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Using Simulations in Linked Courses to Foster Student Understanding of Complex Political Institutions

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Political institutions provide basic building blocks for understanding and comparing political systems. Yet, students often struggle to understand the implications of institutional choice, such as electoral system rules, especially when the formulas and calculations used to determine seat allocation can be multilevel and complex. This study brings together an upper level Political Parties and Interest Groups course with an introductory Comparative Politics course through two-types of interaction: discussion board and a face-to-face election simulation. We administer a pretest and posttest to gauge student learning as a result of the simulation. We hypothesize that, by bringing together two courses with different levels (upper division and lower division) and emphases in bases of knowledge, we are able to enhance the experience of the election simulation to stimulate higher degrees of learning across both courses.

Keywords election simulations, linked courses, political institutions

Students of comparative politics, and of political science more generally, often struggle with understanding the workings of electoral systems. Textbook accounts of electoral systems tend to divide ideal types of electoral systems between single-member district (SMD) majoritarian or winner-take-all systems and proportional representation (PR) systems. While straightforward and advantageous, such unqualified ideal types rarely exist in reality. Conversely, most electoral systems around the world utilize more complex formulas of mixed systems combining elements of the ideal types with additional qualifying criteria or rules, such as electoral thresholds or varied adjustments in district magnitude. Additionally, supplementary readings on electoral systems tend to be either too general or election specific or rather technical in terms of presenting formulas and rules to be readily accessible to many undergraduate students. Working with a graduate teaching assistant[1] in my department, who was teaching his own course in the introduction to comparative politics for the first time in the fall of 2011, I set out to develop and implement an effective method of teaching students about comparative electoral and party systems using linked courses and election simulations.

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Using Simulations to Teach Students about Electoral Systems and Political Parties

Election simulations allow students to experience elections. This has value in teaching students about parties and elections in other countries for several reasons. First, when students passively approach electoral systems through categorization and memorization of key traits of ideal system types, they fail to retain basic differentiating criteria. Additionally, they fail to grasp how significantly different the election outcomes can be under different models, that is, the implications of electoral systems for democratic governance and specifically for the qualities of representation. Second, many students display a comfort zone in the relative familiarity of the American political system. Getting them to consider the potential merits of other models has not always proven easy. Additionally, many have appeared to struggle or even find it impossible to objectively approach political parties with which they do not personally identify. Simulations provide ways to overcome such challenges of bias or predisposition to see advantages with certain types of electoral systems or political parties by immersing students in elections.

The literature provides compelling insights for utilizing simulations to generate an "experience" for students. For instance, simulations may help to simplify complexities in political processes and systems that appear otherwise inaccessible to students. "Simulations have the power to recreate complex, dynamic political processes in the classroom, allowing students to examine the motivations, behavioral constraints, resources and interactions among institutional actors" (Smith and Boyer 1996, p. 690). Experiential learning or active learning through simulations was hailed as a way to overcome problems of student disinterest in electoral systems, as well as student difficulty in grasping intricacies or complexities of electoral system processes (Hoffman 2009). Retention of information for a longer period of time was also cited as a chief benefit of using simulations (Smith and Boyer 1996, p. 690).

Some studies suggest that traditional lectures on party or electoral system types may not be able to overcome the inertia of students to inclining them to revert to or even defend the merits of the "comfortable" American case almost reflexively. They suggest that experiencing another system helps to overcome this and that simulations can offer such an experience. Overcoming students' cultural predispositions or biases through simulation participation is a benefit noted by some scholars. For instance, Pappas and Peaden (2004, p. 859) discuss their use of election simulations with a goal of addressing their university's rural location and their state's "traditionalistic political culture" as exhibited in the ideas and values often expressed by their students. They also discuss the value of a "hands-on" technique that gets away from more traditional lecture formats to give students an experience rather than simply giving them information about an experience, that is, real-world elections (Pappas and Peaden 2004, p. 859).

