Summer 2016 Assessment Report:

Vincennes University

& VU Early College UCC Courses

Critical Thinking

&

Written Communication

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The Office of Institutional Effectiveness would like to thank all the assessors for the work they completed to generate the data in this report.

PART I: VU CRITICAL THINKING ASSESSMENT

Overall Sampling Method and Data Collection

A random sampling of 200 student critical thinking artifacts from VU's University Common Core courses and 50 student argumentation essay English 101 artifacts from the 2015-2016 academic year were assessed in groups of three or four using the VU Critical Thinking rubric and the VU Written Communication rubric. In addition, a random sample of 90 student CT artifacts from the 2015-2016 academic year—30 each from Biology, History, and Spanish—and 30 English argumentative essays from four early college locations (East Allen, Lawrenceburg, Center Grove, and Washington) were assessed in groups of three along with 10 VU artifacts in each of those disciplines. A total of 160 random student artifacts representing critical thinking and written communication outcomes were assessed for the early college—120 student artifacts (four groups of 30) from the early college locations and 40 control artifacts (four groups of 10) from VU courses. Assessors of the early college artifacts were not told which artifacts were from the early college locations to ensure objectivity and to allow for a direct comparison of the early college scores with the VU control group in each sample. The individual scores assigned to each artifact within each group were averaged to produce the reported score for each dimension. The standard deviation was also calculated for each set of scores in each rubric dimension for every group. These standard deviations where then averaged to provide a mean standard deviation for each dimension for each assessment group.

Vincennes University Critical Thinking Assessment Results

For the VU campus assessment, student artifacts were sampled randomly from the UCC general education courses using Blackboard Outcomes. Faculty assessors scored each artifact using the VU Critical Thinking rubric with the option of providing feedback for each dimension of the rubric—statement of the problem, evidence, influence of context and assumptions, student's position, and conclusions and related outcomes. After the conclusion of the assessment, each group member was given a reflective questionnaire to provide feedback on the assessment process, the CT assignments, and the student artifacts. The data represents the average scores for each assessment group, the average standard deviation, and the percentage of scoring agreement within each dimension for each group.

Table 1: Average CT Scores by Dimension and Group

Summer 2016 CT Assessment Mean Scores

	Problem	Evidence	Influence	Position	Conclusions
Group 1	2.42	2.27	2.42	2.63	2.27
Group 2	2.12	1.86	1.99	2.03	1.93
Group 3	2.26	2.37	2.35	2.15	2.15
Group 4	2.25	2.28	2.37	2.25	2.12
Total Mean Score	2.26	2.20	2.28	2.26	2.12

Group 1 had the highest average totals while group 2 had the lowest.

Table 2: Average Standard Deviation by Dimension and Group

	Explanatic	Evidence-	Influence	Student's	Conclusior
Group 1 St. Dev. (avg)	0.480	0.451	0.458	0.430	0.456
Group 2 St. Dev. (avg)	0.445	0.309	0.428	0.413	0.304
Group 3 St. Dev. (avg)	0.508	0.394	0.505	0.346	0.530
Group 4 St. Dev. (avg)	0.500	0.548	0.591	0.415	0.480

The standard deviations from each dimension were used to compute the percentage of agreement for each group (see the appendix for the definition of each term of agreement) after eliminating a total of ten artifacts that were unable to be scored:

Table 3: Group 1 Agreement Percentage

Group 1 (N = 48)	Problem	Evidence	Context & Assumptions	Student's Position	Conclusions & Related Outcomes
Total Agreement	7	10	7	11	9
Percentage	15%	21%	15%	23%	19%
Partial Agreement	18	14	16	15	18
Percentage	38%	29%	33%	31%	38%
Even Split	9	11	16	10	7
Percentage	19%	23%	33%	21%	15%

Table 4: Group 2 Agreement Percentage

Group 2 (N = 47)	Problem	Evidence	Context & Assumptions	Student's Position	Conclusions & Related Outcomes
Total Agreement	14	21	14	9	25
Percentage	30%	45%	30%	19%	53%
Partial Agreement	19	21	23	34	13
Percentage	40%	45%	49%	72%	28%

Table 5: Group 3 Agreement Percentage

Group 3 (N = 48)	Problem	Evidence	Contexts & Assumptions	Student's Position	Conclusions & Related Outcomes
Total Agreement	7	18	9	19	10
Percentage	15%	38%	19%	40%	21%
Partial Agreement	31	18	25	22	22
Percentage	65%	38%	52%	46%	46%

Table 6: Group 4 Percentage Agreement

Group 4 (N = 47)	Problem	Evidence	Contexts & Assumptions	Student's Position	Conclusions & Related Outcomes
Total Agreement	11	7	2	13	8
Percentage	23%	15%	4%	28%	17%
Partial Agreement	20	22	25	25	25
Percentage	43%	47%	53%	53%	53%

The combined percentages of agreement range from 57%-91%, indicating that each group's scores partially agreed, at a minimum, for more than half of all assessed artifacts. The overall average agreement was 75%. This suggests that while the assessors were usually in partial agreement, complete agreement on scores for the rubric dimensions occurred rarely, typically when the student work was not well-focused on critical thinking and scored poorly. Furthermore, the higher an artifact tended to score on each rubric dimension, the less agreement was apparent in the assessment scores among group members. Revisions to the VU Critical Thinking Rubric to eliminate overlap between the categories and to rescale the levels of success from 1-5 to 0-4 would seem likely to result in greater agreement in CT scores among members of assessment groups.

Compiling the overall results of the VU CT assessment reveals no average score of "5" for any student work in any of the five rubric dimensions. Furthermore, the data suggests a steep decline in the frequency of scores above a score of 3. The score groupings were established as follows:

1—average score of 1.0-1.5

2—average score of 1.67-2.5

3—average score of 2.67-3.5

4—average score of 3.67-4.5

5—average score of 4.67-5

Table 7: VU CT Average Score Frequencies by Dimension

Summer 2016 CT Scores by Dimension
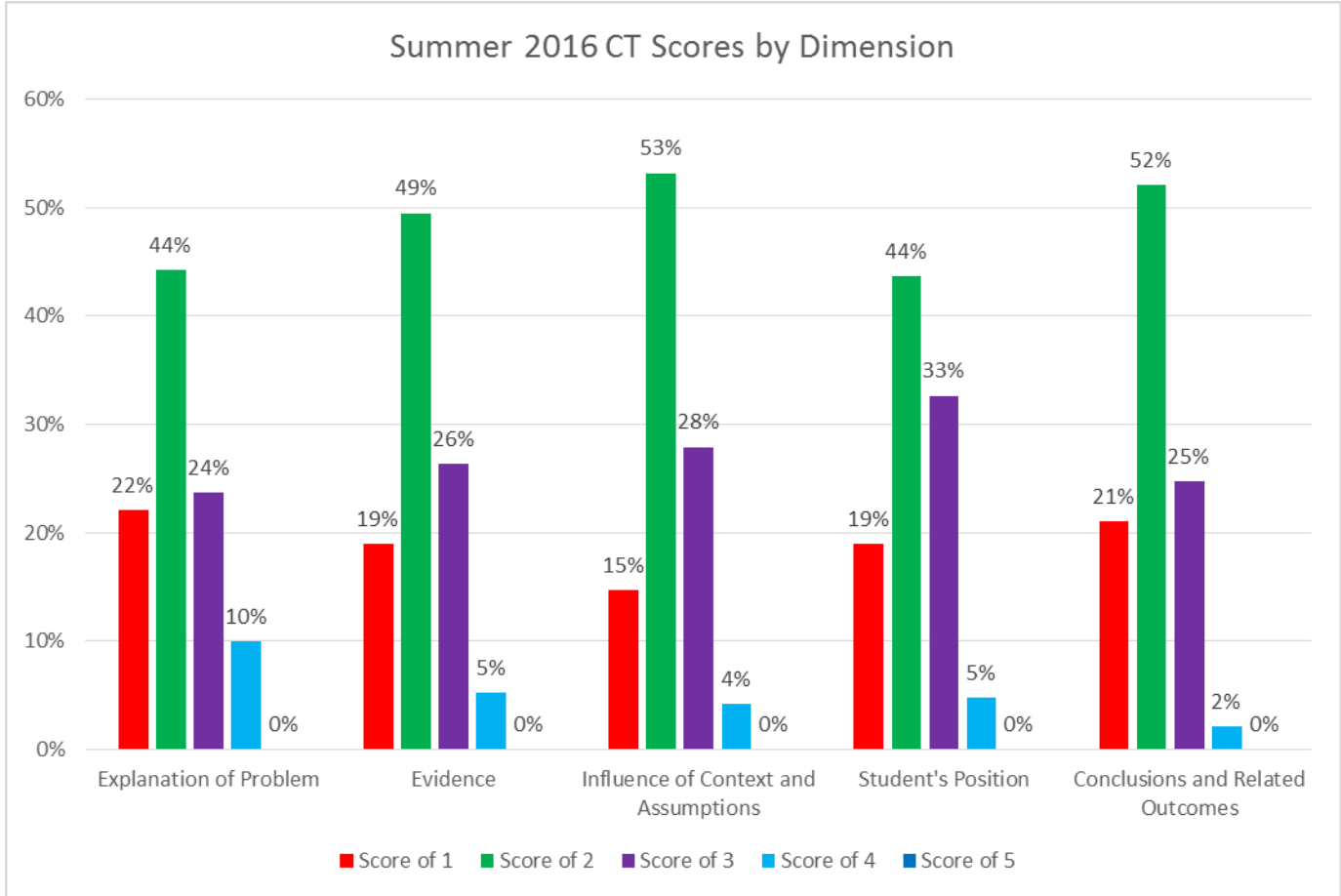
Table 8: Percent of CT Artifacts Meeting Goal

Summer 2016 CT Assessment Scores--"3" or Higher

	Score of 3	Score of 4	Score of 5	% of artifacts
Explanation of Problem	45	19	0	34%
Evidence	50	10	0	32%
Influence of Context and Assumptions	53	8	0	32%
Student's Position	62	9	0	37%
Conclusions and Related Outcomes	47	4	0	27%
"3" or higher in all categories	23			12%

When the average scores for each dimension are plotted on a line graph, the data reveal a majority of student's averaged scores fall within the 2--2.5 range on each dimension of the rubric with a steady decline down to the score of 4. A few exceptions to this trend are worth of note. The scores for students' "statement of the problem" plateau in the range of 2.67-3.67 rather than declining. The "influence of context and assumptions" dimension illustrates a slight increase in the average score in the range of 3.25-3.5, and the scores for "student's position" illustrate a higher preponderance of high scores until reaching the 3.67-3.75 range. In all dimensions there are few or no average scores above a score of 4.
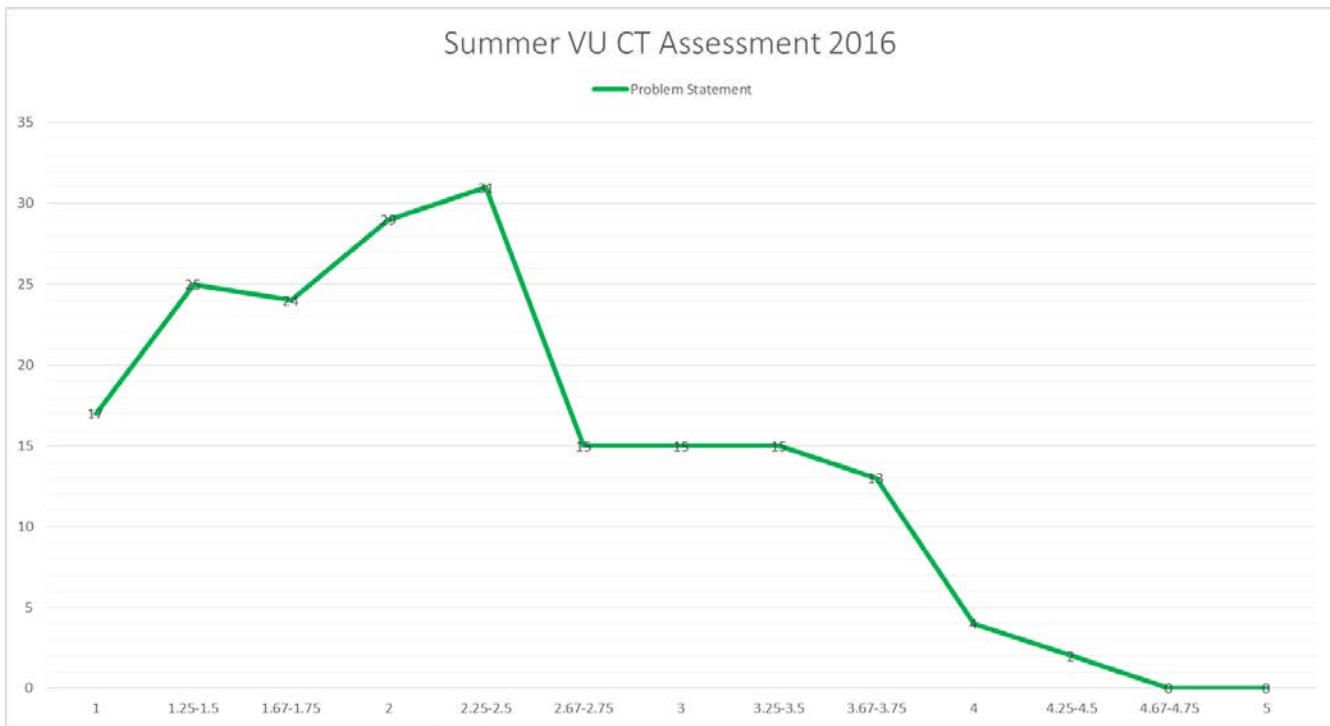
Table 9: VU CT "Problem Statement" Scores

