Thinking Critically/Writing Critically: Measuring Critical Thinking in American Government Courses

By

Linda Veazey

Midwestern State University

Department of Political Science

Wichita Falls, TX 76308

[linda.veazey@mwsu.edu](mailto:linda.veazey@mwsu.edu)

**Abstract**

This paper seeks to determine which factors correlate with success on analytical writing assignments in American government courses. American government, part of the core curriculum of all Texas public colleges. Written assignments, such as essay exam questions, in this course are meant to foster analysis in student writing and moving beyond description or memorization of material. This paper will examine exam responses from students enrolled in American government courses, and then combine this information with student demographic and college preparation information to determine which factors are associated with successful performance on analytical writing assignments in an American government course. Ultimately, this project will add to the understanding of student responses to and instructional design of writing-based assignments and in American government courses.

Keywords: Critical thinking, student learning, teaching American government

*Prepared for delivery at the 2015 Annual Meeting of the Western Political Science Association*

*Las Vegas, Nevada, April 2-4, 2015*

**Introduction**

Why did some students do well and others do not? What factors make a difference? Is it the amount of studying? How they studied? Quality of notes? Are there problems with comprehension or critical thinking? Was the material not adequately presented and discussed? Was it a bad test? Is the material just too difficult?After an exam, especially the first exam of the semester, these are questions many educators ask themselves. The concern is not with the students who did well. Their performance on the exam means they are ready to tackle new topics or examine a topic more in depth and add to their understanding of the material in the course. For many educators, the results of the first exam are a time of reflection about how to reach students who have not performed well. What factors are correlate with performance?

Although useful in all disciplines, this is a particularly salient question measuring critical thinking in a core curriculum course at a university. Just as primary and secondary education has received calls to improve educational outcomes, including in critical thinking, colleges and universities have been called upon to do the same. Core curriculum courses such as American government, particularly liberal arts institutions, serve the dual purpose of serving as an introduction to college level instruction as well as building the foundation for critical thinking necessary to succeed in upper-level coursework. General education at universities is multidisciplinary by nature, with departments like political science contributing required courses such as American government. These core courses, because they are not major-focused, are the most likely to have to show their importance in addressing critical thinking. As universities seek to show how they show gains in critical thinking during the college experience, looking at student performance on a written, analytical assessment, can offer insight into what factors correlate with success.

This paper is part of a larger project that seeks to add to the understanding of student responses to and instructional design of writing-based assignments and in American government courses. Using essay exam responses from students enrolled in American government courses at a public, regional university in Texas, combined this information with student demographic and college preparation information, this paper seeks to determine which factors are associated with successful performance on the analytical writing section on an American government exam.

**Teaching Critical Thinking**

Deepening critical thinking is a key goal of higher education. Yet, as state budgets tighten and student debt rises, universities are more likely to be asked to provide evidence these goals. The federal government and state governments seek to develop new rating systems for universities and tying at least a portion of funding to degree completion rates.[[1]](#endnote-1) This extension of the accountability and assessment movement that swept k-12 education policy in the United States is moving to the college level, where universities are now challenged to show gains in critical thinking. While growth in critical thinking is prized by educators, Arum and Roksa’s *Academically Adrift* set off a national conversation about critical thinking by positing that there are little gains in critical thinking by many college students by the time they graduate (2011). Among the tools used in their analysis was the Collegiate Learning Assessment (CLA), which has gained popularity across universities seeking to measure critical thinking. However, what tools like CLA require students to take this particular extra assessment and are not discipline specific.  Alternative tools, especially for general education, have faculty submit student work from general education courses and are assessed via rubric by faculty scorers in the same discipline as the course from which the work was submitted (Nicholas et al 2013).  One advantage of this type of approach is that it allows for the measurement of critical thinking from work produced in a course and not an additional assessment given to students for which they may or may not have any investment in doing well. It is in this vein of research on critical thinking in general education courses that this project seeks to examine critical thinking in an American government course.

Examining the teaching of critical thinking is important at the college level, but particularly important for core curriculum courses at liberal arts institutions. Part of the mandate of a liberal arts institution is interdisciplinary work and teaching students about thinking and writing critically across disciplines. Research at highly selective liberal arts colleges has shown that a multidisciplinary core curriculum that is writing-intensive promotes critical thinking through allowing students to encounter student learning approaches that are both interdisciplinary and meant to foster individual intellectual curiosity, as well as “thinking outside the box” (Tsui 2006). However, highly selective liberal arts colleges are only one venue of liberal arts education. In addition to private liberal arts colleges in the United States, there are public liberal arts colleges. This sample is drawn from a regional, public university in Texas, Midwestern State University, which is also a member of the Council of Public Liberal Arts Colleges (COPLAC).[[2]](#endnote-2) In a liberal arts setting, the development of analytical skills and writing go hand in hand.