Factors in Developing This Particular Simulation Model

The work on election simulations stresses several elements in successfully accomplishing the goals of the simulation. First, time in preparing students for their roles is essential prior to the simulation starting point. This may include instruction in class or readings to familiarize students with everything from the rules and procedures of the electoral system and process to strategy and behavioral factors to the

ideas and typical issue positions of the actors involved. Second, the simulation of elections is typically accomplished over several class periods, sometimes at various points in time during a semester (Hoffman 2009, p. 532; Pappas and Peaden 2004; Shellman 2001, p. 829; Smith and Boyer 1996, p. 692). This allows development of party positions or campaigning prior to voting followed by coalition formation. Some strategy and thoughtful reflection may be required in preparation for each of these phases, despite the fact that the actual occurrence of each typically plays out during class meeting sessions. Third, building block assignments may be useful to move students forward from stage to stage. This can include writing party position statements on specific issues (Hoffman 2009, p. 532), crafting a party platform or program, developing campaign speeches, brochures, or multimedia presentations (Pappas and Peaden 2004, p. 860), or readings and coaching on behavior in coalition government formation (Switky 2004, p. 102).

The simulation model presented here found particular inspiration in Shellman's (2001) presentation of a mock German election simulation where students participate in a multistage process from platform development and campaigning to a simulated election, culminating in the government-formation stage and coalition negotiations. Shellman suggests four reasons for country selection including (a) illustration of PR, (b) readily available Internet-based campaign materials for each political party, (c) building German system-specific knowledge, and (d) introduction of a global perspective in a system that is more relevant, for instance, across most of Latin America. In addition, my choice of the German case was influenced by its (a) mixed electoral system through a second ballot process whereby students get elements of both SMD and PR systems, (b) qualifying rules such as 5% electoral threshold and multimember districts based on federalism in its PR, as well as its excess seats mandate, (c) party diversity in an essentially five-party system that allows for discussion of ideological diversity across a left-right spectrum and party positioning or competition along these lines.

Of particular significance for me was this last element, that is, a competitive multiparty system with five effective or parliamentary parties spanning the ideological spectrum. I wanted to give students a flavor of multiparty politics. This is because the typical student at my university, a regional comprehensive university, is from the South, may be strongly partisan to the favor of one U.S. party, may come in with ideological predispositions and may have limited understanding of the politics in other countries. I wanted to expose them to the potential differences when more than two parties are competing, when coalition governments are typically necessary, and when the left-right ideological spectrum becomes more crowded.

The Decision to Link a Lower Division Introductory Course on Comparative Politics with an Upper Division Course on Political Parties and Interest Groups

Agent-oriented approaches in the literature on political parties stress competition and strategic action and decisions by political parties as unitary actors. I want students to have a sense of what it means to really compete as a political party. Yet, many of them seem to lack understanding of the basis for ideological differences between parties and the role that such difference plays in structuring meaningful political party competition. I have often discussed this in Downsian terms borrowing also from William Riker to draw pictures on the board of a left-right continuum of

political parties with a star marking the center point and party family labels placed along the horizontal axis (Downs 1957; Riker 1962). I then draw a normal curve over the continuum and discuss the median voter and how the "big bump" in the curve shows the space for the ideological center point (the moderate center) of an electorate. Yet, despite talk of how parties move left and right and illustrations based on this model, even introducing multidimensional axes beyond the simple left and right in traditionally economic terms, I wanted to find a way for students to get a sense of the strategic decision making behind the moves that parties might hypothetically make. Additionally, I wanted them to truly see the array and multifaceted character (multidimensional) of potential ideological positions espoused by parties and structuring their competition.

The literature on linked courses or paired courses suggests certain advantages of putting two or more classes together to enhance learning ("Paired Courses" 2012). It speaks of linked courses as a tool for building learning communities (Luebke 2002). Learning communities create bonds between students, further communication and encourage them to interact with and learn from one another, and the more time spent together the stronger these effects may become (Meinhold, Rohler, and Walker 2010). Much of the literature suggests particular advantages of the interdisciplinary nature of linked courses. My course pairings drew insight from a simulation pairing an introductory-level American politics course with two upper division courses, political parties and women and politics (Pappas and Peaden 2004).