Table 10: VU CT "Evidence" Scores
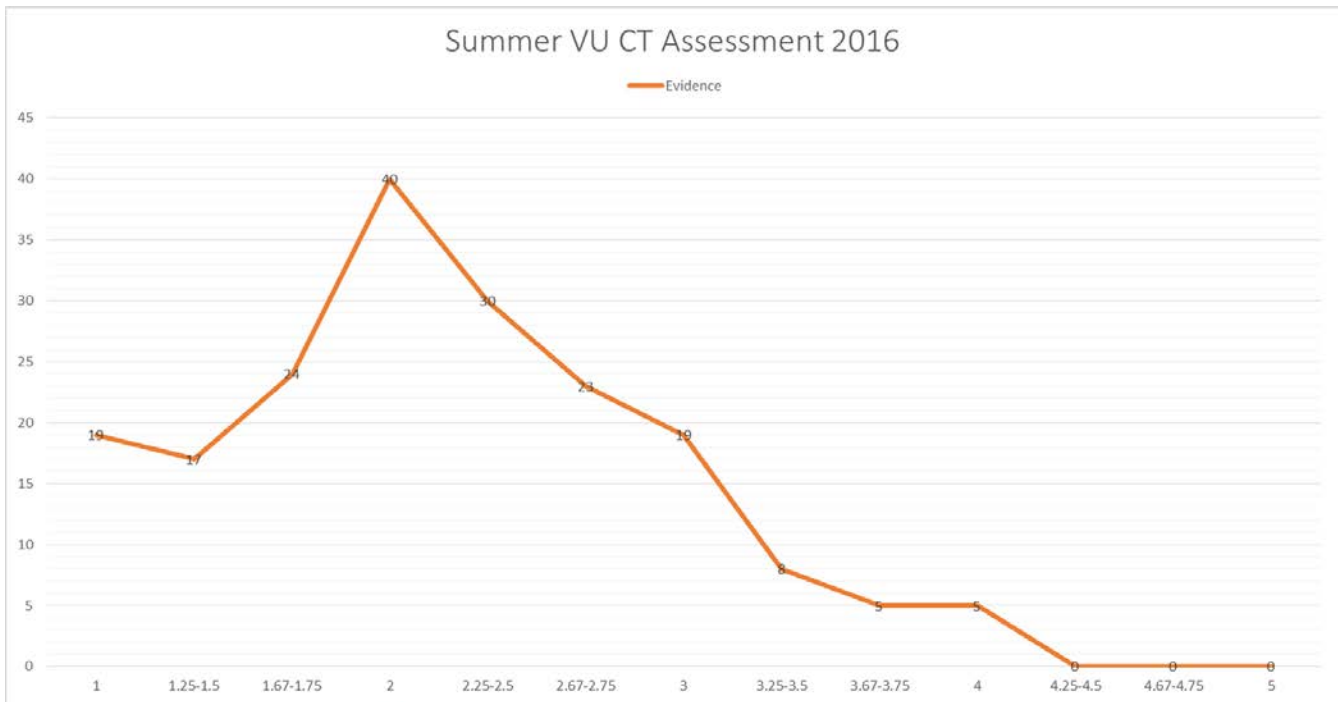
Table 11: VU CT "Context and Assumptions" Scores
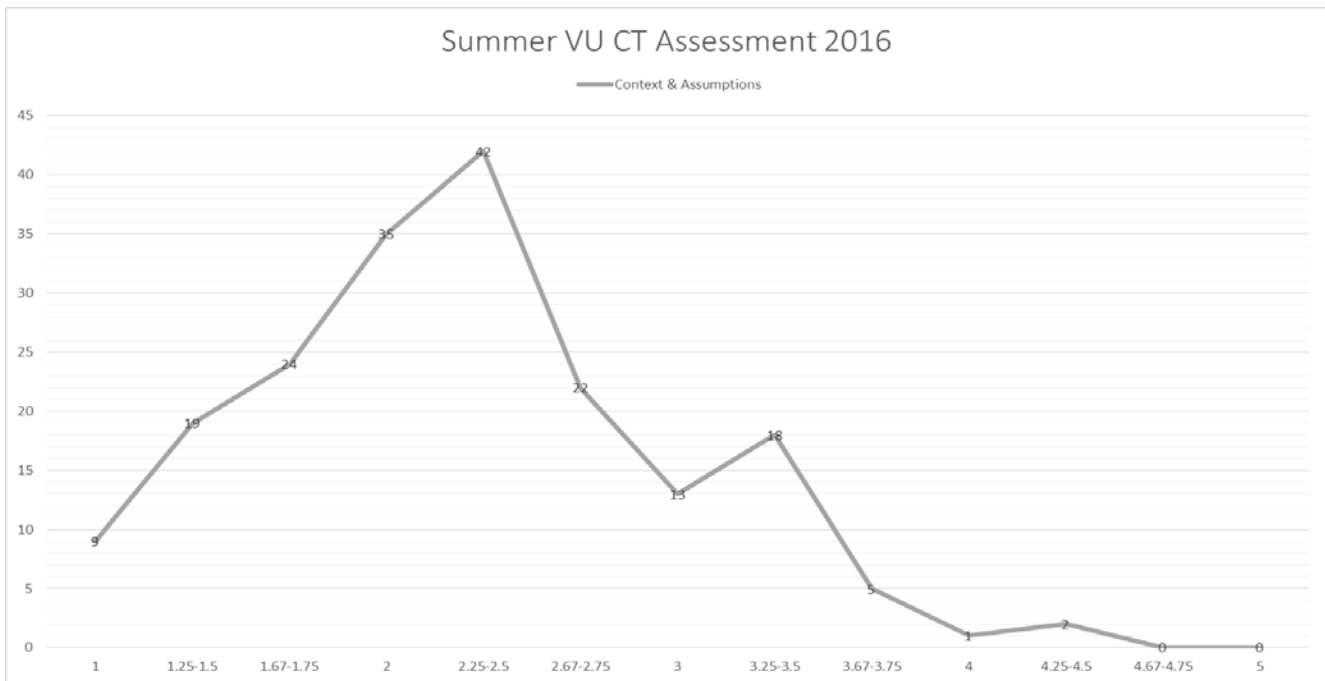
Table 12: VU CT "Student Position" Scores
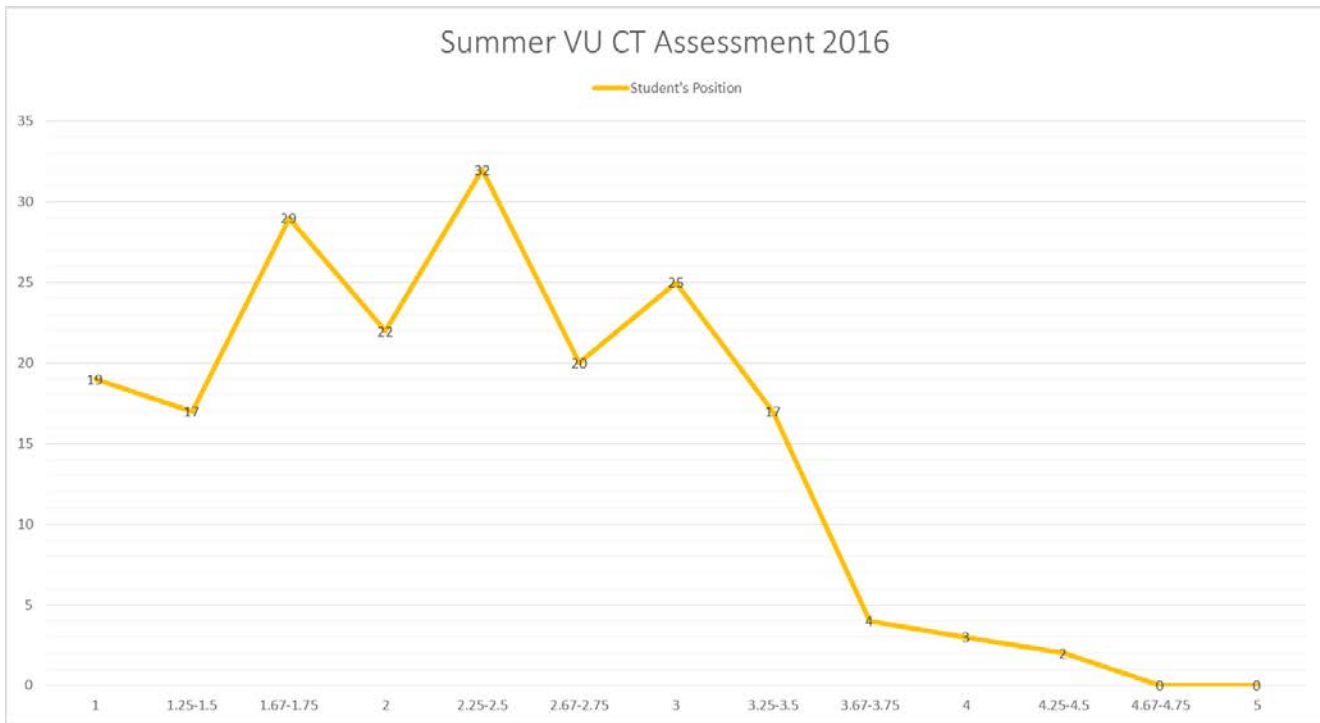
Table 13: VU CT "Conclusions and Related Outcomes" Scores
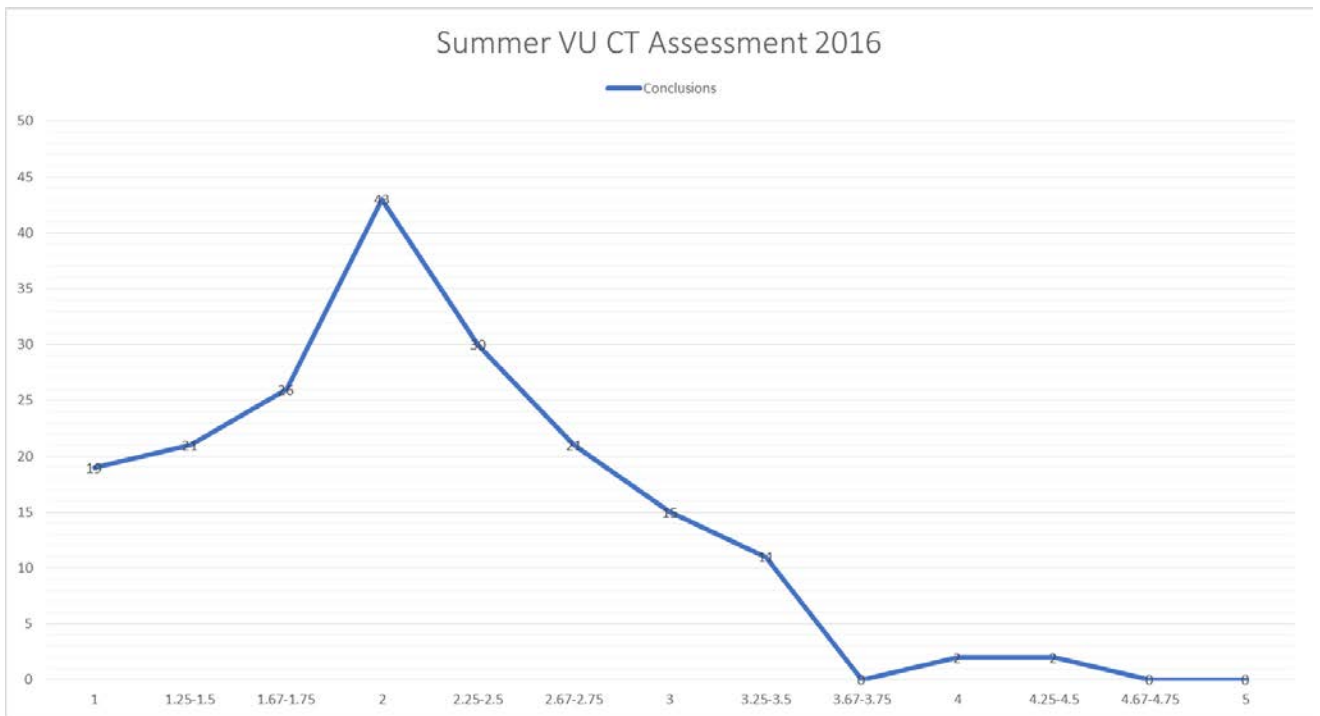
Table 14: VU CT Aggregate Scores
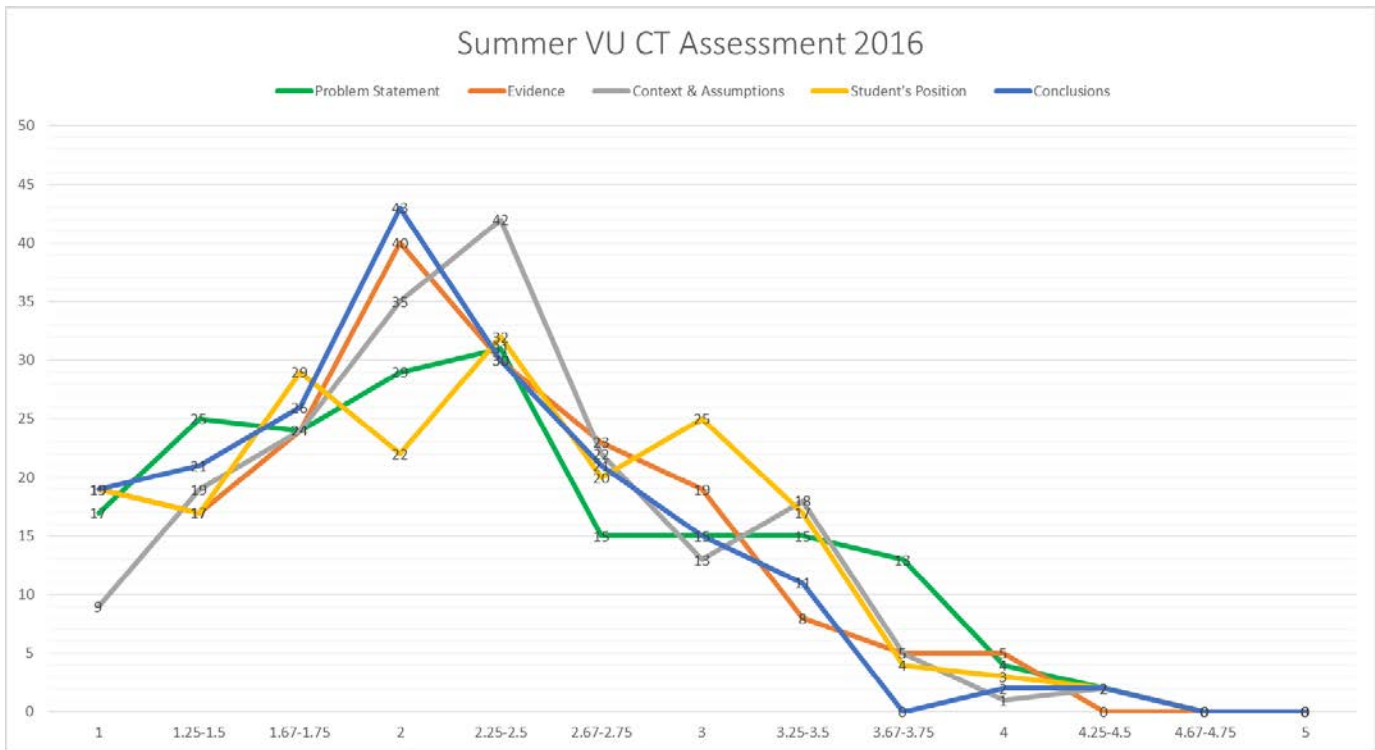
When the assessment results are organized by college, the results seem to indicate that some colleges are producing higher average scores.   I believe this is likely a product of assignment design and possibly the accessibility of the subject-matter for the students producing work in the courses. The data are the product of the groups' mean scores for each dimension which are then averaged using each artifact assessed in each college. Note that the mean scores for the colleges depend upon the number artifacts assessed for that college, and some colleges had substantially more artifacts randomly selected than others due to the inventory of general education courses within the colleges. Thus, these average scores should serve as a baseline upon which to base future comparisons and cannot be completely representative of each college's success at inculcating critical thinking skills.

Critical Thinking Results by College

	Humanities (N=56)				
	Explanation of problem,	Evidence-Selecting	Influence of context and	Student's position	Conclusions and related
Average Score	2.016	2.378	2.350	2.125	2.082
Standard Deviation (avg)	0.552	0.475	0.598	0.442	0.520
Total Agreement	8	6	5	7	3
Total Agreement %	14%	11%	9%	13%	5%
Partial Agreement	27	20	21	26	21
Partial Agreement %	48%	36%	38%	46%	38%
Even Split	2	4	8	7	2
Even Split %	4%	7%	14%	13%	4%

Table 15: Humanities Avg. Scores and Rates of Agreement

	Science, Math, & Engineering (N=59)				
	Explanation of problem	Evidence	Influence of context and	Student's position	Conclusions and related
Average Score	2.836	2.309	2.552	2.678	2.477
Standard Deviation (avg)	0.480	0.470	0.452	0.373	0.447
Total Agreement	13	14	14	20	15
Total Agreement %	22%	24%	24%	34%	25%
Partial Agreement	26	28	28	28	26
Partial Agreement %	44%	47%	47%	47%	44%
Even Split	5	0	5	3	5
Even Split %	8%	0%	8%	5%	8%

Table 16: Science Avg. Scores and Rates of Agreement

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		Social Sciences & Performing Arts (N=64)				
		Explanation of problem,	Evidence-Selecting and	Influence of context and	Student's position	Conclusions and related
Average Score		1.898	1.910	1.962	1.909	1.759
Standard Deviation (avg)		0.412	0.331	0.446	0.387	0.365

Total Agreement		19	26	12	16	24
Total Agreement %		30%	41%	19%	25%	38%
Partial Agreement		31	25	37	38	28
Partial Agreement %		48%	39%	58%	59%	44%
Even Split		2	5	5	1	2
Even Split %		3%	8%	8%	2%	3%

Table 17: Social Science Avg. Scores and Rates of Agreement

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		Health Science & Human Performance (N=11)				
		Explanation of problem,	Evidence-Selecting	Influence of context and	Student's position	Conclusions and related
Average Score		2.523	2.189	2.258	2.780	2.364
Standard Deviation (avg)		0.426	0.398	0.356	0.321	0.267

Total Agreement		2	3	3	4	5
Total Agreement %		18%	27%	27%	36%	45%
Partial Agreement		5	3	5	5	4
Partial Agreement %		45%	27%	45%	45%	36%
Even Split		2	3	2	1	1
Even Split %		18%	27%	18%	9%	9%

Table 18: Health Sciences Avg. Scores and Rates of Agreement

These scores reflect the total average scores of 190 critical thinking artifacts. Ten artifacts were removed from the totals due to unanimous identification as an assignment that did not address the dimensions of critical thinking. The rates of agreement reflect the percentage of agreement among the four assessment groups comprised of three or four assessors. The fact that agreement reflecting an even split could occur only in groups of four explains the relatively low rates of an even split in scores among the group members. The average standard deviations indicate the average amount of deviation among the scores for each dimension with scores below 0.433 indicating a majority agreement among the assessment group members.

Qualitative Feedback from Assessors of VU CT Artifacts

Following the assessment of student artifacts, the assessors were given a reflective questionnaire to which they could respond at length. The questionnaire was comprised of five directed questions that were meant to provide feedback concerning the assignments, student work, and the assessment process as a whole. Each assessor was able to respond in as much or as little length as he or she wished. The results of this feedback suggest that assignment design and scaffolding in the curriculum are critical concerns for improving students' demonstration of critical thinking.

Question 1: How efficient was the process of scoring artifacts using Blackboard outcomes? Did you have any problems or concerns regarding the system or its functionality?

"*I believe the in-person group training session for Collaborate was very helpful. While I was experienced with the program, it was still nice to brush up on the procedure. Also, I heard several comments from others who were not as familiar with Collaborate. I did miss the sessions with colleagues during the evaluation process. While it was much, much easier to evaluate at my own pace, I felt that I was missing out on getting the input from others. When we worked in several Collaborate sessions last summer, I was challenged by colleagues, challenged others, and was frequently shown other perspectives which, I believe, helped me to become a better evaluator.*"

"*I was a bit uncertain about the ease of evaluating the essays in this format simply because I had graded/evaluated online only one time previously. However, it was not a difficult process and went more smoothly than I had anticipated. In fact, the more essays I assessed, the more smoothly the process of evaluating became and the quicker the process went. This was due both to the familiarity of the process and rubric as well as the repetition of assignments—several essays responding to the same assignment were grouped together. This grouping of same assignment responses allowed me to see easily the different levels of depth/ways of approaching the assignment.*"

"*I liked this summer's process of scoring via Blackboard much better than the processes used in previous years. Having the rubric and descriptions of each component of the rubric was helpful. Also, having the instructor's instructions was helpful too. Everything located in one place made the process go much smoother. Also, I liked having several artifacts from the same assignment in order. This allowed score the artifacts more consistently. I also liked the area to leave comments. This allows the evaluator to give feedback about problems, concerns, or positive reflection of assignments or work as soon as they read through the work. I did not find any problems with the method.*"

"*I found the process for scoring through Blackboard Outcomes to be very easy and intuitive since it is very similar to the grading tool for assignments in the class version of Blackboard. One thing I would suggest (though I'm sure most realize this anyway) is that the student and professor names on the papers can lead to some bias and raise questions regarding confidentiality. I graded several of the same*

assignment from two different sections of the same course. I noticed an overall difference in the quality of work between the sections, but I also couldn't be sure I wasn't letting some subconscious biases get the best of me (this was complicated by the fact that I know both of the teachers for these classes). At minimum, it would make sense to suggest all instructors require their students to submit assignments without their names on the files. It wouldn't fix everything, since some students will not follow directions and the names of the instructors are still a part of the course sites the files are pulled from (and thus display on the page with the assignment), but maybe we could change or hide that part too, some day?"

Question 2: What general observations did you make regarding students' demonstrations of critical thinking? Were there any elements of the assignments that were particularly revealing of students' ability to think critically?

"*Students typically put in as much work as they were asked to. If they were asked only to write a research paper (even if told to follow the rubric), they usually failed to do any critical thinking. If they were given something that guided them well or created a dilemma, they would respond with actual personal responses, rather than just regurgitated source material.*"

"*I felt overall the students did very well on the writing of their assignments. I generally observed that students had particular trouble with explaining why their ill-defined problem was an issue. They also had trouble identifying context and assumptions in dimension 3 of the rubric. Lastly, I felt students tended to state a position and conclusion, but often they did not discuss the weaknesses of their position.*"

"*Obviously, if the assignment was clear and included useful supplemental materials, the student has a better chance for success. We, of course, don't know what happened in class. Some assignments simply weren't CT. The students could not be successful. Even good assignments, however, do not guarantee student success. Lack of development and poor use of evidence remain problems. Lack of understanding and application of context and assumptions also remain problematic.*"

"*I felt the students as a whole were engaging in more critical thinking than in previous years. The assignments seemed to be better explained. In order for students to think critically and fulfill all components of the rubric, the instructor must have each component specifically identified in the assignment. The assignments seemed to do a better job of explaining expectations this year.*"

Question 3: What observations did you make regarding the assignments? Which assignments do you believe worked best? Which were the worst? Why? Are there particular observed traits, elements, or issues that inform your evaluation of the assignments?

"*The way the assignment is presented to the students affects their critical thinking. My observation is that in some of the assignments, students were asked questions that were too specific, limiting their ability to critically think. On the other hand, like the oceanography critical thinking, the question was so specific that there was no way the student could not critical think and hit all the points on the rubric. Some of the assignments didn't even allow the students to use critical thinking because they were set up as a compare/contrast. Students' critical thinking was at times hard to evaluate due to their poor grammar/mechanics.*"

"*Obviously, the quality of directions and prompts made a tremendous impact on the quality of student responses. The best assignments were the most clear and specific. The best responses were the most clear and specific. I see that students who seem to have less skill with language and less facility with vocabulary don't do as well. I don't know if this implies that those students has less-developed critical thinking skills or if they simply do not have the tools with which to explore and explain. I've asked this question before, and I don't know that there is an answer, but do we teach to the rubric? There are many more ways to demonstrate critical thinking skills and, by only following the rubric, we limit our ability to acknowledge that variety.*"

"*Here is a question to ponder: Is it more appropriate to provide greater detail in lower level courses where students are being introduced to critical thinking and lesser detail to higher level courses where we can assume the students have had several opportunities to illustrate their critical thinking? Perhaps since we have, generally speaking, first- and second-year students, as opposed to third- and fourth-year students, greater detail is appropriate for both 100- and 200-level courses.*"

"*Once again this year, I felt the explanation of the problem or identifying the existing problem and all sides affected is the weak link in critical thinking as a whole. All students should be required to submit a works cited page with all sources of information used in completing the assignment, even if this is just a poster or a textbook. This would help evaluators to know if the student is just making up the data or actually consulted the resources required by the assignment. The instructor also needs to specifically list the evidence requirements for the assignment.*"

"*I observed many of the assignments did not have an ill-defined problem and were not critical thinking assignments. The assignments that did not work well (or were not critical thinking assignments) tended to ask students to compare/contrast items or observe something and then write a reflection over that observation (a music performance or posters for example). I felt assignments which worked the best and thus had higher scores when assessing were assignments that had an obvious ill-defined problem with clear directions on each dimension of the rubric (guided questions).*"

"*Longer assignments (assignments with more writing) seemed to do better than the shorter ones, though not always. Shockingly, students seem to be content with saying very little if allowed to do so. General paragraph requirements don't cut it (I saw one that said "write 1-3 paragraphs for each question"). Do we need to require/encourage CT assignments have explicitly defined word count requirements? Should such word count minimums differ depending on the type of class (100-level vs. 200-level)? Similarly, I would love to know how some of these assignments were weighted within their course grade*

breakdowns. Some of the assignments required so little writing that I assume it was a 5% project. Those led to submissions that were, overall, very inadequate."