**Teaching American Government at the College Level**

American government is a core course designed to teach about the United States government that is often a proxy in the core curriculum for a citizenship education course and an introductory political science course. These, of course, are not synonymous. These are divergent goals that American government courses are asked to balance (Ahmad 2006). However, American government often serves these dual purposes when part of the core curriculum of a university. In public universities and colleges in Texas, this is all students in Texas public colleges are required to complete two semesters of American and Texas government as part of the state core curriculum for higher education. Although mandated as two distinct courses at the two-year or community college level, four-year public institutions have to date retained the ability to design their own two-course sequences to fulfill this requirement. Midwestern State University requires a two-course sequence combining aspects of national and state government into each component course. This study is drawn from the second course in that sequence, POLS 1433, which concerns the institutions of American and Texas government.

Research on student engagement and critical thinking in political science courses is focused on pedagogical concerns for both general education and introductory courses, as well as upper-division courses. In introductory courses in political science, work on student engagement and critical thinking recent education scholarship has focused on the use of simulations in courses (Asal and Kratoville 2013; Auerbach 2013; Bridge 2014), experiential learning (Berger 2015), and undergraduate research (Elman, Kapiszewski and Kirilova 2015).  Other scholarship has sought to apply concepts such as learning and testing styles (Leithner 2011) as well as methods of confronting automatic thinking in courses (Glover and Tagliarina 2011) that come from the field of education.  In examining student performance, attendance has been found to correlate with test grades in political science courses (Tiruneh 2007). Teaching American government concepts in a comparative context leads to more effective learning (Engstrom 2008). The connective tissue through all of this research is the idea of moving beyond memorization of facts to that deeper level of understanding that educators seek, and that teaching and learning are linked. Knowledge-level teaching and assessment leads to rote learning, in which there is no transfer and students can recall information but not comprehend it (Mayer 2002). Moving to levels of analysis above rote learning is a goal of the course in this study and informed both teaching and assessment of material.

This study will examine performance an analytical essay question from a course exam in second of the two-course sequence, POLS 1433. The essay question is designed to require more than rote learning of the material, as well as provide a tool for assessing the level of analysis in which students engaged while crafting the response. Although the usefulness of writing assignments in universities that are disconnected from workplace tasks has been questioned (Addison and McGee 2010) or found that essay exams and multiple choice exams yield similar results (Franklin, Weinberg, Reifler 2014), the combination of reading and writing can produce critical thinking (Tierney et al 1989). This study will use an essay question assessment. The question is one section of an exam contains a mix of multiple choice and open-ended questions. To assess the students’ level of analysis, the open-ended question allows space to provide evidence of multiple levels of learning that begins with comprehension, but also includes analysis, application, and creation.

**Research Design**

The study is conducted at a regional, state university in which the approximately 5100 undergraduates and are primarily drawn from Texas.[[3]](#endnote-3) The students in this sample were enrolled in an American and Texas government course primarily assessed through three exams. All exams included both a multiple choice and a written portion of the exam. The first exam in this course was given at approximately the six-week mark in the course and covered the institutions of Congress and the presidency. Because it is the first course exam and falls before the final withdrawal date, the exam responses to this exam contain the highest number of students in the course. The student respondents in this sample were enrolled in one of two sections of the course for a total of 114 students in the fall semester of 2013.

The material covered during the six-week period preceding the exam consisted of the institutions of Congress and the Presidency. At the end of this period, students would be assessed on this material. The final examination in the course was not cumulative; therefore, this would be the formal assessment on this material in the course. The exam was designed for a fifty-minute class period and consisted of twenty-five multiple-choice questions, three short answer/identification questions and one essay question. Seven of the multiple choice questions concerned rules or organization of the House of Representatives and the Senate.[[4]](#endnote-4) The essay question then asked students to analyze the differences in the rules of the two chambers and reads as follows:

Exam I Essay Question:

Explain how the rules of the Senate are used in *Mr. Smith goes to Washington,* citing at least two examples.If Mr. Smith had been appointed to be member of the House of Representatives, how might the plot have unfolded differently, especially in regard to the rules? Explain this in detail and give *specific examples* in regard to the rules and procedures of both chambers.