Linked courses come with complications. A few factors to be cognizant of in planning for them follow. First, logistics can prove challenging for collaboration across courses that meet in separate locations or even at different times. Still, bringing students from two courses together in one location at certain points in the election simulation project is ideal. For this reason, ideally the courses meet at the same time and in proximate locations. However where this is not possible, using technology to connect students through discussion boards, or real-time chats or video conferencing may be an appropriate option. Second, there is the dynamic of difference in level between upper and lower division students. This may manifest itself in various forms including differences in knowledge, skills, or in major field of study. In my linked courses, I attempted to manage these differences in several ways. One way was in choosing roles in the simulation with the dynamic of difference in mind, so upper division students had leadership roles that required a deeper knowledge base in political science in the role of party ideologue. Another way was to deliberately teach students knowledge that I expected they could be deficient in, yet would need, prior to the commencement of election simulation work. I will give just a few examples. With the upper division students, I reviewed basics of party-platform design examining actual party platforms with them thoroughly. Conversely, lower division students were taught about party platforms without reading actual platforms from various parties. Additionally, with the lower division students, I emphasized electoral system design and the election process more heavily, teaching them the technical details with greater emphasis. Finally, linked courses may be more appropriate at four-year rather than two-year undergraduate institutions. At least with the model I have used, the idea is to combine upper division majors with lower division students to capture a difference in level of knowledge where students play different roles in the simulation where each can feed into the other.

The Linked Course German Election Simulation

The Lower Division Experience

Work on the simulation spans the entire semester in order to make this learning experience central (see Table 1). The class begins to talk about Germany as a reference point well ahead of that section of the course in our textbook. In Week 2, students are assigned to political parties to begin their acculturation process of getting to know their party.

Seven parties are formed: Social Democrats (SPD), Christian Democrats (CDU), Christian Social Union (CDU), Free Democrats (FDP), Die Linke, Republicans (REP), and Greens (GRU). The simulation approximates the election for three of Germany's actual 16 federal states: Hessen, Brandenburg, and Bayern. The number of districts and seats were tweaked between the fall and spring offerings based on lessons learned in the fall regarding feasibility and flow of the process. In the fall, there were 20 Bundestag seats up for election (spring change: 13 seats to allow for increase and excess mandate seat additions), divided into six single-member districts (spring change: 5 districts). Seats are distributed based on one seat for every three voters. Within the Länder, there is a single-member district per every 10 voters (spring change: per every eight voters). For an example of how this operated, the state of Brandenburg had 10 voters with three seats, one from a single-member district and two at-large seats.

Students researched the actual positions of their assigned parties over several weeks. The class had current-event assignments getting students thinking about the positions that their parties might take on issues of the day. In Week 5, individually authored party-position papers were due with a discussion of positions on economic and social policy plus one other key party issue. The research was designed to get them prepared to enter into a party-convention phase where students hammered out differences within the party on issue positions. This was carried out largely through online discussion boards over two weeks with a culminating class meeting. Party strategy was discussed in class at this point, in terms of what parties might want to do ahead of the election in positioning with the goal of attracting the most voters. In Week 8, the party platforms were due and submitted by each party leader. While this was not done this year, in future simulations a requirement that all party

Table 1. German election simulation overview

Phase	Week	Action
1	2	Party Affiliation
2	3-5	Party-Position Research
3	5	Individual Party-Platform/Manifesto papers due
4	6-7	Discussion Board Forums, Party Convention
5	8	Party Platforms due
6	9	Election Campaigning
7	10	Election Simulation
8	11	Coalition Talks-Discussion Board and in class
9	12	Coalition formation
10	12	Debriefing—What just happened?

members sign off on the document on a cover page, perhaps either showing their consent/approval or dissent/disapproval may prove useful and potentially show the level of factionalization within the party through this phase. Then came the speeches of the in-class election campaign. The election took place in class during Week 10. Students were asked to consider their role of voter separately from the role within the party, that is, to think about which party they might actually choose to support and why based on ideological similarities or issue positions, or other factors. This instruction seemed to work as strict partisan voting did not occur.

Coalition negotiations took place through an open discussion board, whereas prior discussion board use had been restricted to party members for intraparty communication. Now parties could talk to each other directly, while they still had access to the intraparty only communication as well. Five minutes were allowed at the end of each class period to allow parties to get together and, if they wanted to "secretly" talk with other parties, they could move around the classroom at this time. Finally, formal coalition negotiation and talks between parties played out with a set time limit to finalize all deals during Week 12 ending with voting to support the new government and the selection of a chancellor.