Question IV: How effective is the rubric as a tool for measuring students' critical thinking ability? Were there any dimensions of the rubric that were more difficult for you to score than others? How so? What suggestions do you have for improving the CT rubric?

"*As we discussed in the training, some of the descriptions between an acceptable and advanced (or other adjacent columns) are not that different. One aspect of the Student's position rubric has always frustrated me. This is the part that deals with the discussion of the author's viewpoint. Many assignments are not geared where the student must agree or disagree with the author. The author may simply be presenting the information and the student must then make a decision. I don't believe any of the 40 assignments required the student to discuss the author's position.*"

"*This rubric is very effective at measuring critical thinking for well-designed assignments meant to be assessed by this rubric. One problem I have found is that the difference between levels is inconsistent. There are places where there is a large enough gap between two adjacent levels that there could easily be another level between them, while others have such a subtle difference it's difficult to distinguish between them. That being said, I'm not sure how it could be improved other than coming up with specific terminology for each discipline.*"

"*I think I 'get' the rubric pretty well, but I admit to having some trouble distinguishing between the two highest levels (Advanced and Excellent). Personally, I scored very few projects Excellent in any dimension of the rubric. Maybe it's because I haven't had as many clear examples of what an advanced project would have for Conclusions and Related Outcomes (as an example), but it's a lot easier to distinguish between assignments as either Inadequate, Developing, or Acceptable.*"

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"The real difficulty with the rubric was trying to apply it to either an assignment or response that was poorly structured."

Question V: After completing this process what would be your advice to other faculty concerning engaging students in critical thinking and demonstrating it in writing? What observations from this process inform that advice?

"Faculty should do a series of progressive assignments in order to prepare students develop critical thinking skills. These could be group assignments that alter developed into individual ones. In order to demonstrate them in writing, examples could be provided from previous students but different topics. Definitely encouraging students to go to the writing center will help. This process showed that some students are not prepared for the assignment, or did not take enough time to write the assignment. However I think faculty should be better instructed about what a critical thinking assignment is and what is not."

"It seems to me that the clearer the expectations are within the assignment, the better the chances that students will meet an "acceptable" or higher rating. This does not necessarily mean a tight hand-holding of the student, but faculty probably should consider where students likely are in their academic career (1st semester vs. 4th semester) and adjust the presentation of the assignment accordingly. The PSYC 142 and SOCL 151 assignments seem to provide entry-level students the guidance necessary. Along these lines, additionally, faculty should consider either scaffolding the critical thinking assignment itself (requiring smaller portions of the assignment be due in the process of completing the final document) or scaffolding assignments leading up to the critical thinking assignment (assignments that require one or some of the same skills needed for the critical thinking assignment). This observation is based on what appeared to be students' rushed responses or students' misunderstanding of the assignment (they did not clearly address the requirements of the assignment). Additionally, leading questions should also be carefully considered. Are the questions being asked going to lead students to think critically?"

"My major piece of advice to faculty is to spend more time on critical thinking and the CT assignment as a part of the class activities, so that students understand the assignments better and feel more comfortable writing them. I know the critical thinking project has been a tough obstacle for some faculty members to incorporate in the classes, but this assessment process makes it clear to me that many students underperform, not because they are incapable of thinking critically, but because they just are not engaged enough with the assignment."

"Implementing a proper critical thinking assignment is a significant undertaking. There is a fine line between questions that are specific enough to keep the students on task and general enough to allow for creativity. There needs to be time allotted for submitting drafts, giving feedback, and making revisions. The assignments need to be long enough to allow students to demonstrate proper critical thinking."

PART II: VU WRITTEN COMMUNICATION ASSESSMENT

Sampling Method and Data Collection

A random sample of student argumentation essays from ENGL 101 were collected using Blackboard Outcomes to create a sample of 50 artifacts. The artifacts were assessed by a group of three assessors from the English department using the VU Writing Intensive Rubric in five categories—context and purpose of writing, content development, genre and disciplinary conventions, sources and evidence, control of syntax and mechanics. One student artifact had to be discounted because it was simply a submitted blank page. The scores were averaged for each dimension and the standard deviation calculated to determine the amount of agreement among the assessors for each dimension of the rubric.

Vincennes University Written Communication Assessment Results

The results of the written communication assessment are based on a four-point rubric. The standard deviations for the first three categories of the rubric—context and purpose of writing, content development, and genre and disciplinary conventions—illustrate a significant variance in the scores for these dimensions, particularly when compared to the standard deviations for the last two categories—sources and evidence and control of syntax and mechanics. This may suggest some revision to the written communication rubric is merited as the assessors don't seem to be in agreement concerning each artifact's demonstration of those rubric dimensions.

Table 19: VU Written Communication Avg. Scores and Rates of Agreement

	Context of and Purpose	Content Development	Genre and Disciplinary Conventions	Sources and Evidence	Control of Syntax and Mechanics
Average Score	2.367	2.177	2.194	2.095	2.194
Standard Deviation (avg.)	0.673	0.667	0.637	0.459	0.458
Total Agreement	3	3	4	13	10
Total Agreement %	6%	6%	8%	27%	20%
Partial Agreement	21	21	21	24	29
Partial Agreement %	43%	43%	43%	49%	59%

The written communication goal is that 66% of students will score an average of 2.67 in the dimensions of Context and Purpose, Content Development, Sources and Evidence, and an average of 2.33 in the dimensions of Genre and Disciplinary Conventions and Control of Syntax and Mechanics as assessed by three faculty assessors:

Table 20: Percentage of WC Artifacts Meeting Goals (N = 49)

2.67 Average or higher			2.33 Average or higher		
Context of and Purpose for Writing	Content Development	Sources and Evidence	Genre and Disciplinary Conventions	Control of Syntax and Mechanics	% Meeting All Goals
47%	33%	14%	51%	57%	12%

Sources and Evidence then Content Development presented the greatest challenges to students; however, the percentage meeting all goals would have increased almost 10% if the goal was an average score of 2.33. The overall percentage meeting the goal is depressed due to the average scores in the Evidence category of the Written Communication rubric.

Table 21: VU Context and Purpose for Writing Results

VU Written Communication Results

	1	1.33	1.67	2	2.33	2.67	3	3.33	3.67	4
Context of and Purpose for Writing	3	3	4	6	10	10	9	4	0	0
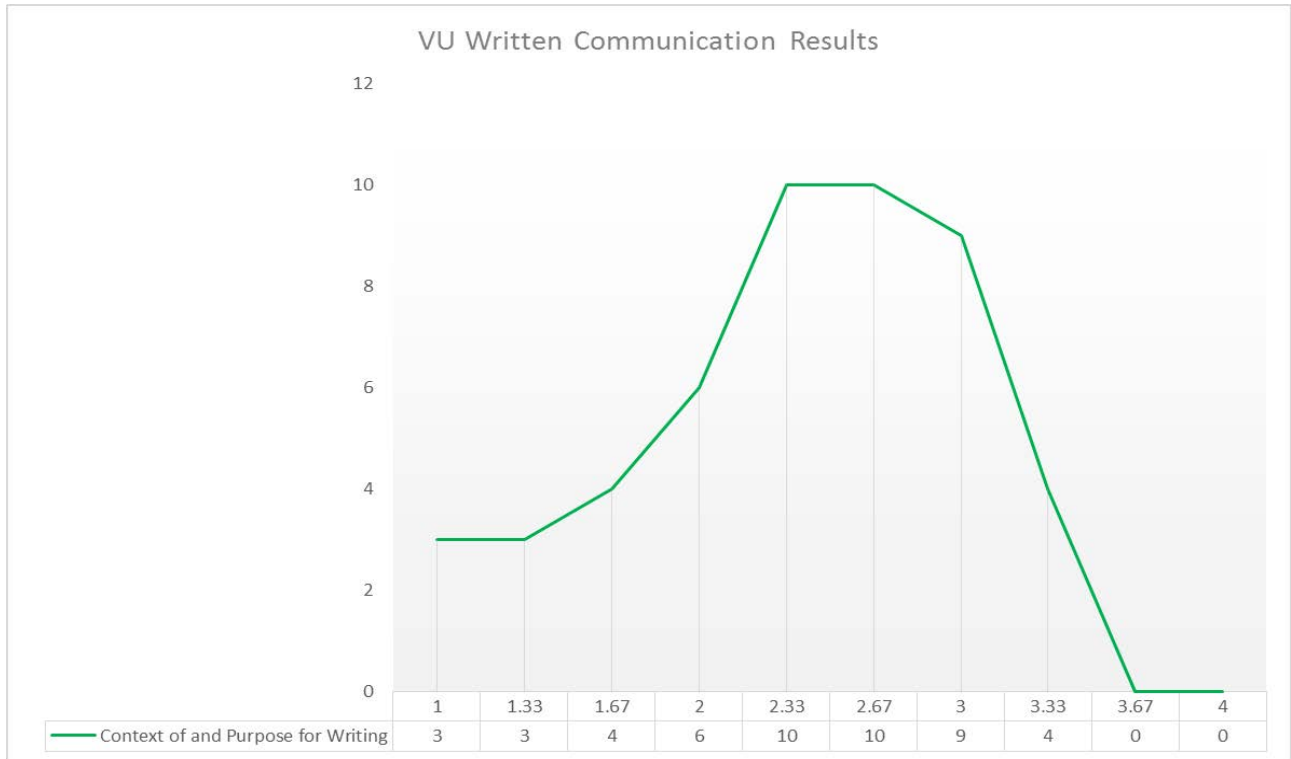
Table 22: VU Content Development Results

VU Written Communication Results

	1	1.33	1.67	2	2.33	2.67	3	3.33	3.67	4
Content Development	1	6	4	14	8	12	3	1	0	0
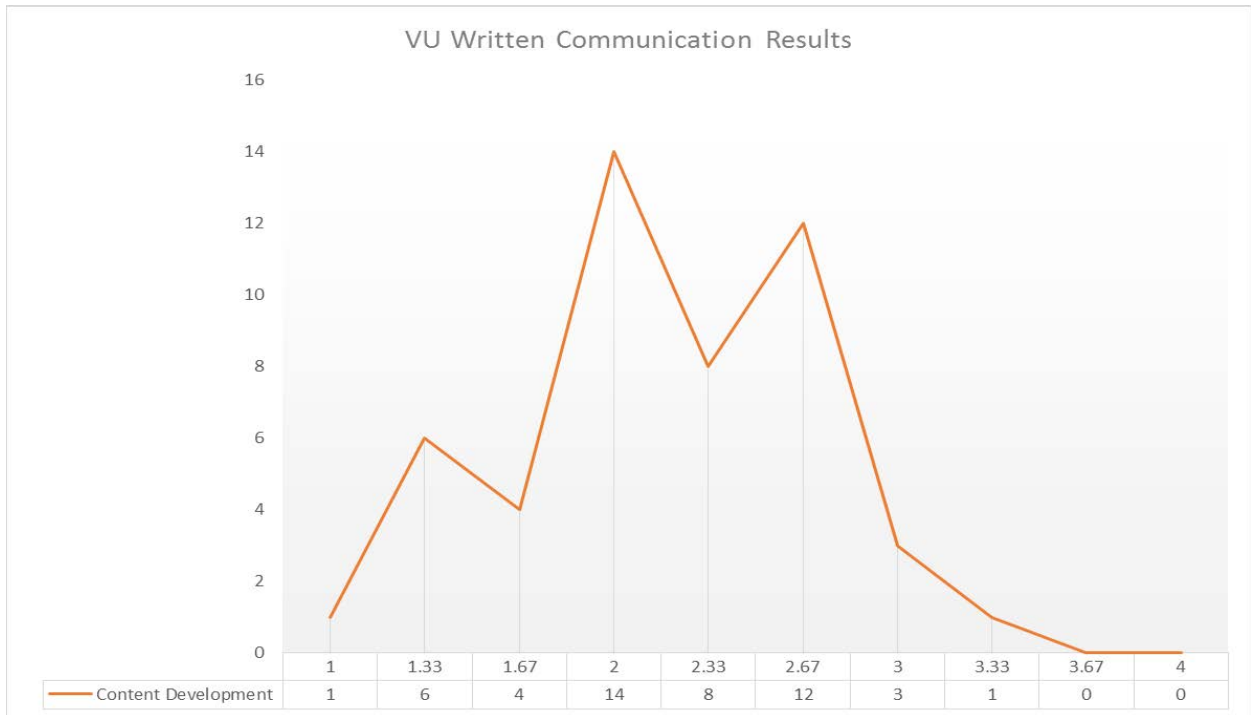
Table 23: VU Genre and Disciplinary Conventions Results

VU Written Communication Results

	1	1.33	1.67	2	2.33	2.67	3	3.33	3.67	4
Genre and Disciplinary Conventions	1	4	6	12	11	10	5	0	0	0
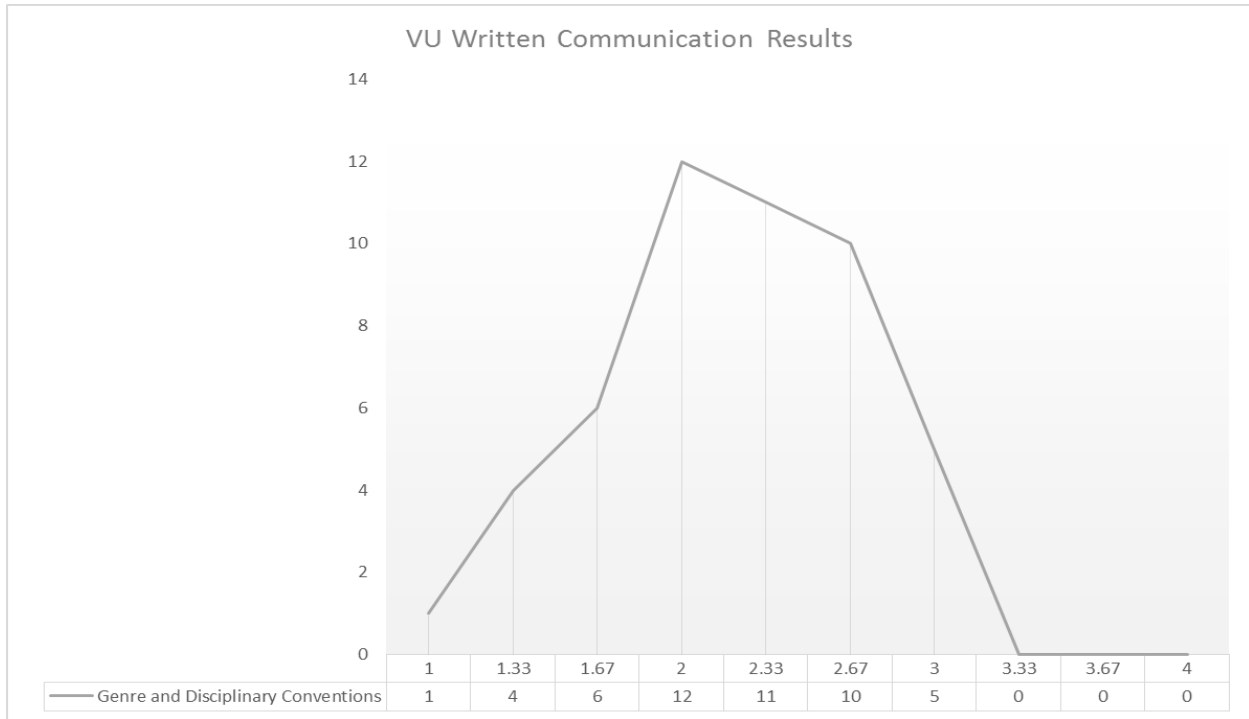
Table 24: VU Sources and Evidence Results

VU Written Communication Results

	1	1.33	1.67	2	2.33	2.67	3	3.33	3.67	4
Sources and Evidence	4	3	6	11	18	2	4	1	0	0
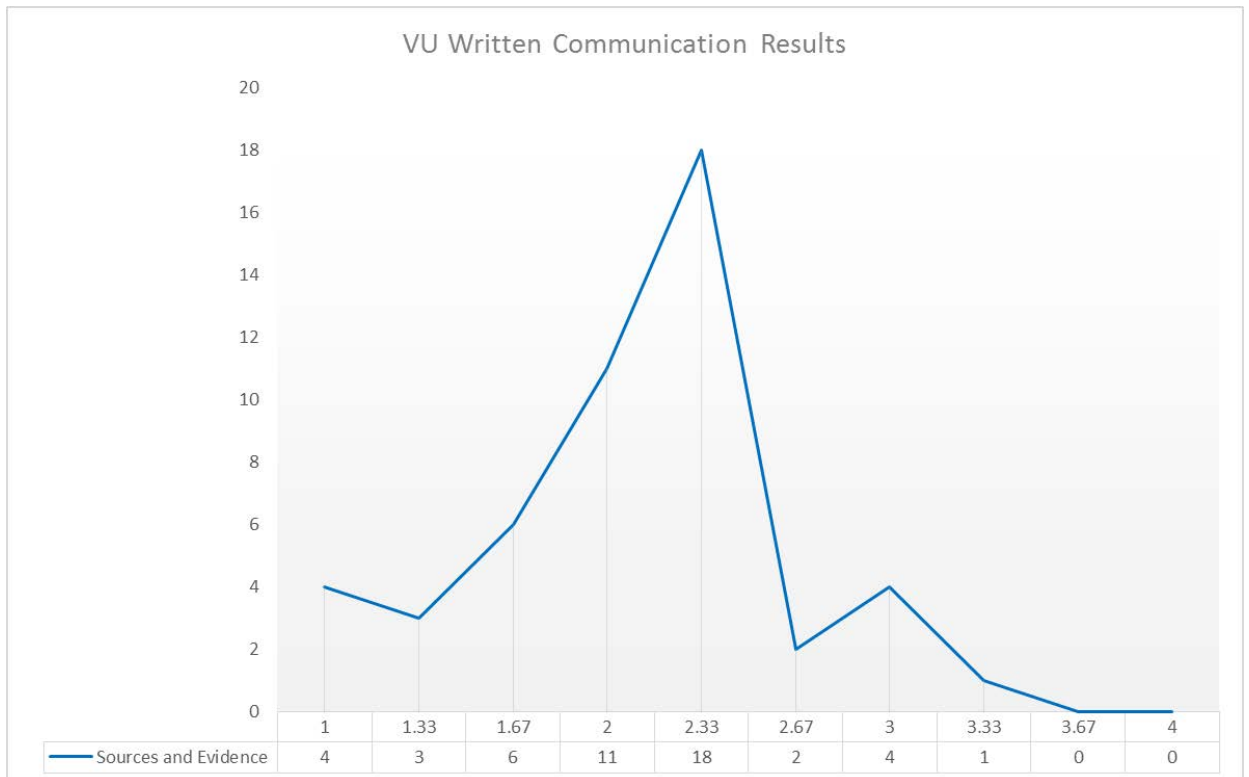
Table 25: VU Control of Syntax and Mechanics Results

