Assessing Student Performance in Written Communication: An Evaluation of the University of Kentucky’s Quality Enhancement Plan

Abigail Stockwell
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Martin School of Public Policy and Administration
Graduate Capstone
Faculty Advisor: Eugenia Toma, PhD
# Table of Contents

**Executive Summary** ................................................................................................. 3

**Introduction** ............................................................................................................... 4

**Literature Review** ..................................................................................................... 7

Assessing Student Achievement .................................................................................. 8

Student Performance Standards .................................................................................... 10

The Assessment Tool .................................................................................................... 11

**Research Design** ..................................................................................................... 12

Data Sources .................................................................................................................. 13

The Written Communication VALUE Rubric ............................................................... 15

Research Questions ....................................................................................................... 16

Hypotheses ..................................................................................................................... 16

Empirical Strategy ......................................................................................................... 16

Estimating Equation ...................................................................................................... 18

**Results** ..................................................................................................................... 18

Descriptive Statistics .................................................................................................... 18

Empirical Results .......................................................................................................... 22

Discussion of Findings ................................................................................................. 22

**Limitations** ............................................................................................................... 25

**Recommendations** .................................................................................................. 27

**Works Cited** ............................................................................................................. 30

**Appendix** .................................................................................................................. 35
Executive Summary

University of Kentucky assessment findings reveal that UK undergraduate students are not meeting expectations in the area of written communication. More specifically, compared to other four-year institutions, UK students are not achieving expected levels of value-added from their junior to senior year in analytic writing tasks. In response to these findings, UK launched the Quality Enhancement Plan (QEP), Presentation U – a multimodal communication training initiative. One of the initiative’s core components is the Faculty Fellows Program. Faculty members who choose to participate in the program receive training in oral, written, and visual communication instruction. UK has invested a great deal of time and resources into this program in the hope that it will increase student performance in written communication.

This study evaluates the effectiveness of Presentation U, asking whether students taught by Presentation U Faculty Fellows are more likely to perform higher in the area of written communication compared to similar students whose instructors did not participate in the training program. Additionally, I examine whether the impact of Presentation U varies across key demographics related to the university, course, professor, and student.

Presentation U is assessed against another university assessment initiative – the Multi-State Collaborative (MSC). Student work from both initiatives are scored according to the same Written Communication VALUE rubric and results are compared, controlling for key explanatory variables using a modified production function model with repeated cross-sectional analysis. Results show that Presentation U has no effect on a student’s overall average score; however, the initiative has a negative effect on the rubric criterion “Sources and Evidence” and a positive effect on the rubric criterion “Control of Syntax and Mechanics.”
Introduction

As an accredited, reputable university, the University of Kentucky (UK) engages in several assessment initiatives. Budgets, school rankings, and retention rates are just a few of the performance metrics the university employs to ensure its continual improvement. While these measures communicate valuable information to the university, left alone, they provide an incomplete, insufficient picture of the organization’s true success. As the fundamental purpose of a university is to educate individuals, it is only fitting the University of Kentucky includes student learning and performance in its equation for achievement. Given the inherent value of such an assessment, UK evaluates student learning at the course, program, and university level. The Collegiate Learning Assessment is one way the university directly assesses student learning across undergraduate disciplines.

The Collegiate Learning Assessment (CLA) is a performance-based, undergraduate assessment initiative. Developed by the Council for Aid to Education, the CLA is designed to evaluate student learning in the following general education competencies: critical thinking, analytic reasoning, problem solving, and written communication (University of Kentucky 2015). The University of Kentucky’s participation in the CLA helps satisfy the following standard set forth by the institution’s regional accrediting body, The Southern Association of Colleges and Schools Commission on Colleges (SACSCOC): “The institution identifies college-level general education competencies and the extent to which students have attained them” (2017, 86). The data provided by the CLA is used to assess student learning against UK’s own internal standards, as well as to compare UK’s students to those of similar institutions.
The University of Kentucky began participating in the CLA initiative in the fall of 2007, assessing student learning in general education in the core competencies identified above (University of Kentucky 2015). The CLA is a four-year project, first administered in 2007 to 300 randomly selected freshmen students. In 2009, the same students examined as freshmen were assessed again as rising juniors and then once more in 2011 as seniors. As the CLA exam is a voluntary initiative, some students declined to take the follow-up exams. Additionally, others graduated, transferred, or dropped out by the dates of subsequent exams. Therefore, accounting for the aforementioned limitations, UK collected data for at least 100 of the initial 300 evaluated students. Initial exams were again distributed in the fall of 2011 and again in 2014. Follow-up exams were/will be administered in 2015 and 2018, respectively. Initial data have indicated that UK students are improving “below expected levels” from their junior year to senior year in the area of written communication, more specifically, in analytic writing tasks (University of Kentucky 2015). Expected levels of achievement are determined by an institution’s value-added score. A low-value added score indicates that the gain (effectively, student learning) achieved by an institution’s students is lower than what would “typically be observed at schools testing students of similar entering academic ability” (Council for Aid to Education 2015, 7). As compared to other four-year institutions, UK senior students are not meeting expectations in this core competency.

The University of Kentucky is required by its accrediting body, SACSCOC, to create and implement an initiative that “…addresses a well-defined and focused topic or issue related to enhancing student learning” (Southern Association of Colleges and Schools Commission on Colleges 2017, 39). In response to its accreditation requirement and the university’s growing
concern regarding student performance in written communication, UK launched the Quality Enhancement Plan (QEP)–Presentation U.

The University of Kentucky Quality Enhancement Plan (QEP), Presentation U, is the result of a broad-based, campus-wide effort to develop a long-range strategy for improving student learning. The QEP builds on communication skills developed through the UK Core (general education) curriculum by targeting the development of multimodal communication skills in upper-division undergraduate students. The QEP vertically integrates instruction and assessment of three types of communication skills: Oral (sounds, speaking, and listening); Written (words, reading, and writing); and Visual (nonverbal symbols, images, and seeing). (University of Kentucky 2013)

UK’s selection of multi-modal communication was influenced in part by a growing conversation about the merit of multi-modal communication instruction in higher education (University of Kentucky 2013). With this study, I evaluate the effectiveness of UK’s Presentation U Program in increasing student performance in written communication. In turn, I hope to validate the value of multi-modal communication in higher education instruction and its impact on student learning and achievement in the area of written communication. Should the University of Kentucky be investing in/fielding new practices in multi-modal communication as a higher education institution? If multi-modal communication does not increase student learning or achievement, should the institution continue to invest its time and financial resources in Presentation U, or is there a better policy option?