The answer to the question would require that the student move beyond rote memorization to do well. The class would involve multiple steps and methods of conveying the material. Material needed to respond to the essay question on the exam was covered in the following ways in the course:

Essay Question Preparation

|  |  |  |
| --- | --- | --- |
| 1 | Assigned Reading | Students were assigned to read a textbook chapter on Congress in *We the People,* 8th Texas edition |
| 2 | Lecture and note-taking | Instructor lectured and students took notes on the institution of Congress, including the lawmaking process and rules of the House of Representatives and the Senate. |
| 3 | Film Viewing | Students viewed the film *Mr. Smith Goes to Washington*. |
| 4 | Film Worksheet | While watching the film, students were given a film worksheet to answer questions about the film, including questions about the ways in which Mr. Smith uses the rules of the Senate and the ways the rules are used against Smith. |
| 5 | Feedback | Students received written feedback on their worksheet responses. |
| 6 | Class Discussion | Students engaged in a class discussion about the film and its connection to the rules of the Senate. Included in this discussion, was a hypothetical question in which the setting of film was changed to the House of Representatives and students were asked to explain how the rules would be different in the House and lead to different plot outcomes. |
| 7 | Review Sheet | Students were given a review sheet approximately one week in advance of the exam. The exam review sheet included four possible essay questions, from which the one essay question for the exam would be drawn. |
| 8 | Exam Essay Question | Students given an essay question on the exam relating to Congressional rules, the film and discussion. |

Each element was a preparatory step in the learning process. The class discussed the rule of Congress through assigned reading, lecture, class discussion, and a film. After the reading and class lecture, students were shown the film *Mr. Smith Goes to Washington*.[[5]](#endnote-5) The film was accompanied by discussion about the uses of Senate rules observed in the film and the significance of using the rules, as well as questions in our discussion about the importance of Senate rules to the film’s narrative and how the rules differences in the House of Representatives could affect the narrative of the film.[[6]](#endnote-6) Students answered questions about the film on a film worksheet that contained both questions about comprehension and more analytical questions about the film. Among the questions, were those asking students to describe how the rules of the Senate were used against Mr. Smith and another asking how Mr. Smith used the rules in his favor.[[7]](#endnote-7) With both the discussion and the film worksheet, the goal was to show students why the rules of the game matter, to move beyond the basic knowledge level so that students could think critically about an institution of government.

Responses to this question were coded according to a scale of 0-3. The scale for measuring analytical responses on the essay question was developed to correspond to the Taxonomy for Teaching, Learning, and Assessment (Krathwohl 2002), widely known as Bloom’s Taxonomy, revised. The scale is constructed as follows:

Analytical Essay Response Scale

|  |  |
| --- | --- |
| 1. No Information | No information or relevant information |
| 1. Remember/Understand | Description of rule observed in film |
| 1. Apply/Analyze | Difference between the House and Senate |
| 1. Evaluate/Create | Creates new scenario, using specific rules in House of Representatives |

The essay responses were analyzed and coded according to this scale. A zero (0) on the scale would represent a response for which the student wrote no information or no relevant information to the question. A one (1) would represent a response that described at least one use of a Senate rule as seen in *Mr. Smith goes to Washington*, such as a filibuster or a quorum call. This would be either the lowest level of the taxonomy, remember, if the student simply wrote down one rule used in the film, or the next level on the taxonomy, understand, if the student was able to describe the rule used. In either case, responses such as these would answer part one of the question only and be coded as a one.

The second part of the question, which poses a hypothetical scenario in which the character of Mr. Smith in the film has been appointed to the House of Representatives instead of the Senate. To respond to this question requires the student to imagine a new setting and plot for the film. In answering this portion of the question, students would have to put together their knowledge of the rules of the House of Representatives, their understanding of the differences between the House and the Senate, and their knowledge of the film. Furthermore, successful answers to this question would show that students can synthesize information in order to use it to produce an original, evidence-based analysis of the hypothetical posed in the question. Both a two (2) and three (3) in this scale show that a student has demonstrated an ability to move beyond a knowledge-level question to a higher level thinking. However, a two (2) in this scale is used to code responses that understand the conceptual differences between the rules of the House of Representatives and the Senate, such as the fact that the House of Representatives does not have filibusters, but does not move beyond that analysis to a higher level.

The three (3), conversely, represents more metacognitive thinking because this response moves beyond mentioning to basic differences in the rules of each chamber to explaining one or more rules differences and incorporating these into the scenario of the hypothetical Congressman Smith’s use of the rules in the House of Representatives. Responses coded as three (3) are evaluating how the rules would differently affect the characters actions in the House of Representatives and creating alternative scenarios. By doing so, these responses show a much deeper learning. The metacognitive skills involved in producing responses coded as three (3) show deeper engagement with the course, but, more importantly, the type of critical thinking universities strive to develop among students. Using the essay analysis scale can be used to determine the level of analytical thinking demonstrated in the essay responses, it is then possible to investigate what factors are correlated with a strong performance or a score of three (3) on the essay analysis scale.