VU Written Communication Results

	1	1.33	1.67	2	2.33	2.67	3	3.33	3.67	4
Control of Syntax and Mechanics	2	4	7	8	10	14	4	0	0	0
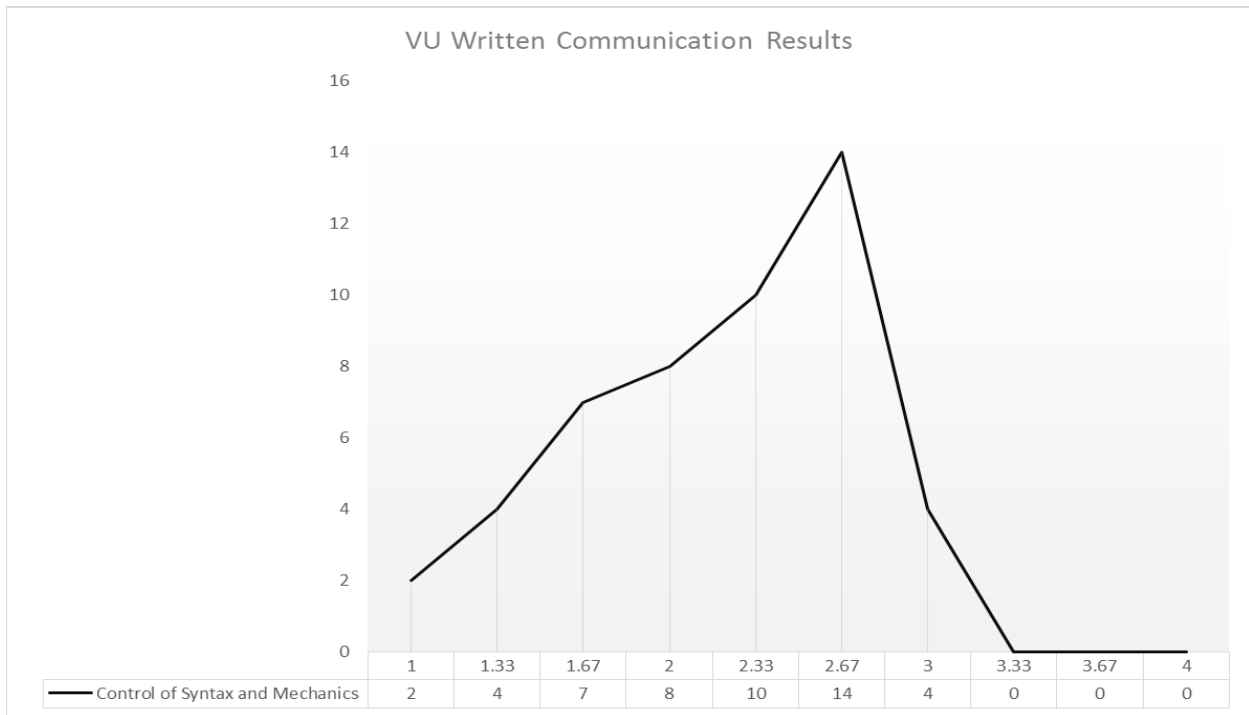
Table 26: Aggregate VU Written Communication Results

VU Written Communication Results

	1	1.33	1.67	2	2.33	2.67	3	3.33	3.67	4
Context of and Purpose for Writing	3	3	4	6	10	10	9	4	0	0
Content Development	1	6	4	14	8	12	3	1	0	0
Genre and Disciplinary Conventions	1	4	6	12	11	10	5	0	0	0
Sources and Evidence	4	3	6	11	18	2	4	1	0	0
Control of Syntax and Mechanics	2	4	7	8	10	14	4	0	0	0

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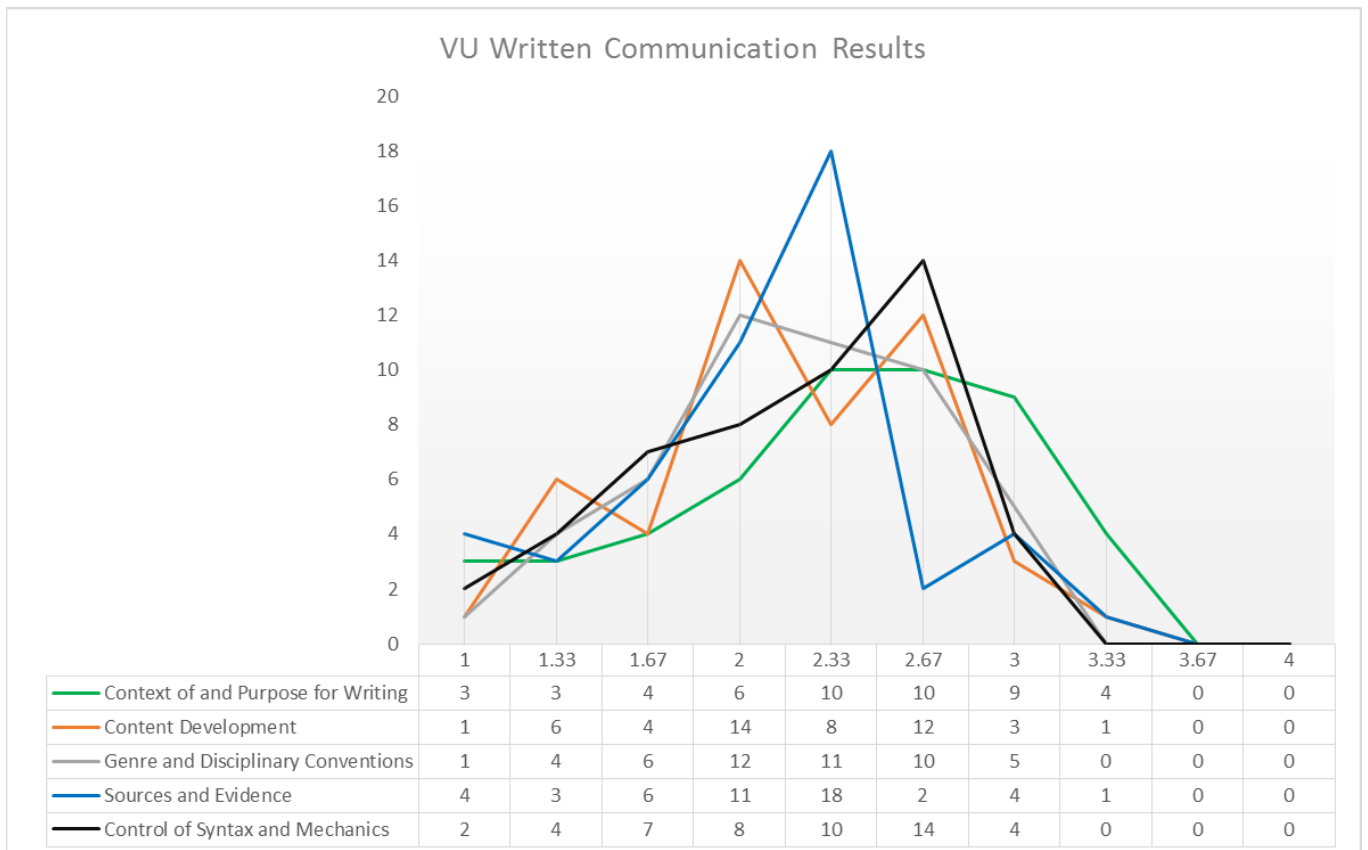
Each dimension of the rubric exhibits a steep decline in the frequency of scores following the average score range of 2.33-3. The "context and purpose for writing" dimension illustrates a significantly higher average score and approaching a bell-curve shaped distribution of scores. This general distribution of scores is also shared by the "genre and disciplinary conventions" dimension whereas the results for other three dimensions have one or more peaks in the mid-range that then become a precipitous downward slope. These patterns in the data may be the product of students' familiarity with these dimensions with "sources and evidence" demonstrating the steepest shift to a negative slope followed closely by "control of syntax and mechanics."

Qualitative Feedback from Assessors of VU Written Communication Artifacts

Similar to the assessment of critical thinking, all written communication assessors received a reflective questionnaire comprised of five directed questions meant to provide feedback concerning students' written communication, the assessment process, and the rubric.

Question I: Did you have any problems or concerns with the process of using Blackboard Outcomes for assessment? Do you have any suggestions or observations you would like to make concerning the process?

"*I don't know how feasible it would be, or if it would serve the goals of the assessment, but I would like to see access to Safe Assign reports for the artifacts. A couple had things that seemed off, and I was able to quickly find that portions of a couple samples had been plagiarized. There is a LOT that Safe Assign*

doesn't catch, but it might help red flag these, as I feel it makes them difficult to assess. If the whole

essay is plagiarized, obviously we can't assess the students' abilities at all based off of it. If a paragraph

or part of a paragraph was plagiarized, it is less clear if it is a problem with weak use of citing or if the

whole thing should be thrown out."

"*If instructors would make sure to attach the files to the assignment submission links, that would be great.*

That kind of context is valuable for figuring out just what in the world a student is being asked to do. My

other (very minor) request would be to enable it so that we can see the assignment document in the

window on Blackboard Outcomes, similar to how one sees the document on the same page as the rubric

when grading on Blackboard. It's not a terrible burden to download the file and split screen, but it would

be even more seamless if it could be in the same window. I'm not sure if the software can do that or not,

but it would be nice."

Question 2: What general observations did you make regarding students'

demonstrations of written communication? Were there any elements of the

assignments that were particularly revealing of students' ability to compose an

argument and synthesize evidence?

"*I was extremely impressed at students' ability to find and correctly create a works cited page with*

credible sources. I would guess maybe 80% used at least two sources that were credible, and 60% had

them correctly formatted on the Works Cited page. Half tagged at least adequately, and maybe 25% had

quality attributive tags, which I think is good. That said, though, there were many arguments where there

were major holes in the logic, and it wasn't clear how many supporting ideas related to the thesis in the

weaker essays. Awareness of the rhetorical situation and audience seemed low, and maybe 15-20%

seemed more like informative essays than persuasive. They discussed both sides of the issue, but failed

to take a stance, or weakly stated their stance, then built up the opposing side with stronger arguments

and evidence than their own professed side while offering no rebuttals. With rebuttals, over half of the essays had a clear attempt at refuting the opposition, and over a third of them did a good job with this."

"*[. . .] students struggled with Content Development (and Sources & Evidences, depending on how one look at those categories). The struggles took two forms: neglecting evidence in favor of logical fallacies or force-of-will assertions ("guns help save lives"), or simply "quote dropping" without any explanation or analysis surrounding a piece of evidence. These issues occurred here and there in all papers in both assessments, regardless of length or the even the number of sources included in the works cited page. Even students who knew to choose good, credible sources lacked skill in utilizing them to their fullest potential.*"

Question 3: What observations did you make regarding the assignments? What elements of the assignments worked best? Which were the least effective? Why? Are there particular observed traits, elements, or issues that inform your evaluation of the assignments?

"*Many of the assignments asked students to pick a topic related to a certain theme – education, for instance. In one way, I think this can help to focus students, and especially to help guide class discussion and provide a pool from which to pull samples in class discussion. That would be a strength of this approach. What weakens it, though, is that in some cases it was clear that students did not look beyond Opposing Viewpoints, which limits the information they have to pull from. It is a good starting place, but too many students seemed to only look there, which provides them with a limited base of research skills.*"

"*I think there's a lot of value in having students develop their own arguments instead of just "picking" a side and defending it to the death. Initially, I suspected the in-depth invention process would help their ability to develop counter arguments and refutations because they would be more fully immersed in the topics they were researching. However, after looking over the artifacts all together, I did not notice a*

substantial difference in performance between the assignments where students (seemingly) did that verses assignments where students were given the topic to choose sides on. Overall, the content of the assignments (especially within the VU artifacts) were very similar."

Question IV: How effective is the rubric as a tool for measuring students' written communication ability? Were there any dimensions of the rubric that were more difficult for you to score than others? How so? What suggestions do you have for improving the rubric?

"*Similar to the Critical Thinking rubric, I treated this as a four being the mastery of the skills I would expect a student to have when they have completed writing courses at a four year institution. Being Comp I students, there were lots of 1s and 2s. There were occasional 3s and no 4s. At times, I felt as if I may be scoring too low, and at other times I wish there was also a 0 in addition to 1, 2, 3, and 4. I mostly wished this when I had an essay with no Works Cited sheet. I also had trouble with several shorter selections. Some students had essays that were clearly too short to meet guidelines as an assignment, but that doesn't necessarily effect assessment. There was one in particular, and I don't remember what it was about, but the student had a very clear understanding of the issue, they knew their audience, argued their view, refuted others, it was well organized, but the development of content was very weak. Logically it was all there, but with only adequate support and only the minimum explanation necessary. For content I scored it lowly but in most other areas it scored quite high. Should we have a minimum word count for artifacts, or if it reflects the ability to understand the writing situation, be organized, etc., then should length not matter?*"

"*I do think some might benefit with some categories being refocused or distinguished (as I tried to start below). My major concern is how different trios or evaluators might sort characteristics of writing differently. For example, as our group did initially, someone might consider citation errors as an aspect of the source use category, or the genre conventions category, or the mechanics category. Honestly, I can see it each way, so it's just important to make sure it's all followed as consistently as possible. Big*

changes might be necessary, but I honestly just think simple reorganization/rephrasing might improve it enough."

Question V: After completing this process what would be your advice to faculty concerning engaging students in argumentation resulting in a strong essay? What observations from this process or the assignments or student artifacts inform that advice?

"*Teach students multiple ways to find sources, and encourage them to use more than one way to look for sources. Also, focus on teaching how to use sources to build an argument by selecting evidence that relates to the writers ideas, then explaining how it relates. While many sources were very well chosen, few were well used. Students either left the source to make the case for them in many cases, or the source seemed to be used only to check off a requirement, but did little to help build evidence in favor of their argument.*"

"*[. . .] one thing that might help would be to reel back requirements for an essay's length, in favor of focusing on developing the essay's content. If assignments are a more manageable length (around 5 pages or so) so that students can focus in on revising and editing, in order to make those pages as thoughtfully composed as possible. In general, at least one instructor confused length for development (I encountered papers that were 2500, 3000, and even one essay that was 4900 words long). I think students would benefit more by focusing on the key components of compelling content (using credible sources and integrating them carefully, developing thorough and logical examples and explanations, crafting good transitions and topic sentences) within a more manageable assignment. That just makes sense because those are the aspects of the essay writing process that we hope will transfer to situations where they would have to write longer essays, as well as situations where the critical thinking is emphasized more. After all, the minimum word count for the semester of English 101 is 5000 words – trying to fulfill 2/3 (or more!) of that in one paper is unrealistic for the amount of time students have to work on this project.*"

PART III: EARLY COLLEGE ASSESSMENT

Sampling Method and Data Collection

During the 2015-2016 academic year a Blackboard site was created as a centralized submission site for students' critical thinking and written communication artifacts originating in the early college locations. Of the seven early college locations, four populated courses for submission of work to the collection site—Center Grove, East Allen, Lawrenceburg, and Washington High Schools. Once the population of courses and student artifacts was complete, Blackboard Outcomes was used to derive a random sample of 30 early college artifacts in four areas—Biology, History, Spanish, and Written Communication. In addition, ten VU student artifacts from the same courses were randomly sampled and mixed into the early college artifacts to create four sets of 40 student artifacts that were then assessed by individuals using the VU rubrics for critical thinking and written communication respectively. Thus, the results from the early colleges are comparable with that of the small VU samples that accompanied them as the assessors were not told which artifacts were from the early colleges and which were from VU's campus. Nevertheless, there were some indicators, particularly when the students would directly reference their instructor in the essay text or in the work cited page. This fact did not seem to influence the scoring of the artifacts as the results are comparable, and in more than one area surpass the average VU scores. However, it should be noted that the scores were derived from small sample sizes from the early college locations and comparable VU artifacts.

Early College Critical Thinking and Written Communication Assessment Results

Early college results are juxtaposed against the VU control sample assessed with the early college artifacts. Small samples mean results are highly susceptible to changes in the scores, but these results may serve as a baseline for future comparison.

Biology

Early College Artifacts: N=30

Table 27: Early College Biology Avg. Results and Rates of Agreement

Overall Average	3.333	3.156	3.156	3.256	3.244
Avg. Standard Deviation	0.509	0.399	0.446	0.369	0.499
Total Agreement	7	10	6	8	6
Total Agreement %	18%	25%	15%	20%	15%
Partial Agreement	13	15	18	20	17
Partial Agreement %	33%	38%	45%	50%	43%

VU Artifacts: N=10

Table 28: VU Biology Sample Avg. Results and Rates of Agreement

Overall Average	2.867	1.933	2.400	2.667	2.400
Avg. Standard Deviation	0.446	0.412	0.528	0.377	0.317
Total Agreement	3	2	1	2	4
Total Agreement %	30%	20%	10%	20%	40%
Partial Agreement	4	7	6	8	5
Partial Agreement %	40%	70%	60%	80%	50%

EC Biology Scores of "3" or Higher

	Score of 3	Score of 4	Score of 5	% of artifacts
Explanation of Problem	12	14	0	87%
Evidence	11	11	0	73%
Influence of Context and Assumptions	18	8	0	87%
Student's Position	19	8	0	90%
Conclusions and Related Outcomes	17	9	0	87%
"3" or higher in all categories	21			70%

Table 29: Early College Biology "Explanation of the Problem" Scores

EC Biology CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Explanation of the Problem	0	0	0	1	1	3	8	3	8	5	1	0	0
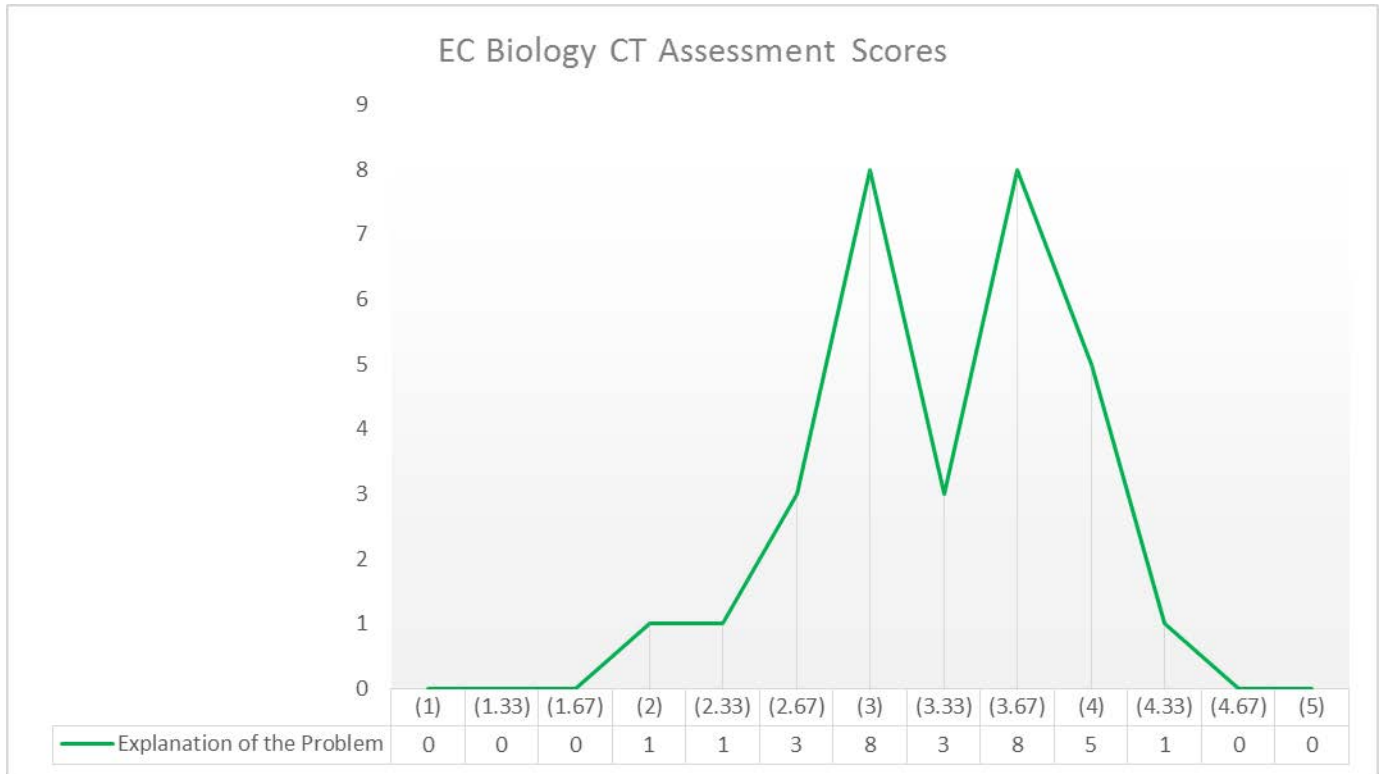
Table 30: VU Biology "Explanation of the Problem" Scores

