we are fortunate to work with cooperative faculty, we realize that not every assessment coordinator will face the same level of support. Whatever the department's assessment needs and preferences, our online assessment program provides a solution by greatly reducing the burden on faculty while providing administrators with the data they require.

## References

- Steele, Claude M. 2010. *Whistling Vivaldi: How Stereotypes Affect Us and What We Can Do*. New York: W. W. Norton.
- Young, Candace C. 2016. "Survey of Assessment Practices in Political Science." *PS: Political Science & Politics* 49 (1): 93–98.

## Figures

Figure 1: Distribution of PACKS Scores (Using Advising Hold)



## Tables

Table 1: Text of Initial and Reminder Emails Sent to Students

<b>Initial Email</b>	<b>Follow-up email</b>
<p>Subject: PLEASE FILL OUT YOUR POLITICS SPRING 2014 ADVISING SURVEY</p> <p>Dear [student's name],</p> <p>You now have an Advisor Hold on your account in SIS.</p> <p><b>To have this hold released, please take these two steps:</b></p> <ul style="list-style-type: none"> <li>• Between March 24 and April 4, you will meet and/or correspond with your Major Advisor about your plans for the upcoming term. <b>Watch for emails from your advisor regarding the first step.</b></li> <li>• We are also asking you to complete this short survey about Political Science topics. Your completion of this survey will give us valuable feedback about how we are doing in helping you learn about politics. After you finish, your Advisor will be notified.</li> <li>• To take the survey, please follow this link: [survey link]</li> </ul> <p>Best wishes, [Name of the Director of Undergraduate Programs]</p>	<p>Subject: ADVISOR HOLD STILL IN PLACE: PLEASE COMPLETE THE POLITICS ADVISING SURVEY</p> <p>Dear [student's name],</p> <p>We are pleased to report that almost all of our Politics majors have had their SIS Advisor Hold removed. Remember that to have this hold removed, students are required to take a short survey (a link is provided below) and to meet with their Advisor.</p> <p>Many thanks to those of you who have completed the requirements to have your holds removed! We ask that the small number of students who have yet to take the survey and/or meet with their Advisor do so as soon as possible.</p> <ul style="list-style-type: none"> <li>• To complete the survey, please follow this link. After you complete the survey, your Advisor will be notified. [Survey link here].</li> </ul> <p>Best wishes, [Director of Undergraduate Programs]</p>

**Table 2: Registration Holds Greatly Increase Response Rates.**

Incentive (Administration date)	Response Rate (%)	Total Students Contacted
Tickets to campus event with Secretary of State John Kerry (Feb. 2013)	51.2	902
Gift card to local bagel shop (Feb. 2013)	50.8	902
Registration hold (March 2014)	99.0	506
T-shirt giveaway (graduating seniors only) (April 2014)	33.8	421

**Table 3: GPA and Year in School Predict Assessment Scores.**

	Score on PACKS (%)	Score on PACKS (%)
Cumulative GPA	9.7** (3.16)	12.8** (3.11)
Year in school	-10.7** (1.80)	3.22 (3.06)
Senior (Dummy)	--	-24.4 (4.38)
Minority	-6.5* (2.57)	-5.7* (2.49)
Athlete	1.4 (5.12)	2.0 (4.97)
Female	0.30 (2.17)	1.27 (2.11)
Government major	-0.13 (2.46)	0.84 (2.39)
Enrolled in a special program	3.1 (6.69)	3.8 (6.49)
Constant	61.55* (12.15)	12.5 (14.72)
R2	0.16	0.16
N	482	482

Note: Cell entries are OLS regression coefficients with standard errors in parentheses. Other than GPA and year in school, each variable is coded as a dummy where 1 indicates inclusion in the category described. For "Government major" the omitted category is our other major within the Politics department, Foreign Affairs. \*\*indicates statistical significance at  $p < 0.01$ . \*indicates statistical significance at  $p < 0.05$

<sup>i</sup> Included in the Appendix.

<sup>ii</sup> The initial notification system involves checking LimeSurvey each evening, compiling a list of students who have completed PACKS, and e-mailing it to faculty. We are working on ways to streamline this process.

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<sup>iii</sup> Readers might wonder why year in school seems to produce such a strong drop in PACKS scores, given that students should be able to answer more questions each year. Our PACKS administration for seniors contained substantially more questions (thirty-six) than that for non-graduating students (six), and we believe the length of this questionnaire resulted in survey fatigue. The second column of Table 2 supports this claim. When we include a dummy variable for whether a student is a senior in our program, the year in school becomes statistically insignificant and the drop in scores for seniors becomes statistically significant.