The Upper Division Experience

In the first weeks of the semester, students in the upper division course were assigned to political parties. They were told that they needed to begin to learn about these parties both for a paper assignment coming up and because they were going to later take on the role of party "ideological advisors" often given the title of Delegate General or General Secretary within political parties for a German Election Simulation. The political-parties-class students started their semester with a book by Noël and Thérien (2008) topically focused on the meaning and relevance of the left-right ideological distinction during the first four weeks of the semester. For two more weeks, they studied party competition and the role of political parties in democratic representation, so that strategic competition would be on their minds just ahead of and during the party convention. They learned about party organization and intraparty dynamics and their role of party ideologue or party general secretary was elaborated and fleshed out.

In Week 5, they submitted comparing party systems in two European countries, one of which had to be Germany. Each student presented two slides summarizing party positions and strategies. The class also talked through the structure of the German compared with the British political and electoral systems this week. In Week 5, actual Germany political party platforms were also examined in class, comparing these with party platforms from U.K. parties.

In Week 6, the link was established with the lower division class by the upper division students. They were told to post a uniform introductory note that I provided to them to the discussion board of the lower division parties for which they were assigned. This note explained what a delegate general or general secretary does within a party in two sentences and suggested that their comments would be designed to shape and steer the ideological focus of the party-platform discussion. In part, they would be there to safeguard and fine tune the presentation of the core values of the party through this process and to make sure that these were reflected in issue positions. Upper division students were instructed that they must post at a minimum twice each week and that they would be graded on the quality of these posts given

the design of their role, with extra points possible for meaningful additional contributions.

Ahead of coalition negotiations, the outcome of voting was posted and students were told that they needed to continue activity on the discussion boards. They were instructed that their role remains to serve as an ideological voice of the party, but that it may now be in the party's best interest to strategically maneuver to secure potential coalition partners. They were told to strive to maintain the primary issue positions of their party, remaining ideological consistent, but also to confront the reality of the need for compromises in order to secure coalition partners. They were instructed to focus on prioritization of party goals and reminded that, following the voting in this instance, a coalition needed to secure 12 seats to hold a majority and govern with more than 50% seat share.

Approaching Student Learning Assessment

Data to assess student learning were collected through a pretest and posttest. The pretest was administered prior to any work on the German simulation project and the posttest was administered when all work on the simulation had been concluded. It is noteworthy that even though the pretest was administered prior to in-class work on the project, some students took the initiative themselves to begin reading about Germany in the news and doing preliminary research based on the posting of this upcoming assignment on the syllabus.

Variables were developed to assess student mastery of material pertaining to political parties, ideology, and electoral systems. While data were collected to enable student classification, class level (freshman to senior), major, and number of years at this university, this preliminary data analysis has not yet attempted to make use of such variables, which may be used as further sorting criteria. The focus here was on indicators of learning. Students had a series of "familiarity" questions to show their self-perception of competence in the subject matter and then the others offer objective scores based on the number of correct components in answering the question asked. These variables are described in Appendix 1 showing coding.

Focus of the analysis revolves around two main hypotheses. Hypothesis 1 suggests that student learning occurs in courses utilizing the election simulation. Positive change in scores from pretest to posttest is expected to show this. Hypothesis 2 suggests that students in linked courses learned more than those in nonlinked courses. Higher posttest scores in linked compared with nonlinked courses should show this. Additionally, pretest-to-posttest changes on variables measured are expected to be more positive and substantial in linked courses.

Evaluating the Effectiveness of the Simulation

Initial work with descriptive statistics and correlational analysis summarized in Table 2 puts the fall linked introductory comparative politics course together with the spring nonlinked course along with data from the fall linked upper division political parties course. This comparison showed all positive and relatively strong correlations between the pre- to posttest variable and the individual indicators of student learning.

This meant that across two semesters of the introduction to comparative politics course (one paired with the upper division parties class and one not paired) and

Table 2. Correlations between pretest and posttest performance with measures of student learning

	Pre- or Posttest
Pre- or Posttest	1
Party Familiarity	.42
Platform Familiarity	.37
Positioning Familiarity	.26
Electoral System Familiarity	.30
Seat Allocation Familiarity	.32
Current Event Familiarity	.31
Spatial Positions	.22
Platform Components	.25
Electoral System Label	.11
Applied Seat Allocation	.05
Current Event ID	.06

Note. $N = 157$.

the one semester of examining the upper level parties class, learning had occurred as the direction was positive for each value (positive values suggest that, in going from pre- to posttests, scores were higher on each variable indicating student learning). The relationships were stronger between the "familiarity" indicators coded using Likert-scale values than with the objective indicators. This distinction may suggest that students felt like they had learned more than they actually did learn as suggested in the slightly lower objective evaluation question correlation values. Closer examination of the difference between pre- and posttest results confirmed student learning through the simulation. Mean scores increased for all of the 11 variables examined as shown in *t* test results evaluating the null hypothesis that student learning failed to occur from pretest to posttest (see Table 3).