This study is designed as a program outcome evaluation of the Presentation U program, and intends to answer the following research questions: Are students taught by Presentation U
Faculty Fellows, faculty members who receive training in multi-modal communication instruction (addressed in further detail in the section Data Sources), more likely to perform higher in the area of written communication compared to similar individuals whose instructors did not participate in the training program? Does the impact of the Presentation U program vary by students’ age, race, gender, credit hours earned, PELL eligibility, or academic discipline? For comparison, student work of Presentation U Faculty Fellows is assessed against student work of a non-intervention university assessment initiative – the Multi-State Collaborative to Advance Quality Student Learning (MSC).

**Literature Review**

Why assess the University of Kentucky’s Quality Enhancement Plan, Presentation U? This question, as well as the program’s implementation, alludes to a larger discussion in the higher education community: *Why assess student learning?* In short, universities want to be successful. While success can be measured in myriad ways, many universities are increasingly focusing their attention on indicators of student learning (Ewell 1998). According to a national survey administered in 2013 by the National Institute for Learning Outcomes Assessment (NILOA), 84% of institutions indicated the use of “common learning outcomes” for undergraduate students, a 10% increase from 2009 (Kuh et al. 2014). Universities want to distinguish their students from those of other schools, and in this effort have sought to quantify student learning. However, the means by which student learning outcomes are measured have resulted in some contention. Student learning assessment is a broad phrase, evoking different connotations depending on the audience. For some individuals, student learning assessment conjures thoughts of standard levels of achievement (Anaya 1991; Ewell and Jones 1993;
Shavelson 2013), while others focus on student learning in terms of value added (Baird 1988; Dwyer, Millett, and Payne 2006; Liu 2011).

Assessing Student Achievement

Hanushek (1979) provides an overview of past approaches to student performance assessment, focusing in large part on the work of Coleman (1966). Coleman utilized input-output analysis to approximate the relationship between school inputs and student achievement outputs. Hanushek expands Coleman’s work beyond input-output analyses, examining the relationships estimated as “educational production functions.” The underlying theory of this model reflects the idea that a school’s “production possibilities” are constrained by certain relationships. A school’s production function indicates the “maximum output feasible with different sets of inputs” (Hanushek 1979, 353). Hanushek explores these inputs, accounting for student-specific variables, such as gender, race, and academic ability; students’ family characteristics, such as race, language spoken, occupation, household income, and level of educational attainment; and school characteristics, such as expenditures per pupil, teacher characteristics, and classroom size. The educational production function model uses fixed effects, ordinary least squares regression analysis, with the dependent variable reflecting student performance/achievement and the explanatory variables reflecting school, family, and peer inputs. This model allows one to accurately measure student learning, while controlling for relevant inputs. The model continues to be modified and expanded today (Choi et al. 2014; Thille 2012; Todd and Wolpin 2003).

Presentation U at its core is a professional development program. Some evidence shows that professional development programs affect the quality of a professor’s instruction (Ball and Cohen 1999; Hill, Rowan, and Ball 2005; Randel et al. 2016), and in turn, the quality of a
professor impacts student outcomes (Clotfelter, Ladd, and Vigdor 2007; Gibbs and Coffey 2004; Rivkin, Hanushek, and Kain 2005). Barrett, Butler, and Toma (2013) propose an empirical framework for evaluating professional development programs where treatment is nonrandom, such as *Presentation U*. In evaluating voluntary programs, there arises a concern that professors who self-select into a program may be inherently different from those who do not. This difference may have an influence on student performance, and consequently confound the estimated effect of the program. For instance, faculty members who self-select into *Presentation U*’s Faculty Fellows Program could be passionate individuals who are highly motivated in their teaching. It is possible that students who enroll in classes of these instructors would score higher in written communication when compared to other students, even without the *Presentation U* intervention.

In evaluating these programs, Barrett, Butler, and Toma (2015) control for possible confounding factors, such as teachers’ prior effectiveness, content knowledge, level of experience, innate motivation, and other characteristics that may have influenced the individual’s decision to participate in the professional development program. The authors use this information to generate propensity scores, reflecting a teacher’s propensity to participate in the program. These scores are then matched to their nearest neighbor – teachers who did not participate in the program but are similar to those who did in terms of prior effectiveness, content knowledge, experience level, and other variables of interest. Matches of a certain caliper are selected to be included the sample. The propensity score matching approach allows evaluators to assess changes in student achievement, while controlling for unobservable factors related to teacher effectiveness.
Unfortunately, it is outside of the scope of this study to comment on faculty members’ prior effectiveness and content knowledge. While I attempt to control for faculty members’ experience level through the inclusion of a binary explanatory variable (1 = tenured, 0 = non-tenured), unobserved underlying faculty characteristics may confound the estimated effects of Presentation U.

**Student Performance Standards**

Once an assessment method is established, the question then moves from “how to assess” to “what is the standard”? While many universities and programs establish their own internal targets, external benchmarks are also utilized in order to compare performance across universities. The Degree Qualification Profile (DQP), a tool developed by the Lumina Foundation, outlines the level of student competence that should be achieved by the time a student has completed his or her degree. In developing the DQP, the Lumina Foundation consulted with higher education faculty and experts to confirm the expected level of mastery that a student should demonstrate, relevant to his or her degree (Adelman et al. 2014). One area in which the DQP expects competency is communicative fluency. Communicative fluency at the bachelor’s level is defined through the following student learning outcomes:

- Constructs sustained, coherent arguments, narratives or explications of issues, problems or technical issues and processes, in writing and at least one other medium, to general and specific audiences.
- Conducts an inquiry concerning information, conditions, technologies or practices in the field of study that makes substantive use of non-English language sources.
• Negotiates with one or more collaborators to advance an oral argument or articulate an approach to resolving a social, personal or ethical dilemma. (Adelman et al. 2014, 27).