**Demographic Variables**

To examine the correlation between the level of analysis in the essay response and other factors, demographic and college preparation information were included as independent variables. Gains in critical thinking during college are often associated with high expectations from faculty, even though the assessment of critical thinking in universities shows that demographic characteristics such as socioeconomic status and parental educational attainment affect student scores on assessments of critical thinking (Arum and Roksa 2011).  For this sample, demographic characteristics from student records, such as race and gender will be used. Because the demographic characteristics are drawn from institutional research, there are some limitations. Data for gender is only available for students to be categorized as either “male” or “female,” as indicated in student records. Preferred gender identity information is not available for the students in this sample. For race and ethnicity, the categories used in this paper are those as indicated in university records. They are as follows:

|  |  |
| --- | --- |
| Race/Ethnicity | |
| International Student/Unknown | 0 |
| Hispanic | 1 |
| Asian | 2 |
| Black/African American | 3 |
| White | 4 |
| Native American | 5 |
| Pacific Islander | 6 |
| Two or More Races | 7 |

In addition, parental educational attainment will be captured with the dichotomous variable of whether or not students are first generation college students. Socioeconomic status will be measured using Pell Grants receipt, since Pell grants are need-based financial aid and available to students from low-income backgrounds. The only caveat to the use of Pell grants is that only students who are eligible for US federal financial aid will be captured here.

**Preparation and the Texas High School Curriculum**

The majority of students in this sample are graduates of Texas high schools and this will be a variable in the study. Important to understanding their performance in American government at the college level, is the preparation for college-level courses in the social sciences students have received in Texas public schools. American government is a required course for high school students in Texas public schools and is typically a senior-year course. Although required for high school graduation, it not a course on which the state has a formal, statewide exam, the STAAR (State of Texas Assessments of Academic Readiness) test. Subjects such as reading and math are tested beginning in grade three; however, the general subject of social studies is tested in only grade eight. Additionally, and end of course exam in US History is administered as part of STAAR testing at the high school level.[[8]](#endnote-8) Although these are the only statewide exams administered in social studies or US history, the state educational standards or TEKS (Texas Essential Knowledge and Skills) specify the teaching of social studies topics at each grade level throughout elementary, middle school, and high school courses.

The TEKS for American government at the high school level parallel much of the material taught in American government at the college level. For example, the material tested on the exam in this study was the Congress and the Presidency. These two branches of US government are covered by the TEKS for American Government at the high school level. The state educational standard regarding Congress for the high school curriculum states that students will “analyze the structure and functions of the legislative branch of government, including the bicameral structure of Congress, the role of committees, and the procedure for enacting laws.”[[9]](#endnote-9) The role of both congressional committees and the lawmaking process would, then, be covered in the American government course curriculum of Texas high schools, typically taken during the senior year of high school. Then, students would again encounter this material in a college-level American government course as part of the core curriculum of a Texas public university. Given this exposure mandated by state education standards, one variable in this study will be whether or not students were graduates of Texas high schools.

**College Preparation**

Admissions standards for the university from which the sample is drawn is a regional, public university and main criteria are the class rank and standardized test scores. As a Texas public university, the top ten percent of high school graduates receive automatic admission. Those ranking between 50 and 89% would receive admission with a minimum SAT score of 990 or an ACT score of 21. Students in the third quartile of class rank would be admitted with an SAT of 1070 or an ACT score of 23 and students in the bottom quartile would require at least an 1110 on the SAT or a 24 or higher on the ACT. This sliding scale represents what the university has determined to be markers of preparation for university courses. However, students not reaching these requirements may be admitted by review (mwsu.edu). Class rank is used because the state of Texas has specified that students in the top ten percent of their high school classes will receive automatic admission to state universities.[[10]](#endnote-10) Additionally, for comparing student performance in high school, class rank is preferable to using the high school GPA of students. GPA scales can vary school to school, with certain courses, such as Advanced Placement, receiving more weight in the GPA calculation. In fact, in this sample, no high school GPA was listed as below 2.3, regardless of class rank. Class rank will be used in this study as a measure of college preparation according to the following scale:

High School Class Rank

|  |  |
| --- | --- |
| Top 10% | 1 |
| Top 25% | 2 |
| Top 50% | 3 |
| 51-75% | 4 |
| Bottom 25 | 5 |

In addition to the dichotomous variable of graduation from a Texas high school, high school size is taken into account in this study. The size of high schools from which students graduated varied significantly in the sample. The size of the high school the student attended can be gauged through the size of the graduating class, which should be approximately a fourth of the overall high school size. University records, which indicated the student’s rank in his or her high school class, also record the size of the high school class. A variable for the size of graduating classes was created to capture this information. A small graduating class, under fifty students, would be classified as a one (1), while a graduating class of over six hundred students would be classified as a six (6).