The positive difference in means was statistically significant for 8 of 11 variables substantiating student learning through the election simulation.

Next, the data were split to examine whether student learning had occurred at both levels, the lower division introductory course and the upper division political parties course. Evidence of learning was established in the data through comparing pretest-to-posttest scores at each level but with some noteworthy exceptions within the upper division course. Here for three variables, Platform Components, Electoral System Label, and Applied Seat Allocation, the mean for the posttest was actually lower than the mean for the pretest among the upper division students (see Table 4).

On the 8 of 11 indicators where the posttest values exceeded those for the pretest, evidence suggests that upper division students felt more competent in their knowledge, and they demonstrated their acquired knowledge in terms of locating political-party ideological positions and in the actual seat allocation following the election. However, the upper division class did not show learning on the list of items typically contained in a party platform, the proper labels used to classify the German electoral system (mixed electoral system with PR and SMD through the two-ballot structure), and they came up with fewer correctly identified current events in Germany on the posttest.

Table 3. The *t* test results showing increasing posttest means on all variables

	Mean pretest	Mean posttest	Variance pretest	Variance posttest	*t* stat	*df*	*p* (one-tailed)
Party Familiarity	2.00	3.03	1.34	0.66	−5.96	70	.00*
Platform Familiarity	2.17	3.06	1.31	0.63	−5.16	70	.00*
Positioning Familiarity	2.59	3.15	1.19	0.70	−3.63	70	.00*
Electoral System Familiarity	2.11	2.87	1.42	0.80	−4.28	70	.00*
Seat Allocation Familiarity	1.93	2.75	1.29	0.96	−4.38	70	.00*
Current Event Familiarity	1.80	2.55	1.07	0.91	−4.25	70	.00*
Spatial Positions	1.61	2.32	2.81	2.88	−2.33	70	.01*
Platform Components	0.06	0.21	0.05	0.17	−2.79	70	.00*
Electoral SystemLabel	0.37	0.46	0.24	0.23	−1.23	70	.11
Applied Seat Allocation	0.06	0.08	0.05	0.08	−0.70	70	.24
Current Event ID	0.63	0.72	0.24	0.21	−1.03	70	.15

Note. $N = 71$. Paired pre-with posttests or 142 total tests. One hundred and fifty-seven tests were received but some could not be paired for *t* testing due to students dropping the course between pre- and posttests or student absences when tests were administered.
*$p < .01$.

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Table 4. Comparing pre- and posttest variable-level means between upper division and lower division courses

Variable	Lower division pretest	Lower division posttest	Upper division pretest	Upper division posttest
Party Familiarity	2.01	3.02	2.46	3.13
Platform Familiarity	2.10	3.00	3.23	3.50
Positioning Familiarity	2.42	3.06	3.69	3.88
Electoral System Familiarity	2.15	2.86	2.54	3.00
Seat Allocation Familiarity	1.95	2.76	2.54	2.63
Current Event Familiarity	1.77	2.53	2.38	2.63
Spatial Positions	1.41	2.29	2.46	2.63
Platform Components	0.04	0.24	0.08	0.00
Electoral System Label	0.36	0.49	0.35	0.25
Applied Seat Allocation	0.07	0.08	0.00	0.13
Current Event ID	0.66	0.73	0.73	0.63

Note. $N = 157$.

In consideration of these issues in upper division learning, several explanations seem plausible. First, the upper division students did well where emphasis was placed for their course but received less time on the German case. The number one element emphasized in the upper division course had been left-right ideology and party competition and this is where their objective learning scores improved. Second, the upper division students were not tested objectively in the course on party-system labels and technical details to classify the German system at a superficial level. Third, the upper division students spent less time working on the simulation, because their participation was graded for online collaboration but optional for attending the class meetings due to course scheduling variance.