Communicative fluency, as well as other competency areas established by the DQP (i.e. analytic inquiry, use of information sources, engaging diverse perspective, ethical reasoning, and quantitative fluency), demonstrate critical intellectual skills that the higher education community deems necessary for degree achievement (Adelman et al. 2014).

The Assessment Tool

In order to assess student written communication competency, an assessment tool must first be selected. Bresciani, Zelna, and Anderson (2004, 25) recommends considering the following questions before choosing an assessment tool: “Which outcome(s) do you want to measure? What do you need to know in order to determine that students know or can do what you have identified in the outcome(s)? Are there set criteria already in place, or do you need to create the criteria?” Answering these questions will help faculty, administrators, and assessment professionals select the appropriate assessment tool. Nationally, 69% of institutions report to using rubrics to assess student learning (Kuh et al. 2014).

The Association of American Colleges and Universities (AAC&U) has engineered and piloted the use of VALUE (Valid Assessment of Learning in Undergraduate Education) rubrics. VALUE rubrics were developed to assess student learning across disciplines and institutions based on learning outcomes agreed upon by faculty throughout the United States. The tool is designed to be used against actual student assignments, assessing the extent to which students are
advancing toward graduation-level mastery (Ferren and Paris 2015). The rubrics are not meant for grading, but rather they are to provide “a basic framework of expectations such that evidence of learning can be shared nationally through a common dialog and understanding of student success” (Ferren and Paris 2015, 23).

Of AAC&U member institutions, 85% use a common set of student learning outcomes for undergraduate students. Of those institutions using a common set of outcomes, 70% track student achievement of their stated student learning outcomes. Of these institutions, 91% use rubrics to assess student work and 42% use VALUE rubrics. Of those institutions utilizing VALUE rubrics to assess student learning outcomes in general education, 69% are using AAC&U’s Written Communication VALUE rubric (Hart Research Associates 2016). Given the growing and wide-spread use of this rubric, the tool is used to evaluate Presentation U students in the area of written communication.

**Research Design**

Initial Collegiate Learning Assessment data indicate that UK students are improving below expected levels from junior year to senior year in the area of written communication (University of Kentucky 2015). Expected levels of achievement reflect an institution’s value-added score. Compared to other four-year institutions with students of similar entering academic ability, UK students displayed a low value-added score in analytic writing tasks. This issue is reiterated in findings from the National Survey of Student Engagement (NSSE). The NSSE, “a questionnaire administered to samples of first-year students and seniors,” evaluates levels of student engagement during their academic tenures (University of Kentucky 2013). The questionnaire assesses essential benchmarks that are linked to university-level outcomes, such as
“level of academic challenge, active and collaborative learning, student-faculty interactions, enriching educational experiences, and supportive campus environment.” According to 2009 NSSE findings, on a scale from one (very little) to four (very much), 72% of sampled UK seniors reported that their university experiences contributed “quite a bit” or “very much” to “writing clearly and effectively” – a mean response of 2.98. UK compares this response to those of benchmark peers (mean score=3.08). CLA and NSSE data were large contributors to UK’s decision to implement Presentation U. (University of Kentucky 2013, 10-11).

This study evaluates the effectiveness of UK’s Quality Enhancement Plan, Presentation U, in increasing student performance in Written Communication. Senior student assignments are collected from courses taught by Faculty Fellows (Presentation U participants) and courses participating in the Multi-State Collaborative, a non-intervention university-level assessment initiative, described in greater detail in the following section. Student work from both initiatives are scored according to the same Written Communication VALUE Rubric (see Appendix) and results are compared, controlling for key characteristics relating to the school year, course, faculty member, and student. Understanding the effect of Presentation U on student achievement, relative to students assessed in the Multi-State Collaborative, will help inform university administrators in decision-making processes.

**Data Sources**

**Multi-State Collaborative Data: Control Group**

Student assignments scored for the Multi-State Collaborative to Advance Learning Outcomes Assessment (MSC) initiative serve as the control group for this study. MSC
participants (faculty members who have volunteered to have their students’ work assessed) have
not received instruction in multimodal communication nor have they participated in any other
professional development training initiatives related to the Quality Enhancement Plan,
*Presentation U*. As the MSC is a voluntary initiative, there may be biases in those who choose to
participate. If biases are present, I suspect they are similar to those present in *Presentation U*
participation (i.e., professors inclined to participate are those who want to improve their
pedagogy or instruction).

The MSC is an initiative designed to assess undergraduate student achievement across
disciplines through the use of a common set of VALUE rubrics. The initiative seeks to “provide
meaningful evidence about how well students are achieving important learning outcomes” (State
Higher Education Executive Officers Association 2017). As an MSC participant, the University
of Kentucky submits select seniors’ work to be evaluated by the MSC on an annual basis.
Participants submit student work for an assignment given in his or her course. The assignment
must align with one of AAC&U’s VALUE rubrics, designed to assess student achievement in the
following fields: Civic Engagement, Critical Thinking, Quantitative Literacy, and Written
Communication.

The submissions (student assignments) are assessed against their respective rubrics and
scored both externally, by other MSC participants, and internally, by UK faculty. This study only
uses internal scores for the purpose of maintaining consistency with QEP/*Presentation U* data,
for which only internal scores are available. Additionally, this study solely examines student
work scored along the Written Communication VALUE rubric. The Office of University of
Assessment for the University of Kentucky collects and stores this data, and has provided access
to this dataset for the purposes of this project. Data have been obtained for Academic Year 2014-2015 and Academic Year 2015-2016.

QEP/Presentation U Data: Treatment Group

Presentation U students have been taught by instructors (faculty fellows) who have received training in multimodal communication (oral, visual, and written communication). Faculty fellows receive help designing instructional lessons and assignments. Additionally, fellows receive assistance in the design and utilization of rubrics. These rubrics are used to evaluate and assess student work. As part of Presentation U’s Faculty Fellows Program, faculty are required to “attend five (or more if one so chooses) professional development sessions led by multimodal composition and communication experts to learn strategies for integrating multimodal composition and communication instruction and assignments into a course” (University of Kentucky 2016b).

QEP/Presentation U data are collected for all courses taught by Faculty Fellows, spanning across disciplines throughout the university. Student assignments for these courses are scored internally using AAC&U’s Written Communication Value rubric. This data serves as my treatment group, with the Faculty Fellows Program serving as the treatment. I received permission to use the QEP data from the Office of Transformative Learning for academic years 2014-2015 and 2015-2016.