VU Biology CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Explanation of the Problem	0	0	1	0	1	2	4	1	0	1	0	0	0
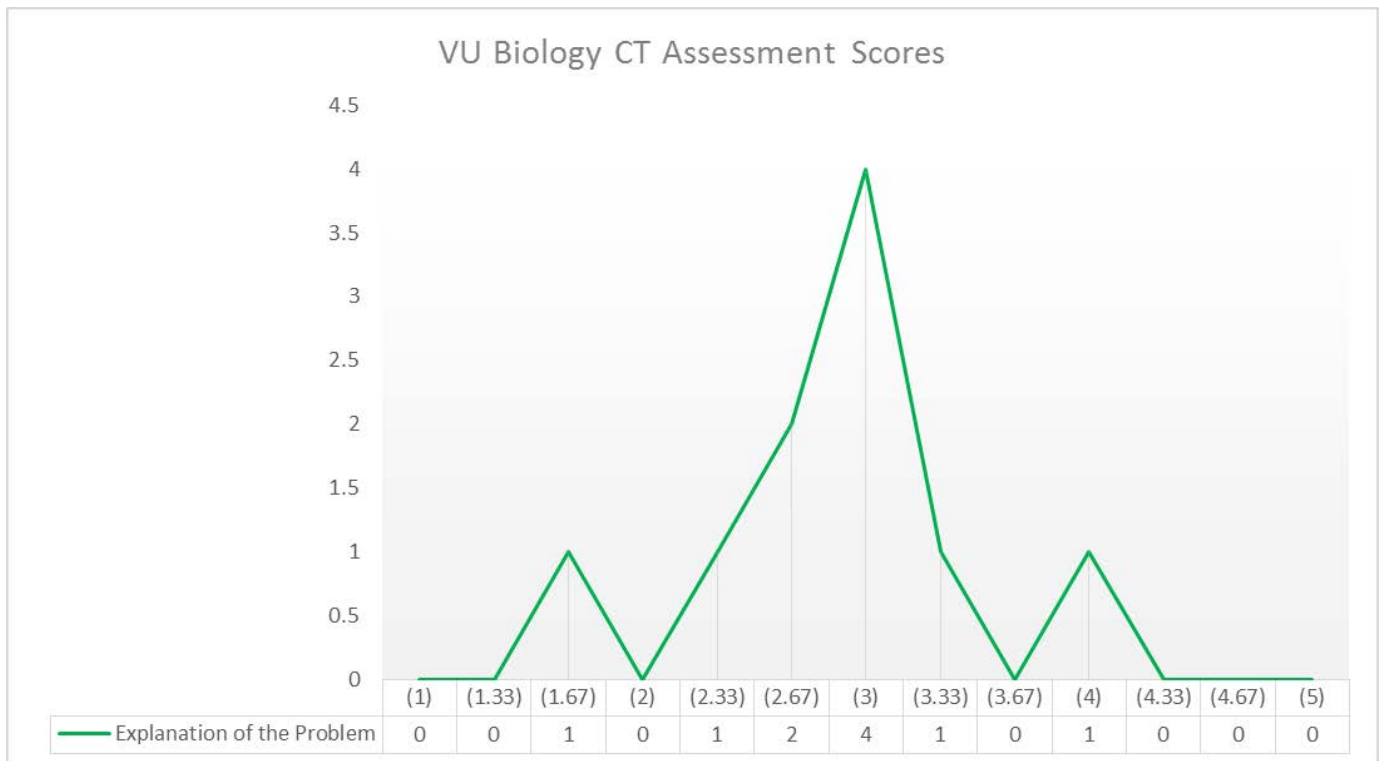
Table 31: Early College Biology "Evidence" Scores

EC Biology CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Evidence	1	0	0	2	4	2	5	5	5	3	3	0	0
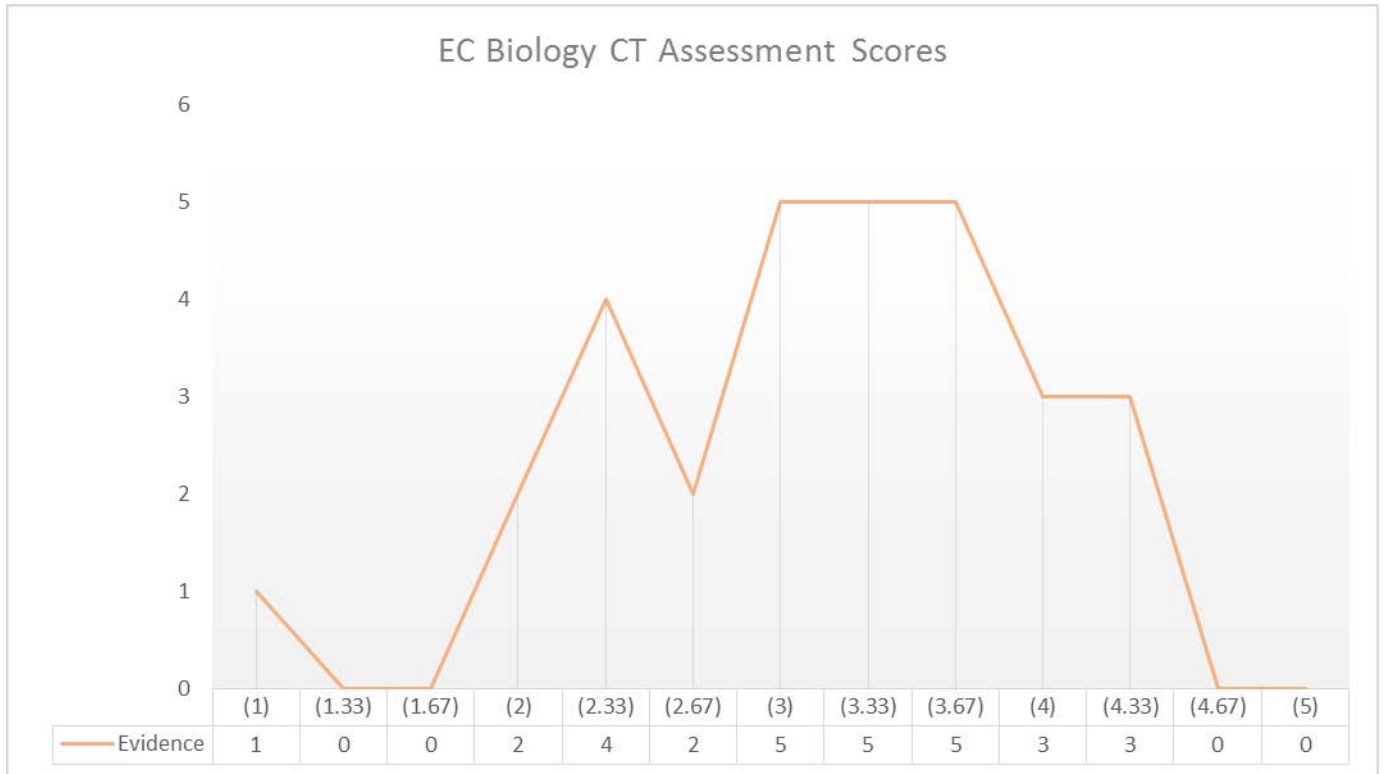
Table 32: VU Biology "Evidence" Scores

VU Biology CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Evidence	0	2	2	4	0	2	0	0	0	0	0	0	0
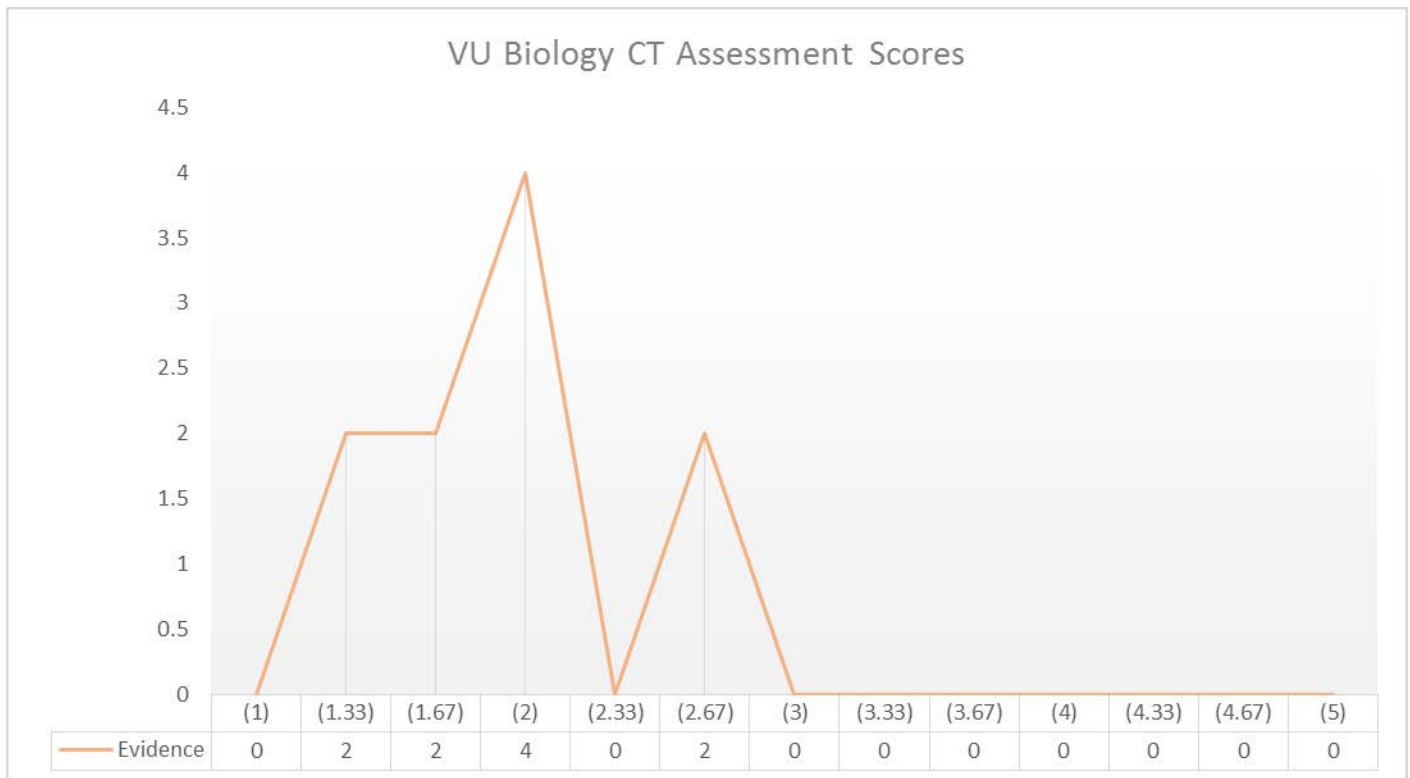
Table 33: Early College Biology "Contexts and Assumptions" Scores

EC Biology CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Contexts and Assumptions	0	0	0	1	3	3	8	7	5	3	0	0	0
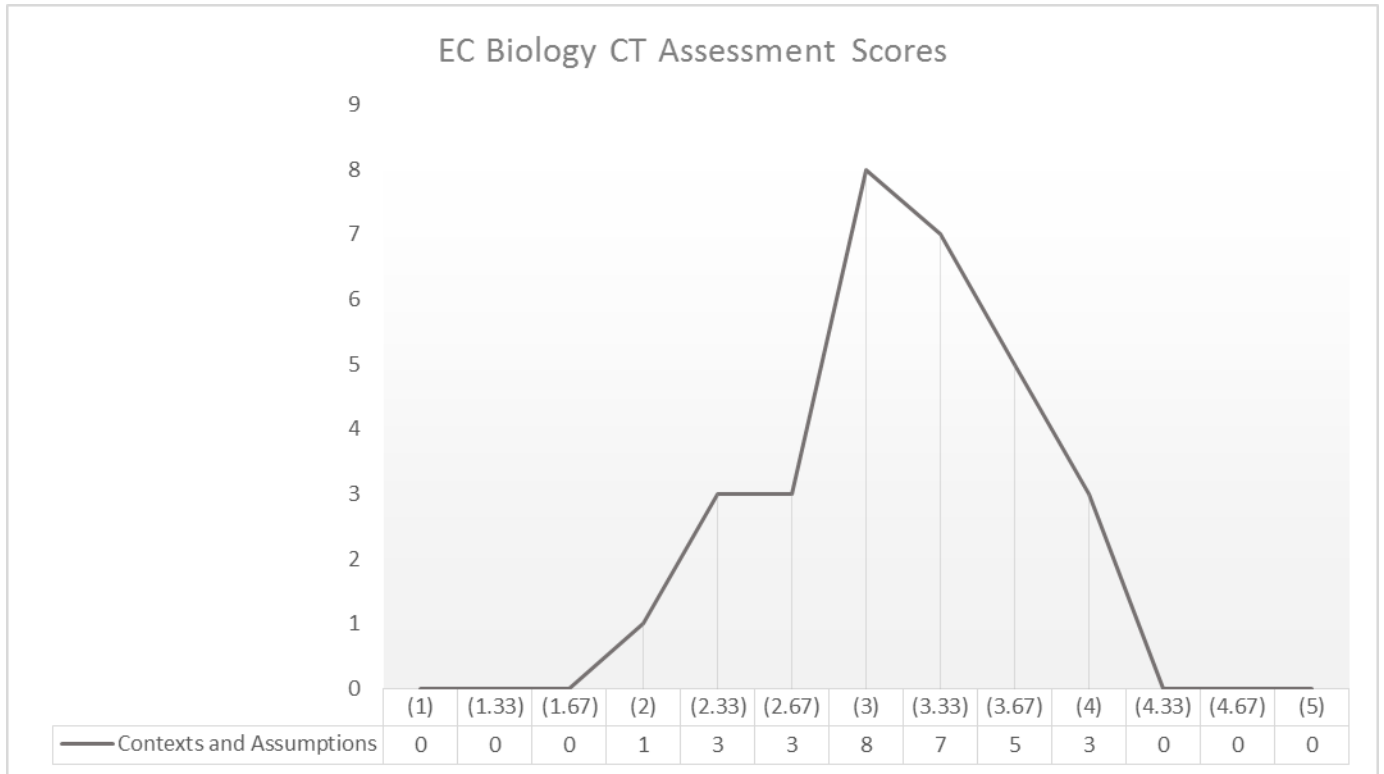
Table 34: VU Biology "Contexts and Assumptions" Scores

VU Biology CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Contexts and Assumptions	0	0	1	3	3	1	0	2	0	0	0	0	0
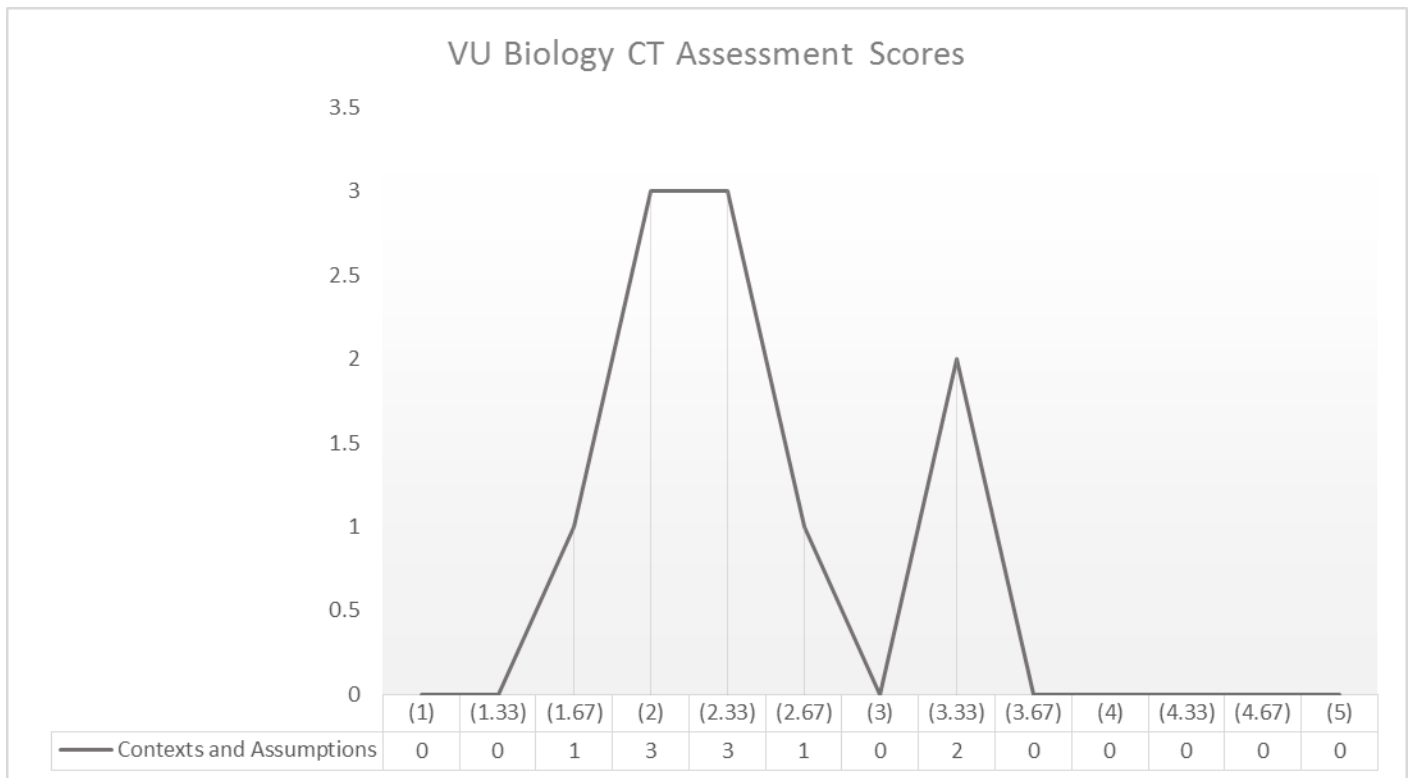
Table 35: Early College Biology "Student's Position" Scores