To consider Hypothesis 2 suggesting that a lower division course benefits from collaboration or linking with an upper division course, I split the lower division course data to divide it between linked and nonlinked courses for consideration of differences in student learning. I hypothesized that all indicators would show higher values in the fall. To test this, I generated sum scores for fall (linked) and spring (nonlinked) courses adding the 11 variable scores together for each student's posttest. A *t* test confirmed this hypothesis, as there was a significant difference between fall, linked courses ($M = 46.03$, $SD = 21.44$) and the spring, nonlinked, introductory comparative politics course ($M = 38.24$, $SD = 7.79$), $t(45) = 2.05$, $p = .02$ on the posttest scores. Fall means in linked courses were 7.79 points higher, suggesting that students learned better in the linked courses.

Next, I examined the raw results on each variable (see Table 5). Fall posttest mean scores were equal to or higher than spring scores on 5 of 11 indicators, including four of the five objective indicators of knowledge gained (Spatial Positions, Electoral System Label, Applied Seat Allocation, and Current Event ID).

However, I was somewhat disappointed that this left six indicators lower for fall students than for spring students. Although five of these six indicators were the "familiarity" scores where students rate themselves on their feeling of competence

Table 5. Comparing pre- and posttest variable-level means between the linked and the nonlinked lower division courses

Variable	Fall (Linked) Pretest	Spring (Non-linked) Pretest	Fall (Linked) Posttest	Spring (Non-linked) Posttest	% change fallpre/ post	% change springpre/ post
Party Familiarity	1.74	2.32	2.96	3.06	0.70	0.32
Platform Familiarity	1.92	2.29	3.00	3.00	0.56	0.31
Positioning Familiarity	2.26	2.62	2.93	3.17	0.30	0.21
Electoral System Familiarity	2.00	2.32	2.79	2.91	0.39	0.25
Seat Allocation Familiarity	1.87	2.03	2.75	2.77	0.47	0.37
Current Event Familiarity	1.67	1.88	2.36	2.68	0.41	0.42
Spatial Positions	0.90	2.00	2.79	1.89	−0.30	−0.17
Platform Components	0.08	0.00	0.21	0.26	0.58	0.26[*]
Electoral System Label	0.51	0.18	0.50	0.49	0.05	0.66
Applied Seat Allocation	0.13	0.00	0.14	0.03	−1.64	0.03[*]
Current Event ID	0.72	0.59	0.79	0.69	0.39	0.17

Note. $N = 136$. Pre- and posttests for introduction to comparative politics, fall and spring semesters.
   *Gray boxes indicate raw differences were used rather than percent change due to actual zero values for spring, pretest means.

and, on some level, I might more easily dismiss them, as suggested above, there are reasons to value student self-ratings and feelings. So, while the result showed objective evidence that the fall, linked class had learned more than the spring one, I wanted to pursue potential reasons for the lower estimated competence in the fall.

One thought occurred to me that perhaps the raw values were not comparable measures. The pretest raw values were higher in the spring than in the fall across the first seven columns of data. In other words, perhaps comparing fall posttest outcomes to spring posttest outcomes with raw values was masking a difference between the baseline raw aptitude of the student populations at the time of the pretest. I decided that a next step in the analysis would be to add a comparison of the percent change within each class population to standardize the comparisons.

To consider the magnitude of change within a course population as a measure of learning, percent change calculations were performed and added to Table 5. This calculation provided a means of isolating the relative change over the semester for each course population, regardless of the observed differential in raw values found on the two pretest observations. Using the percentage of change allowed some ability to discern whether the spring course simply came in with a stronger knowledge base than the fall course and this, thereby, accounted for their values for certain indicators on the posttest being higher than those for the fall course where greater learning was expected. I examined closely only the variables where fall posttest values were lower

than spring posttest values, as the raw figures already suggested more learning in the linked course during the fall on the other indicators. However, here I wanted to see if, despite the lower raw numbers, some value in the linked course might become discernable if learning was defined alternately as improvement rather than through raw value scores. What I found was that the fall class improved more than the spring class on five of the six variables where they had proven inferior on the comparison of raw posttest scores with the exception of Platform Components. So where the fall class posttest scores were lower than those of the spring class, more improvement over the semester still occurred 83% of the time. So, while overall knowledge level typically trumps improvement in the eyes of most educators, that is, did a student reach a certain level of attainment, another factor that one may consider is improvement over the course of the semester. In sum, on variables where they proved weaker on the primary measure, the fall course redeemed itself somewhat by its improvement on this secondary measure of learning.