The Written Communication VALUE Rubric

The Written Communication VALUE Rubric (see Appendix) is comprised of five criteria: Context of and Purpose for Writing, Content Development, Genre and Disciplinary Conventions, Sources and Evidence, and Control of Syntax and Mechanics. Students receive a
score for each criterion based on a scale ranging from 0-4. A student’s overall score is calculated by taking the average of his or her individual criterion scores.

**Research Questions**

This study is designed as a program outcome evaluation study, addressing the following research questions:

*Primary Research Question:* Are students of *Presentation U* Faculty Fellows more likely to perform higher in the area of written communication compared to similar individuals whose instructors did not participate in the training program?

*Secondary Research Question:* Does the impact of the *Presentation U* program vary by students’ age, race, gender, credit hours earned, PELL eligibility, or academic discipline?

**Hypotheses**

In accordance with the aforementioned research questions, the following hypotheses are proposed:

*H0:* There is no difference between students of MSC instructors and QEP Faculty Fellows (Faculty Fellows Program makes no difference).

*HA:* Students of QEP Faculty Fellows score higher in written communication than students taught by MSC instructors (Faculty Fellows Program is effective).

**Empirical Strategy**

This study uses a modified production function model with repeated cross-sectional analysis to evaluate the effectiveness of *Presentation U* in increasing student performance in
Written Communication. The production function model predicts the maximum output (student’s score on Written Communication VALUE rubric), given the inputs (school, course, faculty, and student characteristics). Using ordinary least squares regression with repeated cross-sectional analysis, the dependent variable of this model reflects student performance/achievement and the explanatory variables reflect relevant inputs that are suspected to impact student achievement. I use cross-sectional, ordinary least squares regression analysis rather than fixed effects as longitudinal data are not available at this time.

This is a repeated cross-sectional study, as data for these initiatives (MSC and Presentation U) are collected annually, observing different students in different courses each year. While this study does include a time component, it differs from a time-series or a panel design – as time series data looks at multiple observations of a single case at different points in time and panel data looks at multiple observations of a common set of cases, normally at multiple points in time. As previously stated, I observe multiple observations of different cases at different points in time. The time distinction is noted in the model through a binary variable, zero indicating school year 2014-2015 and one indicating school year 2015-2016.

I ran six multiple linear regressions, exchanging the continuous dependent variable each time, first predicting change in student’s average Written Communication score, and then predicting change in individual rubric criterion (i.e., Context of and Purpose for Writing, Content Development, Genre and Disciplinary Conventions, Sources and Evidence, and Control of Syntax and Mechanics). Each regression includes the following explanatory variables, with the primary variable of concern being Presentation U intervention: Presentation U participation, school year (2014-2015 or 2015-2016), school term (fall or spring semester), professor tenure
status (non-tenured or tenured), academic ability (GPA and ACT score), Pell Grant eligibility (ineligible or eligible), gender, race, age, credits earned, and course discipline (composition and communication, arts and creativity, humanities, social sciences, or natural physical mathematical sciences).

**Estimating Equation**

The following estimating equation was used, exchanging the dependent variable in each regression to reflect different rubric criteria scores.

Student’s Score on Written Communication Value Rubric\(_i\)

\[
\begin{align*}
\text{Student}\text{’s Score on Written Communication Value Rubric}_i &= \beta_0 + \beta_1 \text{PresU}_1 + \beta_2 \text{SchoolYear}_2 + \beta_3 \text{SchoolTerm}_3 + \beta_4 \text{ProfessorTenure}_4 \\
&+ \beta_5 \text{PellEligibility}_5 + \beta_6 \text{Gender}_6 + \beta_7 \text{GPA}_7 + \beta_8 \text{ACTScore}_8 + \beta_9 \text{Asian}_9 \\
&+ \beta_{10} \text{AfricanAmerican}_{10} + \beta_{11} \text{Hispanic}_{11} + \beta_{12} \text{MultiRacial}_{12} \\
&+ \beta_{13} \text{NonResidentAlien}_{13} + \beta_{14} \text{AmericanIndian}_{14} + \beta_{15} \text{Age}_{15} \\
&+ \beta_{16} \text{CreditsEarned}_{16} + \beta_{17} \text{ArtsandCreativity}_{17} + \beta_{18} \text{Humanities}_{18} \\
&+ \beta_{19} \text{SocialSciences}_{19} + \beta_{20} \text{NaturalPhysicalMathematicalSciences}_{20} + \epsilon_i
\end{align*}
\]

**Results**

**Descriptive Statistics**

**The Control Group**

Within the Multi-State Collaborative dataset, I observed 205 students. Of these, 47 students (23% of MSC students assessed) were observed in the 2014-2015 school year and 158 students (77% of MSC students assessed) were observed in the 2015-2016 school year. Between
the two years, 95 students (46% of MSC students assessed) were observed in the fall semester and 110 students (54% of MSC students assessed) were observed in the spring semester. Of the 205 MSC students observed, 150 were female (73% of MSC students assessed) and 55 were male (27% of MSC students assessed); 146 students (71% of MSC students assessed) were not eligible for Pell Grant funding and 59 students (29% of MSC students assessed) were eligible for Pell Grant funding.

The Treatment Group

Within the Quality Enhancement Plan dataset, I observed 232 students. Of these, 80 students (34% of QEP students assessed) were observed in the 2014-2015 school year and 152 students (66% of QEP students assessed) were observed in the 2015-2016 school year. In total, 54 QEP students (23% of QEP students assessed) were observed in the fall semester and 178 QEP students (77% of QEP students assessed) were observed in the spring semester. Of the 232 QEP students observed, 132 were female (57% of QEP students assessed) and 100 were male (43% of QEP students assessed); 187 students (81% of QEP students assessed) were not eligible for Pell Grant funding and 45 students (19% of QEP students assessed) were eligible for Pell Grant funding.