EC Biology CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Student's Position	0	0	0	1	2	2	8	9	4	1	3	0	0
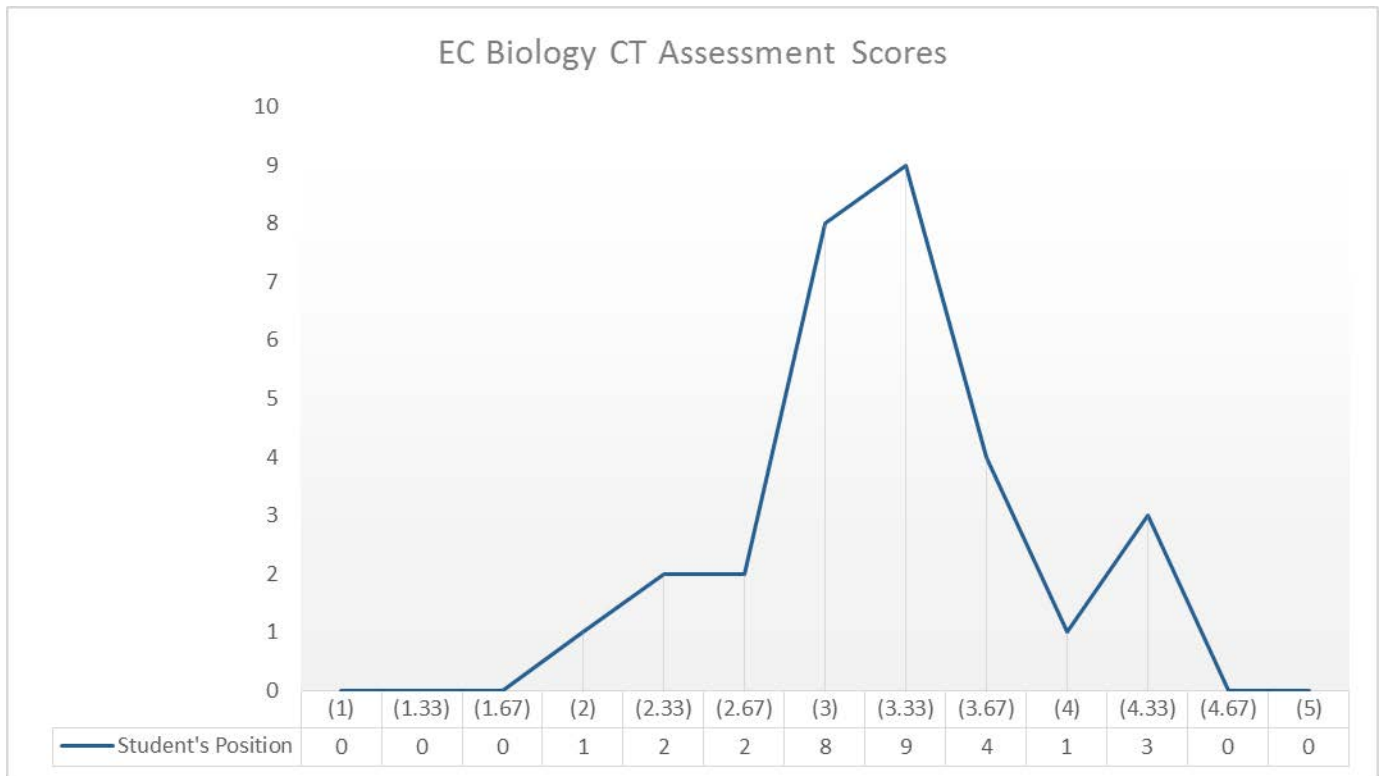
Table 36:VU Biology "Student's Position" Scores

VU Biology CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Student's Position	0	0	0	0	2	6	2	0	0	0	0	0	0
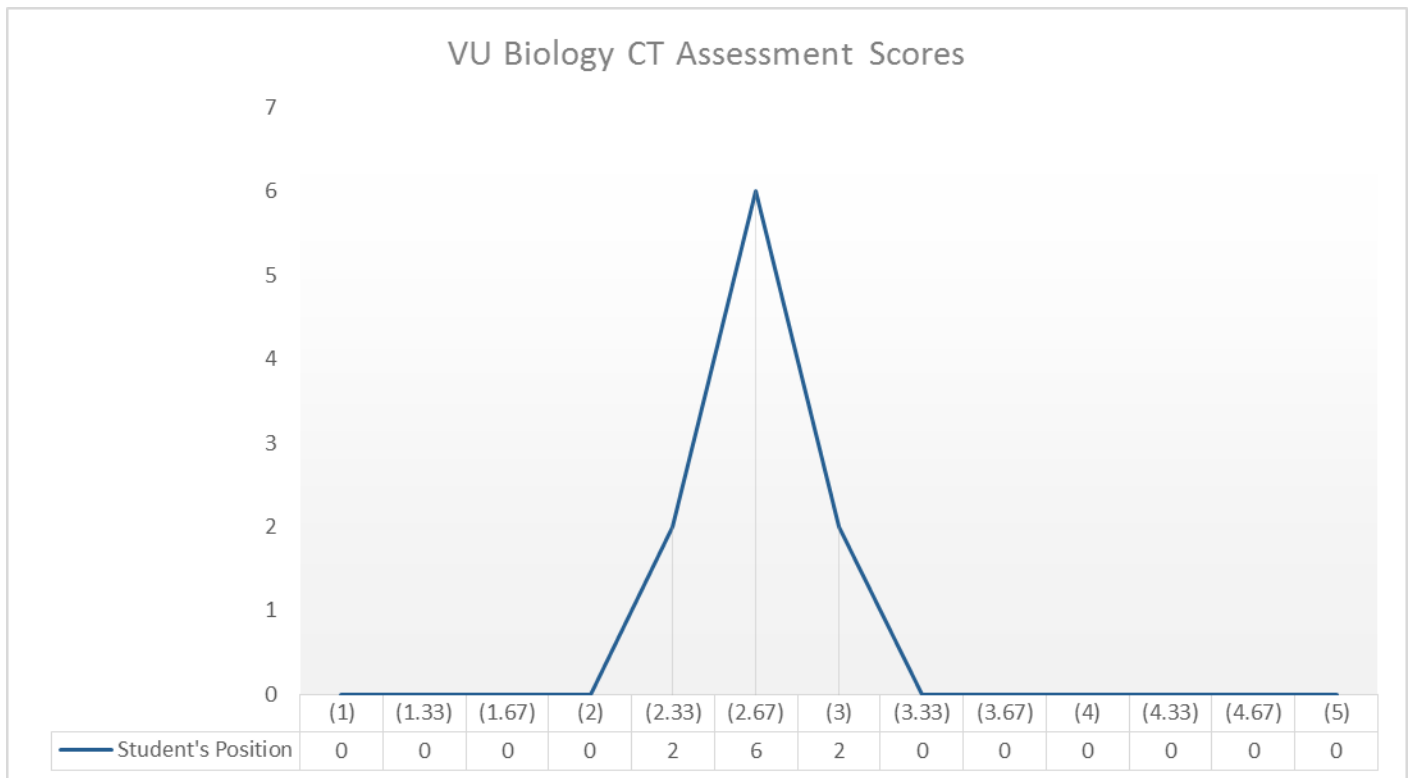
Table 37: Early College Biology "Conclusions and Related Outcomes" Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Conclusions and Related Outcomes	0	1	0	1	2	3	3	11	3	4	2	0	0
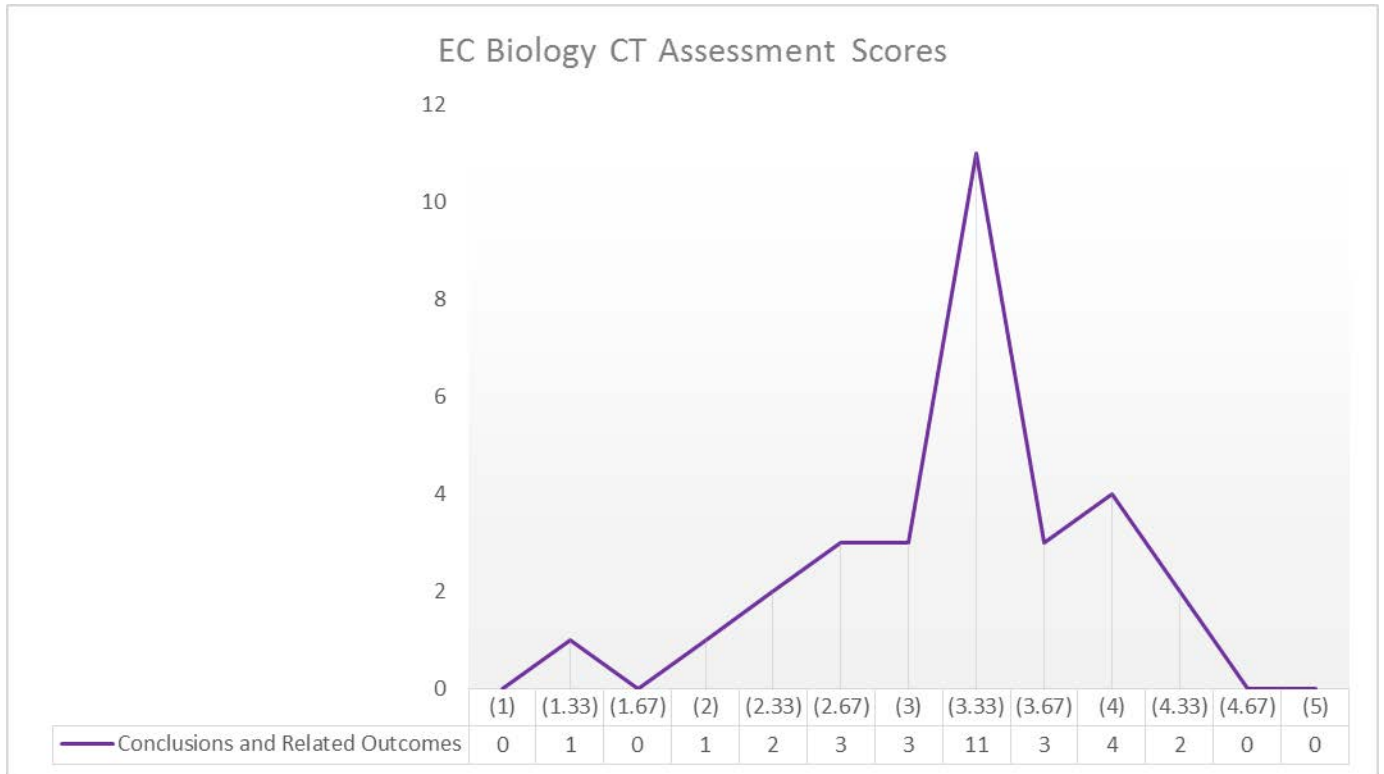
Table 38:VU Biology "Conclusions and Related Outcomes" Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Conclusions and Related Outcomes	0	0	0	4	2	2	2	0	0	0	0	0	0
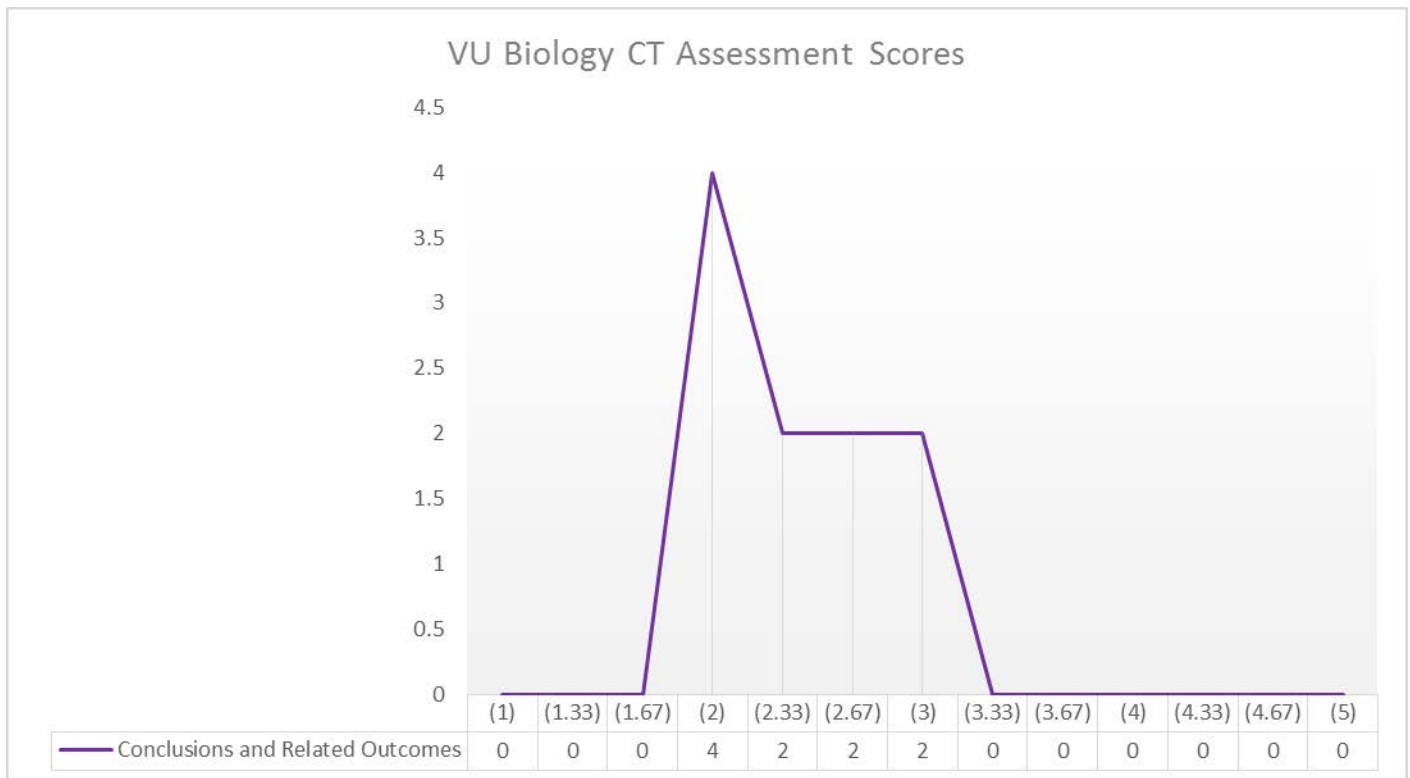
Table 39: Early College Biology Aggregate Scores

EC Biology CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Explanation of the Problem	0	0	0	1	1	3	8	3	8	5	1	0	0
Evidence	1	0	0	2	4	2	5	5	5	3	3	0	0
Contexts and Assumptions	0	0	0	1	3	3	8	7	5	3	0	0	0
Student's Position	0	0	0	1	2	2	8	9	4	1	3	0	0
Conclusions and Related Outcomes	0	1	0	1	2	3	3	11	3	4	2	0	0
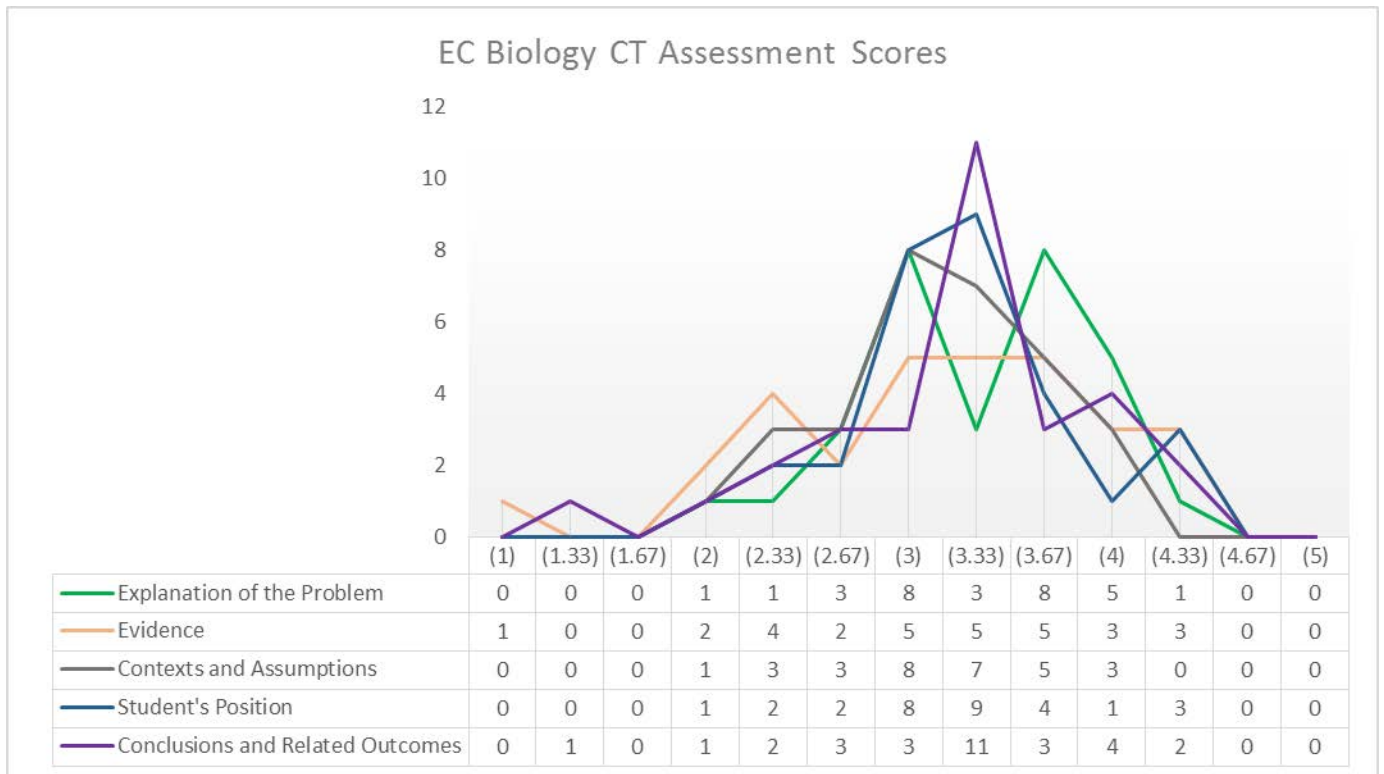
Table 40: VU Biology Aggregate Scores

VU Biology CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Explanation of the Problem	0	0	1	0	1	2	4	1	0	1	0	0	0
Evidence	0	2	2	4	0	2	0	0	0	0	0	0	0
Contexts and Assumptions	0	0	1	3	3	1	0	2	0	0	0	0	0
Student's Position	0	0	0	0	2	6	2	0	0	0	0	0	0
Conclusions and Related Outcomes	0	0	0	4	2	2	2	0	0	0	0	0	0
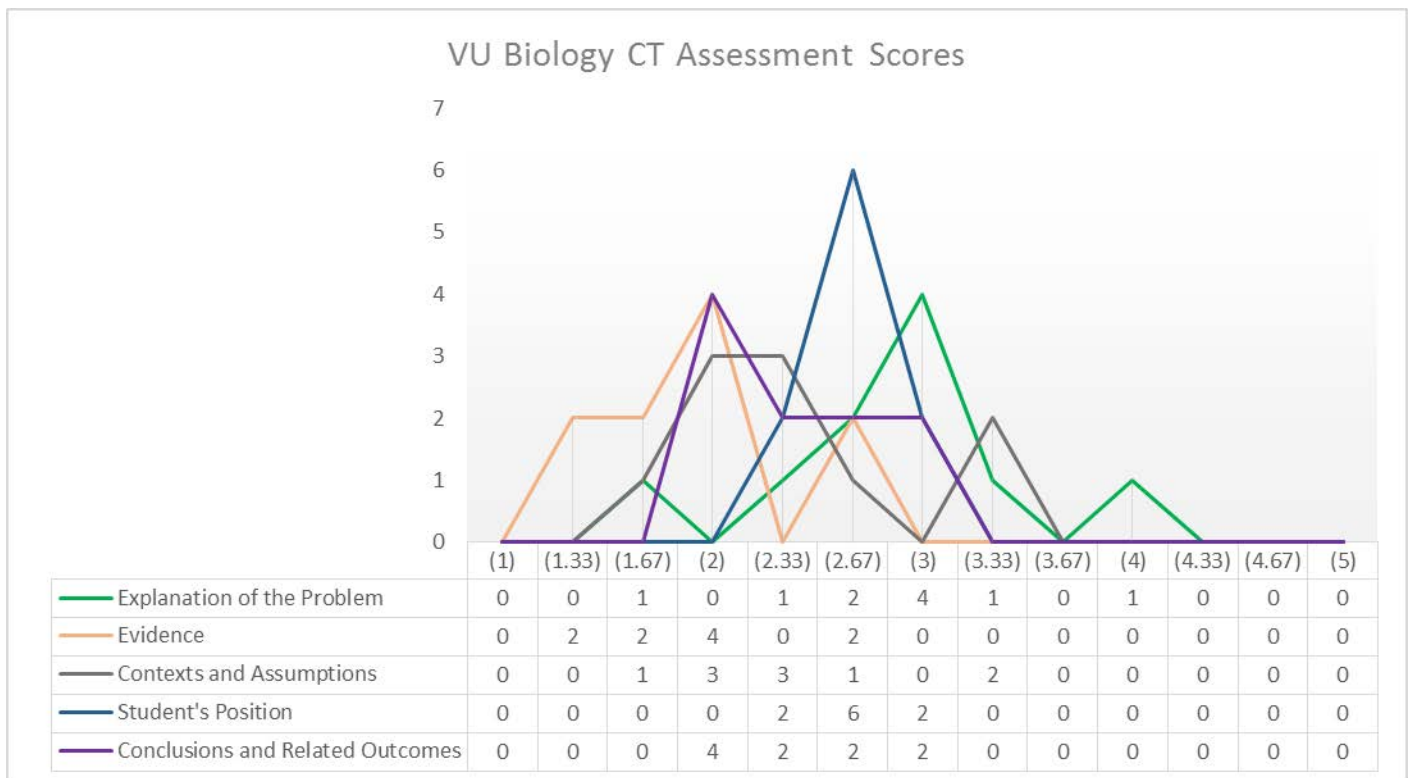
History