Qualitative responses to the posttest only question—"Describe what you learned by participating in the election simulation"—showed notable differences upon comparison. The fall students in the linked course used more words than the spring students, generally speaking. This may suggest that they had more to say about the experience because they engaged in it in a deeper way or it meant more to them through the linked classes, while other interpretations of word count alone are certainly possible. Additionally, the quality of what was said in response to this question showed more sophisticated insights in my estimation. While "sophistication" is something that professors know when they see it, this can be difficult to express.

Examination of the set of responses from each class revealed that there were quantitatively more of what I judged to be insightful comments in the linked course from the fall in comparison of the two instances of the lower division course. Such qualitative assessment can be difficult to gauge, so I will offer examples to illustrate key differences here. The nonlinked-course answers tended to be less specific and detailed and tended more often than not to be sentence fragments rather than complete thoughts. For instance, one student wrote that "The process of election in the German nation and political system" and such sentence fragments with nonspecific details or illustrations of what was learned were most common in this course. None of the students in the linked course made reference to the American system in addressing this question, yet several students did this in the nonlinked course. For example, one student wrote "That the German voting system is far more confusing and convoluted than the American one." Finally, while no student in either of the linked courses gave a nongermane answer to this question, this occurred quite commonly in the nonlinked course. One student wrote "Germans are crazy." Another responded, "Germany is an unbelievably nationalist country." Finally, there were some negative comments in the vein of asking why this exercise was included in this course while none were made in the linked course.

By contrast, the linked-course students seemed to show greater depth of understanding, a better overview of the multistage process that occurs and offered more details to give examples and evidence of concrete learning as they answered this question. In attesting to the value of the "experience" of the simulation, one student said simply, "I got to see firsthand how it works. This helped me understand the system better." Several other students used the phrase "hands-on experience" in describing what they learned suggesting the value of doing this. There seemed to be a greater

understanding of the complexity of the process as a multistage process beginning with party positions and then elections and then coalition formation among the fall students, as one said, "I learned about the function of political parties for the process of participation between the public and elected officials, and the current positions of the German political parties. I gained a better understanding of the complicated bargaining occurring in a coalition government." Finally, there was evidence of synthesis and analysis in the fall linked course at the lower division level, things that they had not been taught, but that they observed in the experience, and the reflection on it, such as "It takes a lot of compromise to make a successful government."

Upper division students showed qualitative evidence of learning through the linked courses, as well. Understanding of complexity and the multifaceted nature of the process came through in the comment of an upper division student as well, saying "I gained a more in depth understanding of the election processes of the country and also a better understanding of the German parties. I also learned just how important the use and formation of party coalitions are to gaining seats and exercising power in the legislature." This class also showed evidence of knowledge of the left-right spectrum and how it impacts party competition as well as elections and coalition formation. For instance, one sentence that may illustrate this in a student comment stating that "I learned the importance of finding an ideological niche when a party is strategically well-positioned it can draw the greatest number of supporters. That said a party must stay true to its philosophy, if it has no ideological identity it can never last long."

Conclusions

The simulation seemed to produce learning, based on the analysis above. This learning occurred across all three courses involved. This analysis found select evidence of differences in learning between the lower division students and the upper division students. In particular, on three objective indicators the upper division posttest scores were lower than their pretest scores. These indicators were measures of system-specific categorical elements of a party platform, classification terminology, and current events in the country and this finding suggested that certain elements such as these may be emphasized more in the introductory course but not in the upper division course that tends to be more theoretical, conceptual, and analytical in nature while the lower division course, as a survey course, emphasizes more labels and details of country systems, as well as categorization for cross-country comparison.

Quantitative analysis suggested that the linked course learned objectively more than the spring offering that was not linked. The linked course in the fall showed lower student self-assessment of competence than the spring course recorded following the simulation experience. However, on these "familiarity" or competence indicators, the linked course showed a greater magnitude of improvement over the semester. So, while objective learning results may be typically valued more highly by faculty, secondary value might also be placed on improvement over the course of the semester. When evaluating student learning based on improvement, the fall course demonstrated superiority on the competence indicators as well. Qualitative analysis revealed clear advantages. In both instances, these courses displayed more insight and sophisticated understanding of the German political parties and their positions, the election process, and coalition formation compared with that found in the nonlinked course.