Overall

Table 1 compares the race and course discipline of the treated group (students taught by Faculty Fellows) to the control group (students taught by Multi-State Collaborative participants). While white students comprise the majority of students assessed, as a whole, the sample largely aligns to the racial makeup of UK’s undergraduate population. According to spring 2016 data, 75.9% of
UK’s undergraduate population is white. Asian students comprise 2.5%, African Americans 7.3%, Hispanic or Latino 4.1%, Multi-racial 3.5%, American Indian/Alaskan Native 0.2%, Native Hawaiian/Pacific Islander 0.1%, and Non-resident Alien 3.4% of total undergraduate enrollment. Race and ethnicity is unknown for 3.0% of UK’s undergraduate population (University of Kentucky 2016a). In order to increase the representativeness of this study, additional assignments are needed for African American and Non-resident Alien students. Unfortunately, such data are not available at this time.

Table 1: Summary of Students’ Race and Course Discipline

<table>
<thead>
<tr>
<th>Race and Ethnicity</th>
<th>QEP</th>
<th>% of QEP Students Assessed</th>
<th>MSC</th>
<th>% of MSC Students Assessed</th>
<th>All Students</th>
<th>% of All Students Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>White or Caucasian</td>
<td>203</td>
<td>87.50%</td>
<td>172</td>
<td>83.90%</td>
<td>375</td>
<td>85.81%</td>
</tr>
<tr>
<td>Asian</td>
<td>3</td>
<td>1.29%</td>
<td>7</td>
<td>3.41%</td>
<td>10</td>
<td>2.29%</td>
</tr>
<tr>
<td>African American</td>
<td>5</td>
<td>2.16%</td>
<td>10</td>
<td>4.88%</td>
<td>15</td>
<td>3.43%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>10</td>
<td>4.31%</td>
<td>4</td>
<td>1.95%</td>
<td>14</td>
<td>3.20%</td>
</tr>
<tr>
<td>Multi-Racial</td>
<td>5</td>
<td>2.16%</td>
<td>7</td>
<td>3.41%</td>
<td>12</td>
<td>2.75%</td>
</tr>
<tr>
<td>Non-Resident Alien</td>
<td>2</td>
<td>0.86%</td>
<td>0</td>
<td>0.00%</td>
<td>2</td>
<td>0.00%</td>
</tr>
<tr>
<td>American Indian</td>
<td>1</td>
<td>0.43%</td>
<td>0</td>
<td>0.00%</td>
<td>1</td>
<td>0.00%</td>
</tr>
<tr>
<td>Unknown</td>
<td>3</td>
<td>1.29%</td>
<td>5</td>
<td>2.44%</td>
<td>8</td>
<td>1.83%</td>
</tr>
<tr>
<td>Total</td>
<td>232</td>
<td>100%</td>
<td>205</td>
<td>100%</td>
<td>437</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Discipline</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition and Communication</td>
<td>51</td>
<td>22%</td>
<td>34</td>
<td>17%</td>
<td>85</td>
<td>19%</td>
</tr>
<tr>
<td>Arts and Creativity</td>
<td>29</td>
<td>13%</td>
<td>35</td>
<td>17%</td>
<td>64</td>
<td>15%</td>
</tr>
<tr>
<td>Humanities</td>
<td>16</td>
<td>7%</td>
<td>19</td>
<td>9%</td>
<td>35</td>
<td>8%</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>59</td>
<td>25%</td>
<td>25</td>
<td>12%</td>
<td>84</td>
<td>19%</td>
</tr>
<tr>
<td>Natural, Physical, and Mathematical Sciences</td>
<td>77</td>
<td>33%</td>
<td>92</td>
<td>45%</td>
<td>169</td>
<td>39%</td>
</tr>
<tr>
<td>Total</td>
<td>232</td>
<td>100%</td>
<td>205</td>
<td>100%</td>
<td>437</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2 compares professor tenure status of students assessed, disaggregated by treatment and school year. In 2014-2015, the majority of Presentation U students were taught by non-tenured faculty members (Faculty Fellows), while the majority of MSC students were taught by
tenured faculty members. In school year 2015-2016, the reverse is true – the majority of Presentation U students were taught by tenured faculty members (Faculty Fellows), while the majority of MSC students were taught by non-tenured faculty members. This distinction is worth noting, as it applies to the subsequent regression analysis.

**Table 2: Summary of Tenure Status by School Year**

<table>
<thead>
<tr>
<th></th>
<th>Presentation U</th>
<th>MSC</th>
<th>Presentation U</th>
<th>MSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students Assessed</td>
<td>% of QEP Students Assessed</td>
<td>% of MSC Students Assessed</td>
<td>Students Assessed</td>
<td>% of QEP Students Assessed</td>
</tr>
<tr>
<td>Not-tenured</td>
<td>50</td>
<td>63%</td>
<td>14</td>
<td>30%</td>
</tr>
<tr>
<td>Tenured</td>
<td>30</td>
<td>38%</td>
<td>33</td>
<td>70%</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>100%</td>
<td>47</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3 provides summary statistics for all continuous variables included in the model. The two populations are similar along these parameters, with the exception of Presentation U intervention.

**Table 3: Summary Statistics for Continuous Variables**

<table>
<thead>
<tr>
<th></th>
<th>Presentation U</th>
<th>MSC</th>
<th></th>
<th>Presentation U</th>
<th>MSC</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Observations</td>
<td>Mean</td>
<td>Std. Dev.</td>
<td>Min</td>
<td>Max</td>
<td># of Observations</td>
</tr>
<tr>
<td>GPA</td>
<td>232</td>
<td>3.37</td>
<td>0.4547</td>
<td>1.74</td>
<td>4</td>
</tr>
<tr>
<td>ACT Score</td>
<td>204</td>
<td>26</td>
<td>3.9623</td>
<td>15</td>
<td>36</td>
</tr>
<tr>
<td>Age</td>
<td>232</td>
<td>24</td>
<td>4.3624</td>
<td>20</td>
<td>51</td>
</tr>
<tr>
<td>Credits Earned</td>
<td>225</td>
<td>121.5</td>
<td>26.2737</td>
<td>88</td>
<td>235</td>
</tr>
<tr>
<td>Context &amp; Purpose for Writing</td>
<td>232</td>
<td>3.047</td>
<td>0.8387</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Content Development</td>
<td>232</td>
<td>2.797</td>
<td>0.8464</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Genre &amp; Disciplinary Conventions</td>
<td>232</td>
<td>2.655</td>
<td>0.9079</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Sources &amp; Evidence</td>
<td>232</td>
<td>2.345</td>
<td>1.2765</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Control of Syntax &amp; Mechanics</td>
<td>232</td>
<td>2.901</td>
<td>0.9039</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Average Score</td>
<td>232</td>
<td>2.749</td>
<td>0.7536</td>
<td>0.8</td>
<td>4</td>
</tr>
</tbody>
</table>
Empirical Results

Table 4 presents coefficients for each regression model. Regressions were run for the following dependent variables: student’s average score on Written Communication VALUE rubric, student’s score on Context and Purpose for Writing criterion, student’s score on Content Development criterion, student’s score on Genre and Disciplinary Conventions criterion, student’s score on Sources and Evidence criterion, and student’s score on Control of Syntax and Mechanics criterion. Significant coefficients are identified, indicating how much their respective dependent variable is expected to change given a one unit increase in the explanatory variable, holding all other explanatory variables constant.