High School Class Size

|  |  |
| --- | --- |
| Under 50 | 1 |
| 51-100 | 2 |
| 101-200 | 3 |
| 201-400 | 4 |
| 401-600 | 5 |
| 600 + | 6 |

Standardized test scores can also be used to attempt to ascertain college readiness. In addition to the university’s measures for admission, the ACT on a 36-point scale, sets its college readiness benchmarks at 18 in English, 22 in reading, 22 in math and a 23 in science (Act.org).[[11]](#endnote-11) According to the ACT, a student with these scores, adding up to a composite score of 21, would have at least a 75% chance of making a C or better in a college course. The College Board’s SAT makes similar college readiness benchmark claims. With standardized test scores used in admissions decisions and the standardized test makers publishing their findings of the correlation between student scores and college grades, the standardized test score will be a variable in this study. However, since students were free to take either the SAT or the ACT, the variable in this study for standardized test scores has been created using the equivalent scores from each exam.[[12]](#endnote-12)

Standardized Test Variable

|  |  |  |  |
| --- | --- | --- | --- |
| ACT |  | SAT |  |
| Below 21 | 1 | Below 990 | 1 |
| 21-25 | 2 | 990-1150 | 2 |
| 26-28 | 3 | 1190-1280 | 3 |
| 29-32 | 4 | 1290-1420 | 4 |
| 33+ (99th percentile | 5 | 1460+ | 5 |

**Method**

The dependent variable, a student’s essay question score on a Likert scale, was ordinal in nature. The method of analysis that takes into account; therefore, the rank ordering of the responses was required. In this setting, the research ranked students responses based on the nature of the answer. To explore the factors that influenced the development of critical thinking skills a rank ordered logistic regression method was employed. This method treats the dependent variable as a ranked ordered scale and estimates the probability of a given respondent being placed in each of the analysis categories. This enables a joint estimate the factors influencing the development of different levels of critical analysis.

In this analysis, three sets of factors will be examined. The first set includes demographic information concerning the respondents. This includes a dichotomous variable indicating if the student was a female. In addition to the gender variable two additional dichotomous variables were included in the analysis to indicate the presence of ethnic minorities. The first indicates if students were classified as “black” and the second indicates if the student was classified as “Hispanic.” To account for the social-economic status of students, a variable indicating if the student was a recipient of a Pell grant was also used as an additional demographic factor.

The next set of factors includes an analysis of the factors associated with a student’s preparation for college. The size of a high school attended may also influence the nature of a student’s preparation for college. To account for this a variable measuring the size of the high school attended is included to account for a student’s preparation to attend college.

Lastly, a student’s performance in college was also included in the analysis. A key factor in the development of critical thinking skills would be a student’s overall commitment to learning. To account for this aspect of student learning the student’s overall college GPA was included as a measure of student performance in college. Additionally, a dichotomous variable labeled “Filibuster” is also included to help measure performance. Part of the preparation for the essay question was a viewing of *Mr. Smith Goes to Washington* and part one of the essay question asked for two examples of Senate rules from the film. *Mr. Smith Goes to Washington* is best known for the use of the filibuster. It’s the climax of the film when the protagonist, Mr. Smith, uses a filibuster to attempt to stop his expulsion from the Senate and vote on dam bill that is built on corruption. Although students are asked for two examples of the use of the Senate rules in the film and there are multiple examples from which to choose, the filibuster is the easiest to include. The dichotomous variable will indicate whether or not a respondent included the filibuster in his/her essay question response.

**Findings and Discussion**

As the table indicates, demographic factors were not strongly associated with the development of critical thinking skills. Neither gender nor race was significant. Socioeconomic status, as measured with the variable Pell Grant, was not significant at all. However, the educational attainment of parents, as measured through the dichotomous variable for first-generation college students, was significant. First-generation college students were statistically associated with the development of critical thinking skills. First-generation college students were less likely to have their response coded as the display of exceptional critical thinking skills. This indicates that parents experience with college education was more influential on the development of critical thinking skills than socioeconomic status or ethnicity.

**Table 1 Analysis**

|  |  |
| --- | --- |
| **Analysis Scale** | **Coefficients Coefficients**  **Model 1 Model 2** |
| Black | .8954524   .8388352  (.5872236) (.5944901) |
| Hispanic | .1274555   .1336792  (.3975344 ) (.3964839) |
| Gender Female | -.1876973  -.1130805  **(**.3207361 ) (.3480919) |
| First Generation | -.7160803\*\*   -.711369\*\*  (.3515307 ) (.3520601) |
| Pell Grant Recipient | -.0287824   -.037175  (.3338872) (.3363227) |
| GPA Scale | .2915851 \*\* .2560827  (.1266044) (.1424396) |
| Filibuster Mentioned | 1.989221 \*\*\* 1.958092\*\*\*  (.5929068 ) (.5931169) |
| High School Size | -.3931888\*\* -.3819864\*\*  (.1527322) (.156212) |
| Standardized Test Performance  N | \_\_\_\_\_\_\_\_ .1133895  (.2054898)  79 79 |
| Log Likelihood | -76.44153 -76.29038 |
| Chi Square | 36.63\*\*\* 36.93\*\*\* |

**Note:** \*\*p<.05, \*\*\*p<.001

This result should not be surprising to educators. Higher education is an institution with its own set of official and unofficial rules for success. Students whose parents have attended college, especially those whose parents attended college at a traditional college age and in a traditional college environment, have advantages. They have models of college completion in their homes, people who can help guide them through the transition high school and college. First-generation students do not have this. The differences between high school and college may seem mysterious and difficult to maneuver.