Note

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References

Downs, Anthony. 1957. *An Economic Theory of Democracy*. New York: Harper Collins Publishers.

Hoffman, Donna R. 2009. "Representation and the Rules of the Game: An Electoral Simulation." *PS: Political Science & Politics* 42(3): 531–535.

Luebke, Steven R. 2002. "Using Linked Courses in the General Education Curriculum." Ft. Collins, CO: Colorado State University. http://wac.colostate.edu/aw/articles/luebke_2002.pdf (August 22, 2012).

Meinhold, Stephen, Lloyd Rohler, and Riley Walker. 2010. "A Political Scientist, Communication Studies Professor and Freshman Advisor Reflect on Participating in a Learning Community." Paper Presented at the annual meeting of the Southern Political Science Association, New Orleans, LA. http://citation.allacademic.com/meta/p_mla_apa_research_citation/0/6/8/1/3/pages68137/p68137-1.php (August 22, 2012).

Noël, Alain and Jean-Philippe Thérien. 2008. *Left and Right-Left and Right in Global Politics*. New York: Cambridge University Press.

"Paired Courses." 2012. *CENGAGE Learning*. Houghton Mifflin Company. http://college.hmco.com/instructors/ins_teachtech_foundations_module_paircourses.html (July 1, 2012).

Pappas, Christine and Charles Peaden. 2004. "Running for Your Grade: A Six-week Senatorial Campaign Simulation." *PS: Political Science & Politics* 37(4): 859–863.

Riker, William. 1962. *The Theory of Political Coalitions*. New Haven: Yale University Press.

Shellman, Stephen M. 2001. "Active Learning in Comparative Politics: A Mock German Election and Coalition-formation Simulation." *PS: Political Science & Politics* 34(4): 827–834.

Smith, Elizabeth T. and Mark A. Boyer. 1996. "Designing In-Class Simulations." *PS: Political Science & Politics* 29(4): 690–694.

Switky, Bob. 2004. "Party Strategies and Electoral Systems: Simulating Coalition Governments." *PS: Political Science & Politics* 37(1): 101–104.

Appendix 1

Description of Variable Coding

CLASS

Class Identification: Coded 9 if CPO2002- Introduction to Comparative Politics, coded 8 if POS3453 Political Parties & Interest Groups class.

SEM

Semester: The semester in which the class occurred. Fall semester CPO 2002 class had the linked course arrangement; Spring semester CPO2002 class did not. Coded 1 for fall and 0 for spring.

POST/PRE

Post- or Pretest: Whether the survey was administered post- or presimulation. Coded 1 for post and 0 for pre.

The six variables below involve questions of "familiarity" were coded 0 for "very unfamiliar" to 4 for "very familiar" with intervals of one in between. The number "2" therefore represents a "neutral" response.

FAMPART
Party Familiarity: How familiar are you with German parties?
FAMPLAT
Platform Familiarity: How familiar are you with party platforms/programs?
FAMPOS
Positioning Familiarity: How familiar are you with why parties choose certain positions?
FAMELEC
Electoral System Familiarity: How familiar are you with the German electoral system?
FAMTRANS
Seat Allocation Familiarity: How familiar are you with the process through which votes translate into seats in the German Parliament (Bundestag)?
FAMCURR
Current Event Familiarity: How familiar are you with current events in Germany?

PARTPOS
Spatial Positions: Number of correctly matched parties and ideological positions on a spatial left/right continuum diagram, coded 0 to 5 (5 = all correct).
PLATNUM
Platform Components: Identification of items typically found in a party platform. Coded 1 if all and only all items were selected, coded 0 if more than or less than all items were selected.
LABEL2
Electoral System Label: Coding of a fill-in-the-blank response to the question "What labels would you use to describe the German electoral system?" (LABEL1). Coded 1 if SMD-PR, .5 if SMD or PR, 0 if different response
SEATNUM
Applied Seat Allocation: Given an election outcome simulation of votes at the land/region level, students were asked to write the number of seats each party would get next to that party's name. Coded 1 if seats were correctly distributed, coded 0 if seats were incorrectly distributed
EVENT 2
Current Event ID: Coding of a fill-in-the-blank response to a question asking students to describe a current event in Germany in 10 words or less (EVENT). Coded 1 if student was able to identify a politically relevant current event in Germany, coded 0 if no answer given or if the current event was not evaluated as relevant or politically connected.