Early College Artifacts: N=30

Table 41: Early College History Avg. Scores and Rates of Agreement

Overall Average	2.844	2.578	2.578	2.700	2.900
Avg. Standard Deviation	0.502	0.443	0.450	0.455	0.459
Total Agreement	4	6	8	5	6
Total Agreement %	10%	15%	20%	13%	15%
Partial Agreement	19	19	14	20	18
Partial Agreement %	48%	48%	35%	50%	45%

VU Artifacts: N=10

Table 42: VU History Avg. Scores and Rates of Agreement

Overall Average	2.500	1.900	1.933	2.233	2.433
Avg. Standard Deviation	0.377	0.330	0.471	0.352	0.364
Total Agreement	3	3	0	5	3
Total Agreement %	30%	30%	0%	50%	30%
Partial Agreement	6	7	10	2	6
Partial Agreement %	60%	70%	100%	20%	60%

EC History Scores of "3" or Higher

	Score of 3	Score of 4	Score of 5	% of artifacts
Explanation of Problem	18	2	0	67%
Evidence	13	1	0	47%
Influence of Context and Assumptions	14	1	0	50%
Student's Position	19	0	0	63%
Conclusions and Related Outcomes	17	3	0	67%
"3" or higher in all categories	6			20%

Table 43: Early College History "Explanation of the Problem" Scores

EC History CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Explanation of the Problem	0	0	0	3	6	6	5	7	3	0	0	0	0
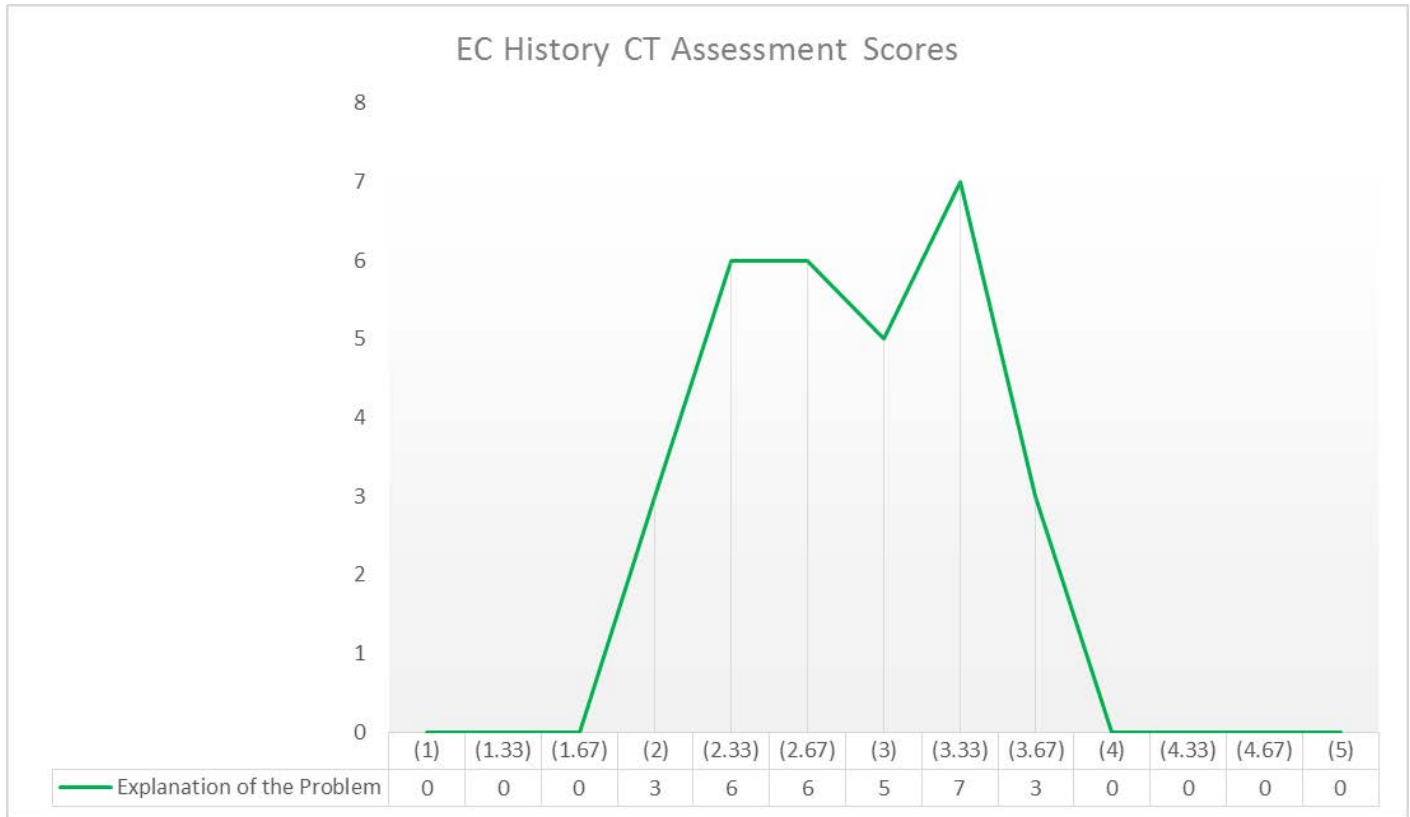
Table 44: VU History "Explanation of the Problem" Scores

VU History CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Explanation of the Problem	0	0	1	3	1	3	0	1	1	0	0	0	0

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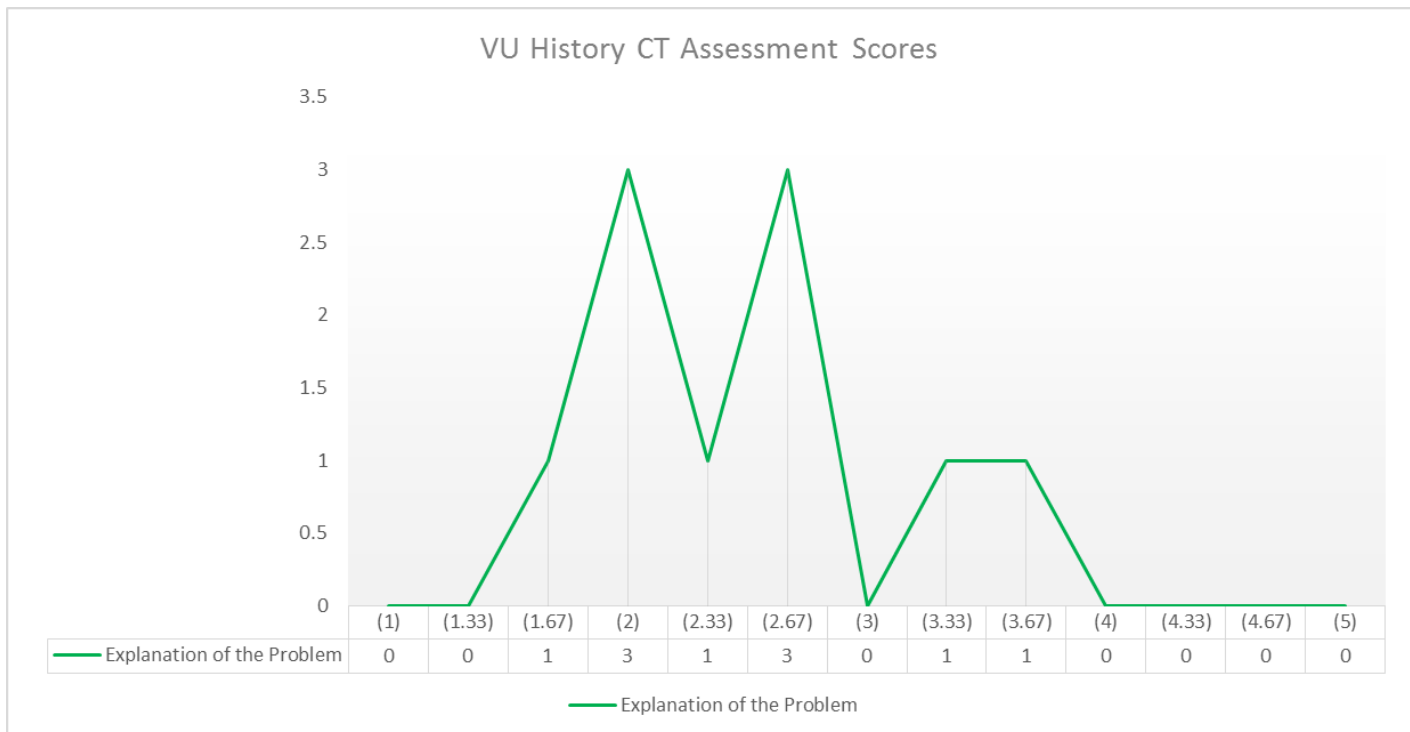
Table 45: Early College History "Evidence" Scores

EC History CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Evidence	0	0	4	4	6	5	5	5	1	0	0	0	0
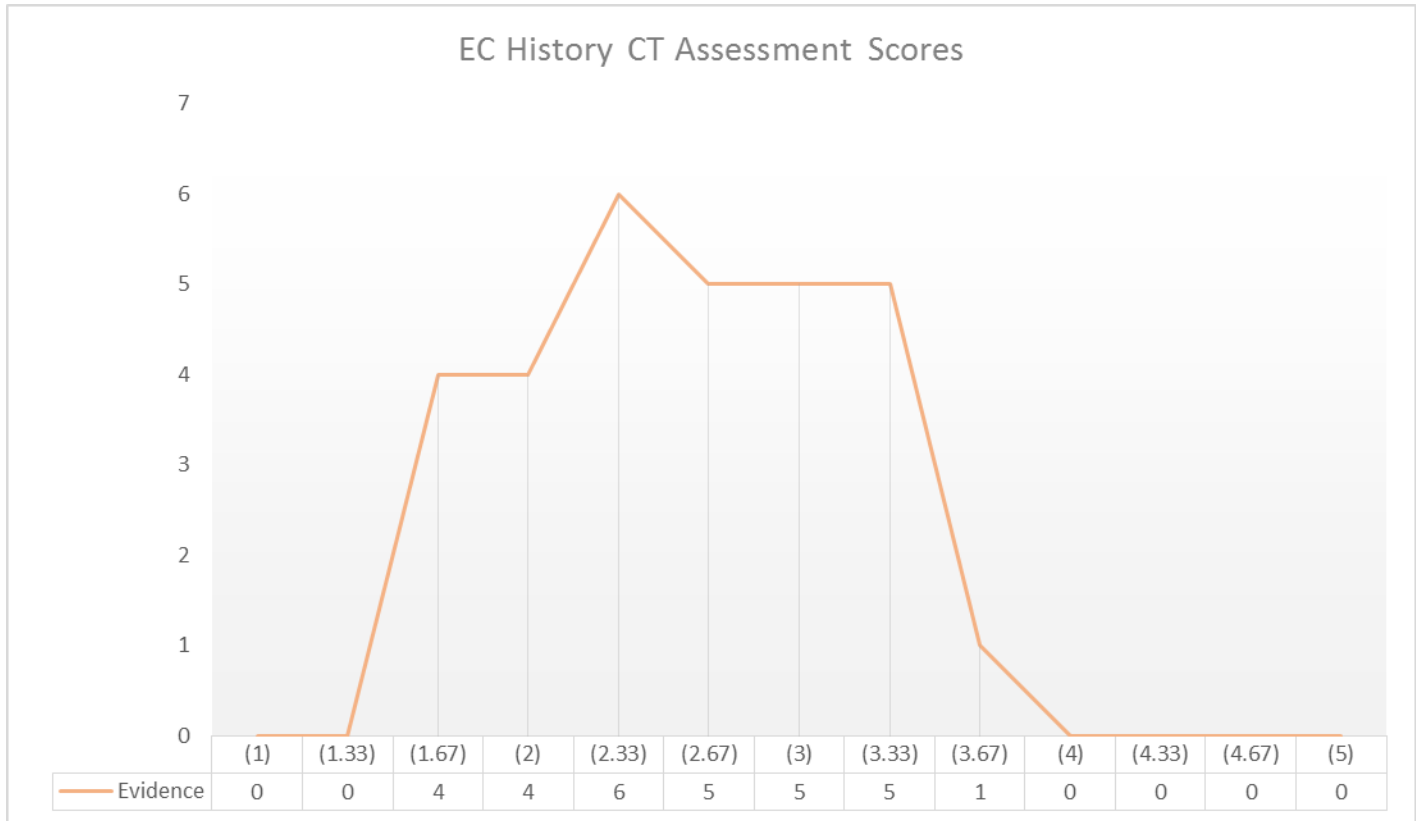
Table 46: VU History "Evidence" Scores

VU History CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Evidence	0	3	2	2	2	0	1	0	0	0	0	0	0
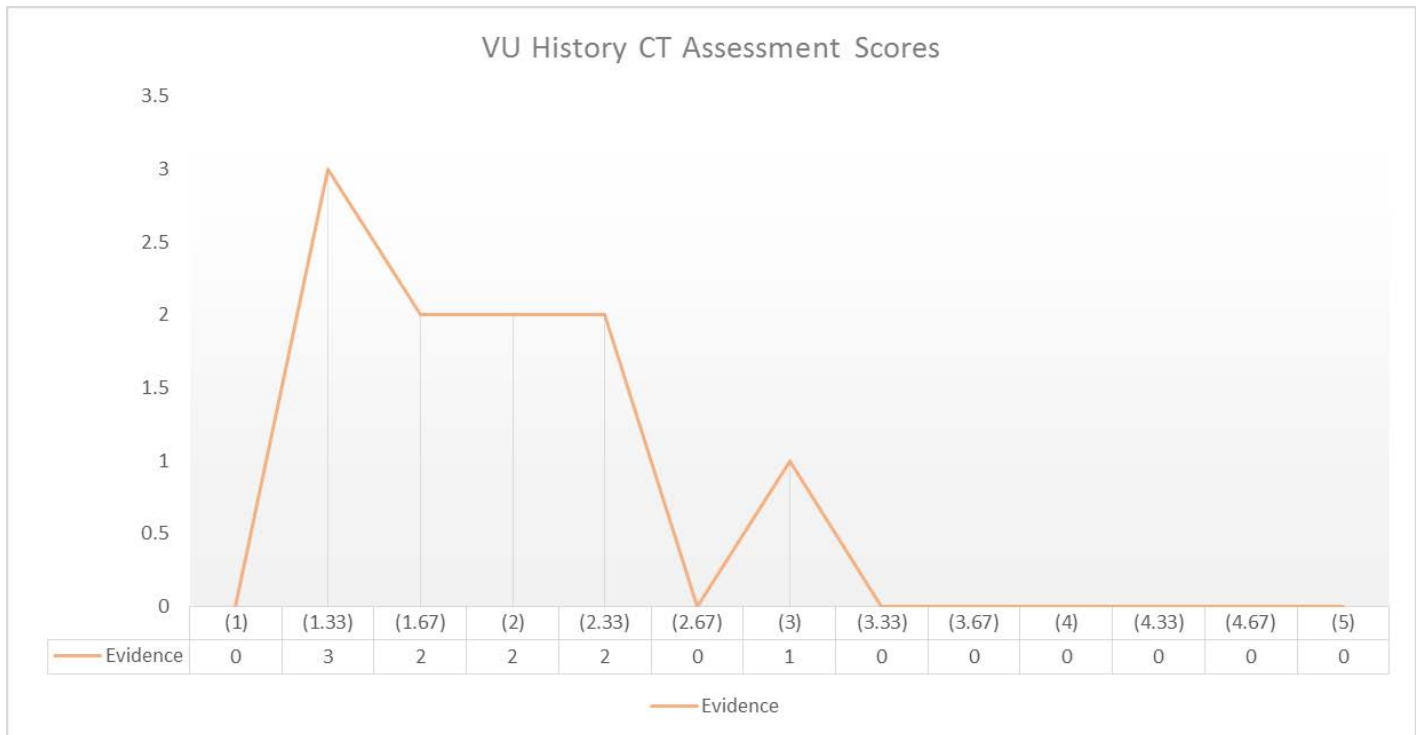
Table 47: Early College History "Contexts and Assumptions" Scores

EC History CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Contexts and Assumptions	0	1	1	7	6	3	6	5	1	0	0	0	0
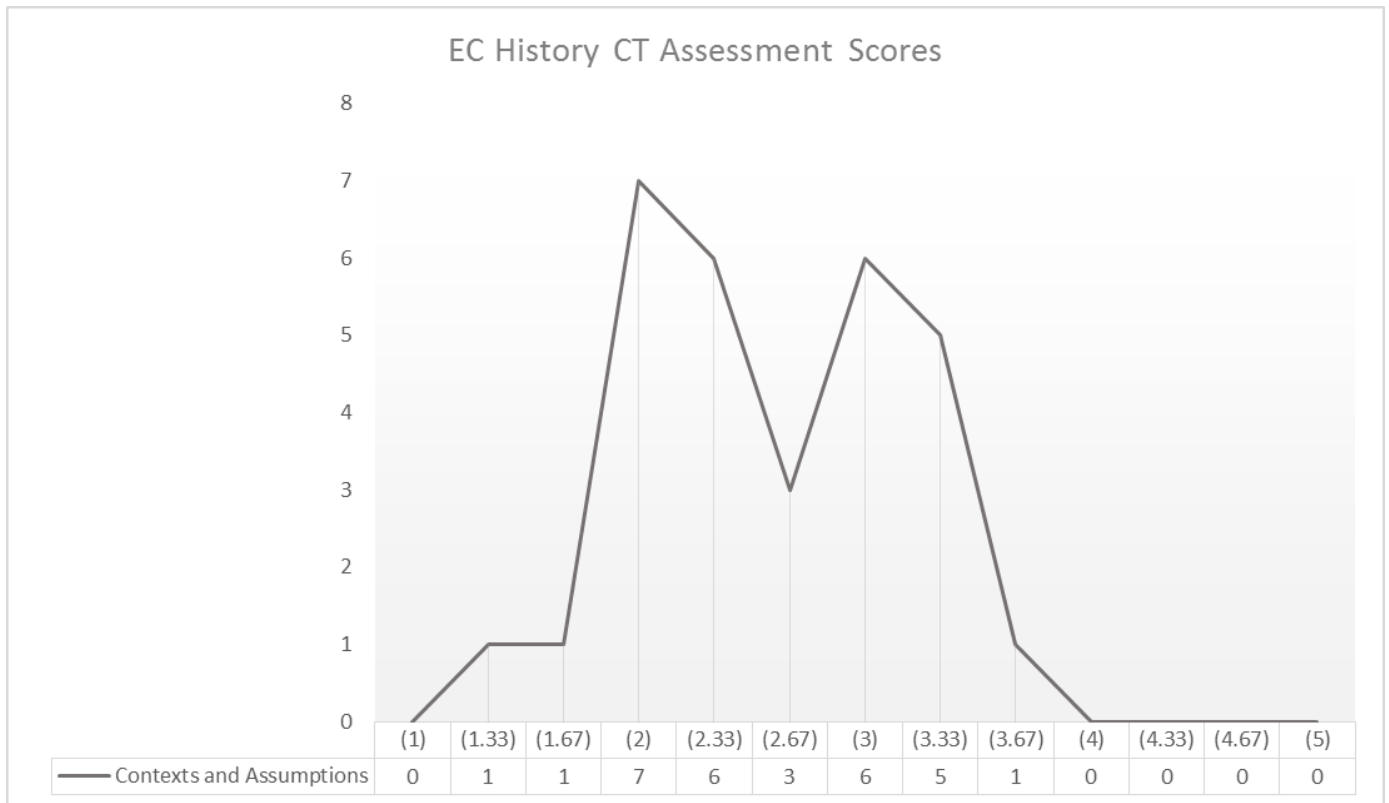
Table 48: VU History "Contexts and Assumptions" Scores