Discussion of Findings

Average Score

According to the findings in Table 4, Presentation U intervention does not have a statistically significant effect on a student’s average score on the Written Communication Value rubric. Therefore, I fail to reject the null hypothesis – there is no difference between MSC and QEP students. Multimodal communication training has no notable effect on a student’s average score in Written Communication. However, variation in a student’s average score can be explained by the following significant variables: enrollment in a social sciences course (p < 0.05), professor tenure status (p < 0.1), and GPA (p < 0.01). Students enrolled in a social sciences course are predicted to have an average score that is 0.24 points lower (on a four point scale) than students enrolled in a composition and communication course.
Table 4: Regression Coefficients and Standard Errors

<table>
<thead>
<tr>
<th>Explanatory Variables</th>
<th>Dependent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Score</td>
</tr>
<tr>
<td>Treatment</td>
<td></td>
</tr>
<tr>
<td>QEP/ PresentationU</td>
<td>-0.0022</td>
</tr>
<tr>
<td>University Specific</td>
<td>-0.1390</td>
</tr>
<tr>
<td>Semester</td>
<td>0.0863</td>
</tr>
<tr>
<td>Course Specific</td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>0.1592</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>-0.2381**</td>
</tr>
<tr>
<td>Natural Physical</td>
<td>0.1109</td>
</tr>
<tr>
<td>Math Sciences</td>
<td></td>
</tr>
<tr>
<td>Faculty Specific</td>
<td>-0.1732*</td>
</tr>
<tr>
<td>Professor’s Tenure Status</td>
<td></td>
</tr>
<tr>
<td>Pell Eligibility</td>
<td>-0.0208</td>
</tr>
<tr>
<td>Gender</td>
<td>0.0035</td>
</tr>
<tr>
<td>GPA</td>
<td>** 0.3513***</td>
</tr>
<tr>
<td>ACT Score</td>
<td>0.0125</td>
</tr>
<tr>
<td>Asian</td>
<td>0.4254</td>
</tr>
<tr>
<td>African American</td>
<td>-0.1316</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>-0.0687</td>
</tr>
<tr>
<td>Multiracial</td>
<td>-0.3599</td>
</tr>
<tr>
<td>Nonresident Alien</td>
<td>0.2076</td>
</tr>
<tr>
<td>American Indian</td>
<td>-0.6173</td>
</tr>
<tr>
<td>Age</td>
<td>0.0105</td>
</tr>
<tr>
<td>Credits Earned</td>
<td>0.0025</td>
</tr>
</tbody>
</table>

* p<0.1, ** p<0.05, *** p<0.01
(Standard error in parentheses)
Additionally, findings reveal that students who have a tenured professor are predicted to have an average score that is 0.17 points lower than students taught by a non-tenured professor. In contrast to enrollment in a social sciences course and professor’s tenure status, a student’s GPA had a positive effect on a student’s average score on the Written Communication VALUE rubric. For every one point increase in a student’s grade point average, it is predicted that his or her average score will increase by 0.35 points.

When examining the individual criterion that composite a student’s average score, Presentation U does not have a significant effect on the following criteria: “Context and Purpose for Writing,” “Content Development,” and “Genre and Disciplinary Conventions.” Presentation U has significant, but opposite, effects on the criteria, “Sources and Evidence” (p < 0.1) and “Control of Syntax and Mechanics” (p < 0.01). Students taught by Presentation U Faculty Fellows are predicted to score 0.27 points lower along the Sources and Evidence criterion than students who were not taught by Presentation U Faculty Fellows. Students taught by Presentation U Faculty Fellows are predicted to score 0.34 points higher along the Control of Syntax and Mechanics criterion than students who were not taught by Presentation U Faculty Fellows. In both of these cases I would reject my null hypotheses – there is no difference between students taught by MSC instructors and QEP/Presentation U Faculty Fellows.

Other interesting trends can be identified when one examines the effects within individual criterion versus solely examining a student’s average score. For instance, the effect of race becomes more apparent when observing different criteria. Being Asian has a positive significant effect on individual criterion scores for “Context and Purpose for Writing” and “Genre and Disciplinary Conventions.” Asian students are predicted to score 0.54 points higher
(p < 0.1) on the criterion, Context and Purpose for Writing, and 0.81 points higher (p < 0.05) on the criterion, Genre and Disciplinary Conventions, compared to white students’ scores along the same criteria. Being African American or multiracial has a negative significant effect on a student’s score on the criterion, Sources and Evidence. African American students are predicted to score 0.71 points lower (p < 0.05) than white students on the rubric criterion. Multiracial students are predicted to score 0.61 points lower (p < 0.1) than white students on the criterion, Sources and Evidence.

Note the general effect direction of the significant explanatory variables linked to Sources and Evidence. When the dependent variable is Sources and Evidence, the following explanatory variables are significant: Presentation U intervention (p < 0.1), enrollment in arts and creativity course (p < 0.05), enrollment in humanities course (p < 0.1), enrollment in social sciences course (p < 0.01), African American (p < .05), multiracial (p < 0.1), and age (p < 0.1). Of these variables, all of their effects are predicted to have a negative impact on a student’s score on the Sources and Evidence criterion, with the exception of age. A student’s score on Sources and Evidence is predicted to increase by 0.06 points for every one year increase in a student’s age. The findings related to this dependent variable present interesting considerations for future best practices. I will discuss the possible implications of this finding further in my recommendations below.