Although the majority of the respondents were graduates of Texas high schools, where, according to the state educational standards, Congress would have been covered during their senior American government course, graduating from a Texas high school was not predictive for performance. Given the analytical nature of the essay question, this may be a different type of question than that with which students were familiar at the high school level. The state exam for eighth-grade social studies is mostly multiple-choice questions. The only other analogous state exam would be the required American history exam at the high school level. This STAAR test is similar in format to the grade eight social studies exam.[[13]](#endnote-13)

Standardized test performance was also not predictive of student performance on the analytical essay question. The ACT and SAT scores, especially their published benchmarks, are touted as indicative of college performance and measuring critical thinking. These scores were not significant. The nature of the response required to successfully answer the essay question on this exam may be different than the type of standardized testing to which students are accustomed. The ACT and SAT are primarily multiple choice in format and have a greater similarity to the required state testing than to the type of essay question response tested here. The lack of significance of this variable may indicate that standardized test results are given outsized importance in predicting a student’s ability to perform at the college level and that the factors which are associated with critical thinking are masked by standardized test scores.

In addition to a student’s status as a first-generation college student, a student’s level of preparation was also negatively associated with the development of critical thinking skills. Students that attended larger high schools tended to display less-developed critical thinking skills. As Texas continues to experience population growth, particularly in the already highly-populated, metropolitan areas, large high schools can be expected to remain a feature of education in this state and others. A large high school can offer many advantages to students, such as increased options for elective courses or advanced courses. However, bigger is not necessarily better. Looking at these results, students coming from large high schools are less likely to do well on analytical questions.

The reasons for this are speculative. For students attending Texas high schools, the material covered in this section of the course should be somewhat of a review. However, the role of standardized testing must be taken into account here. The role of the TEKS in state education should be examined in context with the realities of resource allocation and educational policy priorities. As Math and Reading are the tested subjected by which schools and federally judged, these are the subjects to which schools must commit resources. The relatively light testing of social studies and the fact that social studies passage rates do not figure into federal legislation regarding yearly progress for public schools means that this history and social studies are often deprioritized in public education. Even if social studies and, specifically, American government, is not a priority subject, all students in Texas public schools should receive relatively similar exposure to core concepts of American government concepts during the high school years. This scale, though, attempts to move beyond rote learning, which is often the level of learning where standardized test questions are located.

This focus on analytical skills and written analysis, instead of multiple-choice questions, may be a departure from the type of examinations some students have become accustomed. For first-generation students and students entering universities from large high schools where there may not be the material or human resources to focus on each individual student, these students appear to be at a disadvantage in an environment in which the necessity of critical thinking skills for success is a given. However, these are the same students who may be least aware of the expectation of critical thinking skills or their own need for improvement in this area. Educators at all levels aspire to teach critical thinking. The state exams mandated in k-12 education proclaim to test it. College professors often expect it and universities tout their success in instilling it. Yet, not all students enter the university at the same level of preparation or even the same understanding of the expectations of college coursework. The results from this study are intended to shed some light on what factors are associated with strong critical thinking skills and those needing improvement.

**Conclusions**

This paper represents the beginning of a larger project on student learning in American government courses. As colleges seek to measure critical thinking, a core course like American government, which is also a common high school course, can provide a good environment for this work. As a first step in this research, this paper examined a sample of only 114 cases, from the fall semester of 2013. The research presented here shows factors associated with both positive and negative performance on an analytical essay question. However, the inclusion of only this number of cases limits what can be learned from this research. The next step in this project will be to repeat this analysis with a larger sample of approximately 330 respondents. It is hoped that the larger sample size will lead to more generalizable conclusions.

However, this study points towards new ways of thinking about analytical skills at the college level. Before universities assess their contribution to the gains in critical thinking made among students during their college careers, it is crucial to first examine the factors that correlate with critical thinking. For students who enter college without a strong foundation in critical thinking, the task for both the students and university in instilling those skills is more difficult. First-generation students are a significant population of students, especially at public colleges, and this research suggests this group is less likely to possess strong analytical skills. Coupled with the results showing the impact of high school size, these two factors are negatively predictive of performance on the analytical scale. Identifying and intervening with these students early in their college careers may be important in changing their trajectories. Also, as universities seek to measure learning outcomes and growth in critical thinking, taking into account the extent to which students began college with these skills is a key point to consider.

**Appendix A: Relevant Multiple-Choice Questions from Exam.**

2. Which of the following best describes a way in which the House differs from the Senate?

A. Only the House has the authority to approve the president’s appointments to the federal judiciary

B. The House is a looser and more deliberative body than the Senate.

C. The House’s representatives are much less specialized than the Senate’s members.

D. **The House is more centralized and organized than the Senate.**

E. The House has a much greater level of turnover in its membership than the Senate.

6. Cloture is

A. The ability of a senator to speak for as long as he or she wishes to prevent action being taken on legislation that he or she opposes.

B. **The process by which three-fifths of the Senate can end a filibuster.**

C. The rule which allows one house of Congress to circumvent the other during the legislative process.

D. The process by which the president can end a filibuster.

E. A lawsuit filed by a member of the Senate against a member of the House or vice versa.

7. Closed rule” and “open rule” refer to congressional provisions regarding

A. Whether deliberations are closed or open to the general public.

B. Assignment to powerful committees.

C. Whether lobbyists are allowed inside Congress.

D. **Floor debate on a bill.**

E. Whether all members of the House vote on passing a bill or just members of a particular committee.

8. Who has the most real power in the Senate?

A. The Speaker of the Senate

B. **The majority and the minority leaders**

C. The Senate president pro tempore

D. The Chair of the Rules Committee

E. Unlike the House, all Senators are equal in power.

11. In the House of Representatives, the determination of the time and structure of floor debate on a bill is up to the \_\_\_\_\_\_\_.

A. Bill’s authors.

B. Majority leader

C. Ways and Means Committee.

D.  **Rules Committee**

E. Congressional staff.

13. Who is the Speaker of the House?

A. The vice president is also the Speaker of the House.

B. The representative with the longest tenure in the House is the Speaker of the House.

C. **The elected leader of the majority party in the House is the Speaker.**

D. An employee of Congress who formally brings the House into session each day is the Speaker.

E. The president selects the Speaker of the House from the majority party in the House.

**Appendix B:** **Film Worksheet: *Mr. Smith Goes to Washington***

As you watch the film, please answer the questions in this worksheet. Questions must be answered in complete sentences and paragraphs to receive full credit. You may want to take notes during the film and then complete the worksheet.

1. Although suggested by his children, why does the Governor really decide to appoint Jefferson Smith to the vacant Senate seat?
2. How does Jefferson Smith expect the Senate to work?
3. How does life and work as a senator differ from his expectations?
4. How are the rules used against Mr. Smith when he tries to speak against the dam?
5. What problems does Mr. Smith encounter with his bill for a camp for boys after it is introduced?
6. Senator Paine had been a friend of Mr. Smith’s father. How has Senator Paine changed since he went to Washington?
7. How does Mr. Smith use the rules after the Senate attempts to expel him? Give at least two examples and explain them in detail.
8. How do outside forces such as political machines and the press affect public opinion about Mr. Smith?
9. Overall, do you think *Mr. Smith Goes to Washington* is supportive or critical of the US Congress and government? Why or why not?

**References**

Addison, Joanne and Sharon James McGee. 2010. “Writing in High School/Writing in College: Research Trends and Future Directions.” *College Composition and Communication* 62(1): 147-179.

Ahmad, Iftikhar. 2006. “Teaching Government in Social Studies: Political Scientists’ Contributions to Citizenship Education.” *The Social Studies* 97(1): 8-15.

Arum, Richard and Josipa Roksa. 2011. Academically Adrift: Limited Learning on College Campuses. Chicago: University of Chicago Press.

Asal, Victor and Jayson Kratoville. 2013. “Constructing International Relations Simulations: Examining the Pedagogy of IR Simulations through a Constructivist Learning Theory Lens.” *Journal of Political Science Education* 9(2): 132-43.

Auerbach, Arthur H. 2013. “United States Supreme Court Confirmation Simulation: Learning through the Process of Experience.” *PS: Political Science and Politics* 46(4): 813-17.

Berger, Ben. 2015. “Experience and (Civic) Education.” *PS: Political Science and Politics* 48(1): 61-64.

Bridge, Dave. 2014. “You Sunk My Constitution: Using a Popular Off-the-Shelf Board Game to Simulate Political Concepts.” *Journal of Political Science Education* 10(2): 186-203.

Elman, Colin, Diana Kapiszewski and Dessislava Kirilova. 2015. “Learning through Research: Using Data to Train Undergraduates in Research Methods.” *PS: Political Science and Politics* 48(1): 39-43.

Engstrom, Richard N. 2008. “Introductory American Government in Comparison: An

Experiment.” *Journal of Political Science Education* 4(4): 394-403.