**Limitations**

In its current state, my model is subject to some shortcomings. First and foremost, I am concerned with issues of selection bias. While students are not aware as to whether or not a course is taught by a Faculty Fellow prior to enrollment in the course, it is possible that faculty
members’ self-selection into the program could bias the results of this study. Professors who self-select into the program may be inherently different than other professors in a way that would already influence student performance in written communication. For instance, faculty members who self-select into the Faculty Fellows Program could be passionate individuals who are highly motivated in their teaching. It is possible that these students would score higher in written communication when compared to other students, even without the Presentation U intervention.

If longitudinal data were available for both initiatives, I would run a true production function model. If additional faculty data were available (i.e., indicators of faculty achievement such as number of publications or awards, content knowledge, length of time at UK, years of experience, etc.), I would pursue a propensity score matching approach. This approach allows one to identify cases in the control group that are most similar to those in the treatment group. In other words, the model allows a researcher to compare students’ written communication scores for only those students who have been taught by the most similar professors.

As this study only assesses written communication (one component of the multimodal training initiative) a great deal of student assignments were excluded from assessment due to their file format (i.e., only written papers were selected for assessments; PowerPoint presentations, videos, images, and audio files were excluded from assessment). Additionally, group assignments and underclassmen submissions were excluded from assessment. Consequently, the treatment program’s sample size was severely limited. Overall, this study could greatly benefit from additional data.

Another limitation of this study focuses on concerns of inter-rater reliability. Student assignments were scored internally by UK faculty across disciplines. Faculty evaluators were
normed (reached consensus in scores) according to rubric criteria, however norming sessions took place at different times depending on the initiative being assessed. Different evaluators scored Presentation U student work than those who scored MSC student work. Therefore, it is possible that the two groups are normed to different standards. Additionally, scoring for both initiatives took place over several months. The long evaluation period could diminish the effect of norming sessions. In turn, these factors could affect the inter-rater reliability among student scores.

A final cause of concern involves the unstructured nature of assignment designs. While Presentation U and MSC assignments are supposed to be constructed in a way that aligns to the Written Communication VALUE Rubric, there are few guidelines to enforce this requirement. Consequently, assignment designs match be misaligned to the rubric, negatively impacting a student’s score.

**Recommendations**

I recommend Presentation U administrators examine Presentation U’s current performance, as outlined in this report, and evaluate program curriculum respectively. Administrators should determine where, if any, improvements can be made. I would also encourage faculty to examine the extent to which their assignments align to the Written Communication VALUE rubric criteria. While results indicate that Presentation U had a negative effect on a student’s score on Sources and Evidence, it is possible that Presentation U assignments were designed to be more reflective in nature than empirical. If this is the case, then a student’s score is more indicative of the assignment instructions than the student’s actual achievement. I recommend the Faculty Fellows program incorporates assignment design
workshops into its curriculum. Assignments should align to the Written Communication VALUE Rubric when assessing the written component of the Presentation U initiative. Additionally, I recommend future assessments include inter-rater reliability tests to ensure evaluator consensus.

While it would be ideal to assess a Faculty Fellow prior to Presentation U participation, during Presentation U training, and after Presentation U intervention, I recognize the limitations associated with such a framework – namely, student assignments would differ based on the course the professor was teaching during the semester assessed. As a possible alternative, the Office of Transformative Learning could partner with the Office of University Assessment to create a quasi-value-added assessment design. For instance, value-added could be estimated using a similar analysis to this study, comparing students in Presentation U courses against students in UK Core (general education) courses.

In order to expand the assessment of student achievement in written communication, I recommend the university pursues similar assessment methods for the Graduation Composition and Communication Requirement (GCCR). The GCCR is a university requirement for undergraduate students, typically incorporated into upper-division, major-specific courses. The requirement involves the following components: “one or more written assignments in English (the language) that total to at least 4,500 words; an assignment that requires the student to demonstrate information literacy in the discipline; and courses must incorporate a draft/feedback/revision process on GCCR assignments for writing and for oral or visual work” (University of Kentucky 2014). GCCR courses face arguably more stringent requirements than Presentation U courses. In future studies, it would be interesting to perform a cost-benefit
analysis for the two programs, comparing the effects of the GCCR and *Presentation U* on student achievement relative to program costs.

A larger implication of this study relates to the performance of tenured professors. Results from this study show that having a tenured professor has a negative effect on students’ performance in Written Communication. One logical inference from this finding is that once a professor is tenured, he relaxes his teaching practices and/or pedagogy. This finding should challenge the university, encouraging the institution to look introspectively at its current practices, norms, and culture. Is this issue widespread? To what extent does the quality of professor impact student achievement? These are the questions the University of Kentucky should consider.

At this time, I would discourage any hasty decisions regarding the continuation of the *Presentation U*/Faculty Fellows Program. While this current assessment raises some interesting concerns, its generalizability is limited due to the lack of longitudinal data and small sample size. I encourage UK assessment officials to continue to evaluate the program and reassess its overall success in increasing student performance in written communication when more data are available in the future.


The VALUE rubrics were developed by teams of faculty experts representing colleges and universities across the United States through a process that examined many existing campus rubrics and related documents for each learning outcome and incorporated additional feedback from faculty. The rubrics articulate fundamental criteria for each learning outcome, with performance descriptors demonstrating progressively more sophisticated levels of attainment. The rubrics are intended for institutional-level use in evaluating and assessing student learning, not for grading. The core expectations articulated in all 15 of the VALUE rubrics can and should be translated into the language of individual campuses, disciplines, and even courses. The utility of the VALUE rubrics is to position learning at all undergraduate levels within a basic framework of expectations such that evidence of learning can be shared nationally through a common framework and understanding of student success.

Definition

Written communication is the development and expression of ideas in writing. Written communication involves learning to work in many genres and styles. It can involve working with many different writing technologies, and mixing texts, data, and images. Written communication abilities develop through iterative experiences across the curriculum.

Framing Language

This writing rubric is designed for use in a wide variety of educational institutions. The most clear finding to emerge from decades of research on writing assessment is that the best writing assessments are locally determined and sensitive to local context and mission. Users of this rubric should, in the end, consider making adaptations and additions that clearly link the language of the rubric to individual campus contexts.