Franklin, Daniel, Joseph Weinberg, and Jason Reifler. 2014. “Teaching Writing and Critical Thinking in Large Political Science Classes.” *Journal of Political Science Education* 10(2): 155-65.

Ginsberg, Benjamin et al. (2013). *We the People*. 9th Texas Edition. New York: WW Norton.

Glover, R. W., & Tagliarina, D. 2011. “Ditching the Script: Moving Beyond “Automatic Thinking” in Introductory Political Science Courses.” *Journal of Political Science Education* *7*(4): 394-415.

Krathwohl, David R. 2002. “A Revision of Bloom’s Taxonomy: An Overview.” *Theory into Practice* 41I4): 212-18.

Leithner, Anika. 2011. “Do Student Learning Styles Translate to Different “Testing

Styles”?” *Journal of Political Science Education* 7(4): 416-33.

Mayer, Richard E. 2002. ”Rote versus Meaning Learning.” *Theory into Practice*, 41(4): 226-32.

*Mr. Smith Goes to Washington*. Directed by Frank Capra.1939. California. Company Home Video. Date. DVD.

Nicholas, Mark C. et al. 2013. “Developing and Implementing a Multidisciplinary Approach to Assess CT in General Education.” *Assessment Update* 25(4): 7-12.

Tierney, Robert et al. 1989. “The Effects of Reading and Writing upon Thinking Critically.” *Reaching Research Quarterly* 24(2): 132-173.

Tiruneh, Gizachew. 2007. “Does Attendance Enhance Political Science Grades?” *Journal of Political Science Education* 3(3): 265-76.

Tsui, Lisa.2006. “Cultivating Critical Thinking: Insights from an Elite Liberal Arts College.” *The Journal of General Education* 55(2): 200-27.

1. Tennessee College Completion Act (2010). HB9, The Higher Education Outcome-Based Performance Act (2011) instructed the Texas Higher Education Coordinating Board to recommend a performance funding model for four-year universities to the Texas legislature. [↑](#endnote-ref-1)
2. COPLAC has twenty-eight member institutions in the United States and Canada and uses a liberal arts education model at public institutions. www.coplac.org. [↑](#endnote-ref-2)
3. “MSU Facts,” Midwestern State University. <http://www.mwsu.edu/about-mwsu/quickfacts/index> (March 11, 2015). [↑](#endnote-ref-3)
4. Please see Appendix A for a listing of relevant multiple choice questions. [↑](#endnote-ref-4)
5. *Mr. Smith Goes to Washington* (1939) was chosen because it was a film in which the rules of the Senate were central to the film’s narrative. It is also a film that should be easy to follow for students and a new experience. The overwhelming majority of the students had not seen the film previously. [↑](#endnote-ref-5)
6. For information about the ways in which students were prepared for the exam, please see Appendix A. [↑](#endnote-ref-6)
7. Students were given the worksheet at the beginning of the film and asked to answer questions as they watched. The worksheet (Appendix B) was taken up on the class period after the viewing so that students had time to finish composing their responses, which were required to be written in complete sentences and paragraphs. The worksheets were graded and students given written feedback on responses. Relevant questions from the worksheet included:

   * How are the rules of the Senate used against Mr. Smith? Give a specific example and explain your response in detail.
   * How does Mr. Smith use the rules after the Senate attempts to expel him? Give at least two examples and explain them in detail.

   [↑](#endnote-ref-7)
8. “STAAR Assessed Curriculum,” Texas Education Agency. Last modified December 20, 2013. <http://www.tea.state.tx.us/student.assessment/staar/ac/> [↑](#endnote-ref-8)
9. The TEKS for United States Government are part of the Social Studies TEKS for the high school curriculum. “United States Government.” Texas Essential Knowledge and Skills. 19 TAC Chapter 113, Subchapter C, 8 (A). Accessed March 21, 2015. <http://ritter.tea.state.tx.us/rules/tac/chapter113/ch113c.html> [↑](#endnote-ref-9)
10. Students in the top ten percent of their high school graduating classes, as well as meeting college readiness benchmarks as defined by SAT/ACT scores or state exams, such as STAAR, receive automatic admission to Texas universities. Sec. 51.803 Education code. Title 3. Chapter 51.803 [↑](#endnote-ref-10)
11. These are the readiness benchmarks from the ACT. <http://www.act.org/solutions/college-career-readiness/college-readiness-benchmarks/> [↑](#endnote-ref-11)
12. If a student had scores for both the SAT and ACT, the higher of the two scores was chosen. Score equivalencies for the ACT and SAT can be found here: <http://www.act.org/solutions/college-career-readiness/compare-act-sat/> [↑](#endnote-ref-12)
13. STAAR released questions. [↑](#endnote-ref-13)