This rubric focuses assessment on how specific written work samples or collections of work respond to specific contexts. The central question guiding the rubric is "How well does writing respond to the needs of audience(s) for the work?" In focusing on this question the rubric does not attend to other aspects of writing that are equally important: issues of writing process, writing strategies, writers' fluency with different modes of textual production or publication, or writer's growing engagement with writing and disciplinarity through the process of writing.

Evaluators using this rubric must have information about the assignments or purposes for writing guiding writers' work. Also recommended is including reflective work samples of collections of work that address such questions as: What decisions did the writer make about audience, purpose, and genre as s/he compiled the work in the portfolio? How are those choices evident in the writing -- in the content, organization and structure, reasoning, evidence, mechanical and surface conventions, and citations systems used in the writing? This will enable evaluators to have a clear sense of how writers understand the assignments and take it into consideration as they evaluate.

The first section of this rubric addresses the context and purpose for writing. A work sample or collections of work can convey the context and purpose for the writing tasks it showcases by including the writing assignments associated with work samples. But writers may also convey the context and purpose for their writing within the texts. It is important for faculty and institutions to include directions for students about how they should represent their writing contexts and purposes.

Faculty interested in the research on writing assessment that has guided our work here can consult the National Council of Teachers of English/Council of Writing Program Administrators' White Paper on Writing Assessment (2008; www.wpacouncil.org/whitepaper) and the Conference on College Composition and Communication's Writing Assessment: A Position Statement (2008; www.ncte.org/cccc/resources/positions/123784.htm)

This writing rubric is designed for use in a wide variety of educational institutions. The most clear finding to emerge from decades of research on writing assessment is that the best writing assessments are locally determined and sensitive to local context and mission. Users of this rubric should, in the end, consider making adaptations and additions that clearly link the language of the rubric to individual campus contexts.

Appendix

The definitions that follow were developed to clarify terms and concepts used in this rubric only.

**Glossary**

- **Content Development**: The ways in which the text explores and represents its topic in relation to its audience and purpose.
- **Context of and purpose for writing**: The context of writing is the situation surrounding a text: who is writing it? who is reading it? Under what circumstances will the text be shared or circulated? What social or political factors might affect how the text is composed or interpreted? The purpose for writing is the writer's intended effect on an audience. Writers might want to persuade or inform; they might want to report or summarize information; they might want to work through complexity or confusion; they might want to argue with other writers, or connect with other writers; they might want to convey urgency or amuse; they might write for themselves or for an assignment or to remember.
- **Disciplinary conventions**: Formal and informal rules that constitute what is seen generally as appropriate within different academic fields, e.g. introductory strategies, use of passive voice or first person point of view, expectations for thesis or hypothesis, expectations for kind of support that are appropriate to the task at hand, use of primary and secondary sources to provide evidence and support arguments and to document critical perspectives on the topic. Writers will incorporate sources according to disciplinary and genre conventions, according to the writer's purpose for the text. Through increasingly sophisticated use of sources, writers develop an ability to differentiate between their own ideas and the ideas of others, credit and build upon work already accomplished in the field or issue they are addressing, and provide meaningful examples to readers.
- **Evidence**: Source material that is used to extend, in purposeful ways, writers' ideas in a text.
- **Genre conventions**: Formal and informal rules for particular kinds of texts and/or media that guide formatting, organization, and stylistic choices, e.g. lab reports, academic papers, poetry, webpages, or personal essays.
- **Sources**: Texts (written, oral, behavioral, visual, or other) that writers draw on as they work for a variety of purposes -- to extend, argue with, develop, define, or shape their ideas, for example.
**Written Communication VALUE Rubric**

*for more information, please contact value@aacu.org*

**Definition**

Written communication is the development and expression of ideas in writing. Written communication involves learning to work in many genres and styles. It can involve working with many different writing technologies, and mixing texts, data, and images. Written communication abilities develop through iterative experiences across the curriculum.

Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

<table>
<thead>
<tr>
<th></th>
<th>Capstone</th>
<th>Milestones</th>
<th>Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Context of and Purpose for Writing</strong> Includes considerations of audience, purpose, and the circumstances surrounding the writing task(s).</td>
<td>Demonstrates a thorough understanding of context, audience, and purpose that is responsive to the assigned task(s) and focuses all elements of the work.</td>
<td>Demonstrates adequate consideration of context, audience, and purpose and a clear focus on the assigned task(s) (e.g., the task aligns with audience, purpose, and context).</td>
<td>Demonstrates awareness of context, audience, purpose, and to the assigned task(s) (e.g., begins to show awareness of audience's perceptions and assumptions).</td>
</tr>
<tr>
<td><strong>Content Development</strong></td>
<td>Uses appropriate, relevant, and compelling content to illustrate mastery of the subject, conveying the writer's understanding, and shaping the whole work.</td>
<td>Uses appropriate, relevant, and compelling content to explore ideas within the context of the discipline and shape the whole work.</td>
<td>Uses appropriate and relevant content to develop and explore ideas through most of the work.</td>
</tr>
<tr>
<td><strong>Genre and Disciplinary Conventions</strong> Formal and informal rules inherent in the expectations for writing in particular forms and/or academic fields (please see glossary).</td>
<td>Demonstrates detailed attention to and successful execution of a wide range of conventions particular to a specific discipline and/or writing task(s) including organization, content, presentation, formatting, and stylistic choices</td>
<td>Demonstrates consistent use of important conventions particular to a specific discipline and/or writing task(s), including organization, content, presentation, and stylistic choices</td>
<td>Follows expectations appropriate to a specific discipline and/or writing task(s) for basic organization, content, and presentation</td>
</tr>
<tr>
<td><strong>Sources and Evidence</strong></td>
<td>Demonstrates skillful use of high-quality, credible, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing</td>
<td>Demonstrates consistent use of credible, relevant sources to support ideas that are situated within the discipline and genre of the writing.</td>
<td>Demonstrates an attempt to use credible and/or relevant sources to support ideas that are appropriate for the discipline and genre of the writing.</td>
</tr>
<tr>
<td><strong>Control of Syntax and Mechanics</strong></td>
<td>Uses graceful language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.</td>
<td>Uses straightforward language that generally conveys meaning to readers. The language in the portfolio has few errors.</td>
<td>Uses language that generally conveys meaning to readers with clarity, although writing may include some errors.</td>
</tr>
</tbody>
</table>