VU History CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Contexts and Assumptions	0	3	3	0	3	0	0	1	0	0	0	0	0
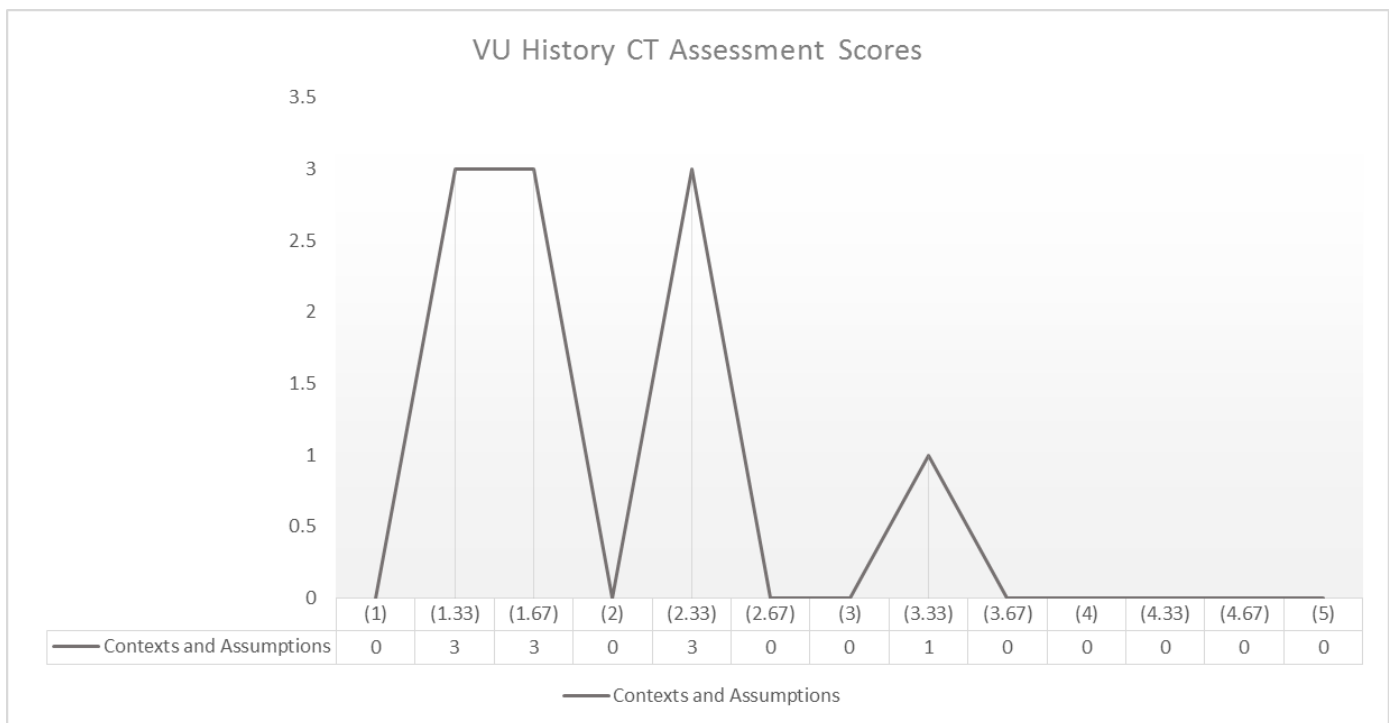
Table 49: Early College History "Student's Position" Scores

EC History CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Student's Position	0	0	1	2	7	8	7	5	0	0	0	0	0
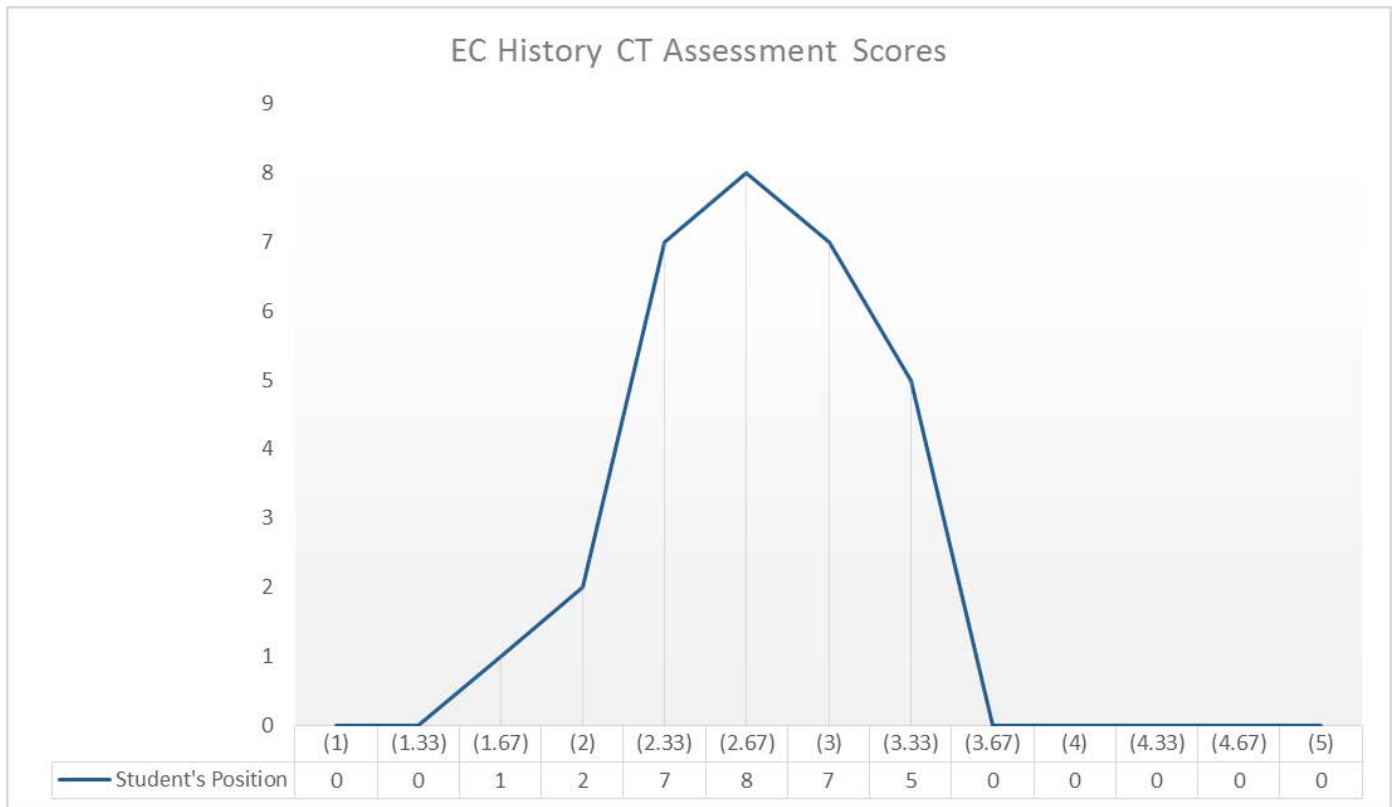
Table 50:VU History "Student's Position" Scores

VU History CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Student's Position	0	0	0	6	2	1	1	0	0	0	0	0	0
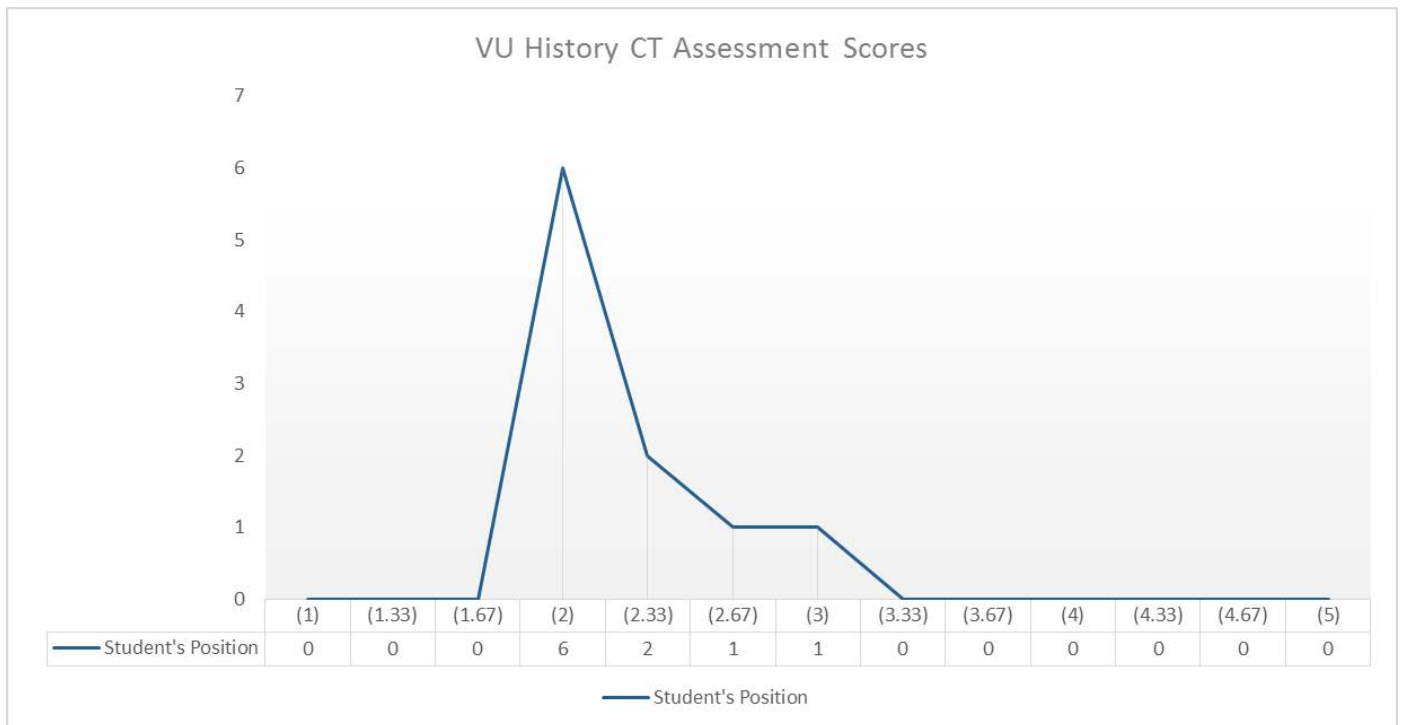
Table 51: Early College History "Conclusions and Related Outcomes" Scores

EC History CT Assessment Scores

Conclusions and Related Outcomes	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
	0	0	0	1	6	6	8	6	3	0	0	0	0
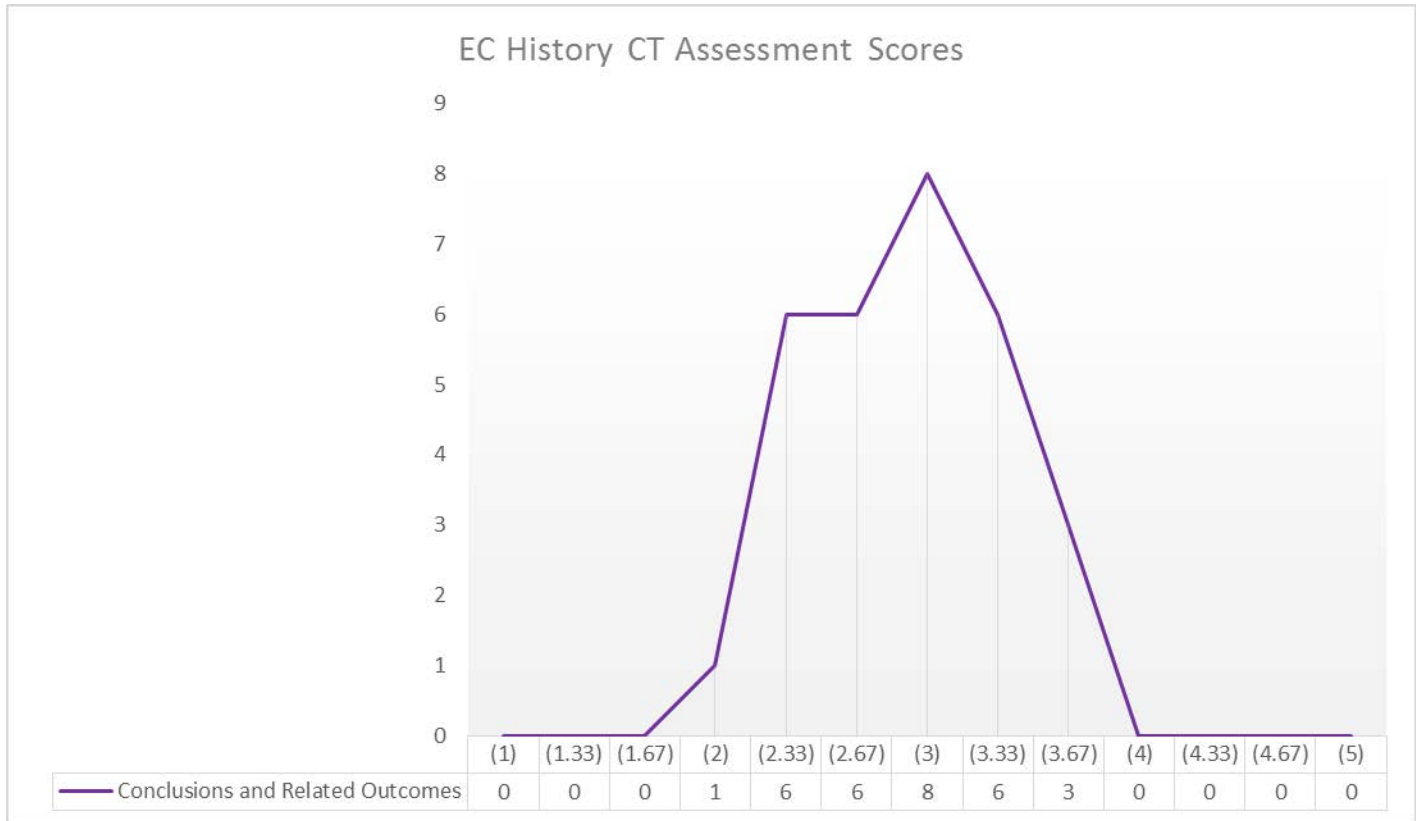
Table 52: VU History "Conclusions and Related Outcomes" Scores

VU History CT Assessment Scores

Conclusions and Related Outcomes	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
	0	0	0	4	2	3	0	0	1	0	0	0	0

46
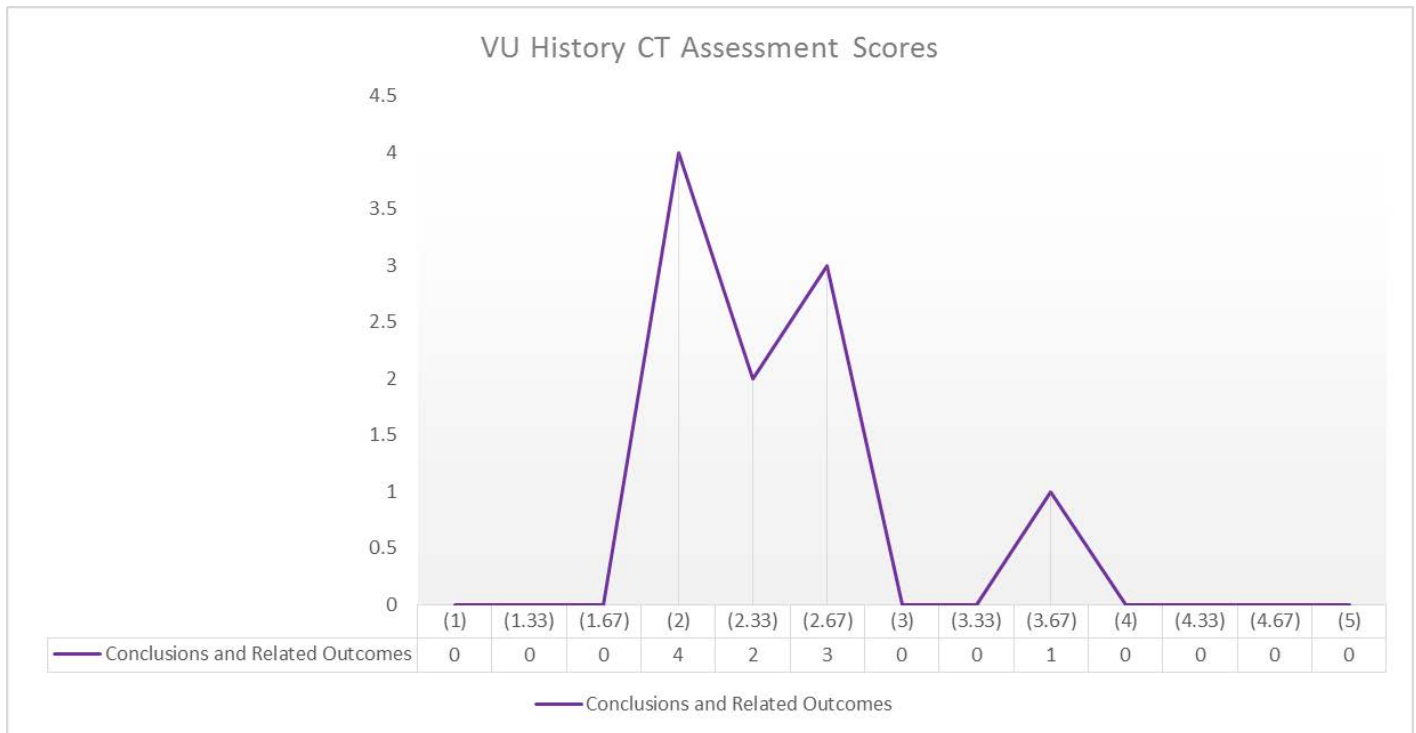
Table 53: Early College History Aggregate Scores

EC History CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Explanation of the Problem	0	0	0	3	6	6	5	7	3	0	0	0	0
Evidence	0	0	4	4	6	5	5	5	1	0	0	0	0
Contexts and Assumptions	0	1	1	7	6	3	6	5	1	0	0	0	0
Student's Position	0	0	1	2	7	8	7	5	0	0	0	0	0
Conclusions and Related Outcomes	0	0	0	1	6	6	8	6	3	0	0	0	0

Table 54: VU History Aggregate Scores

VU History CT Assessment Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Explanation of the Problem	0	0	1	3	1	3	0	1	1	0	0	0	0
Evidence	0	3	2	2	2	0	1	0	0	0	0	0	0
Contexts and Assumptions	0	3	3	0	3	0	0	1	0	0	0	0	0
Student's Position	0	0	0	6	2	1	1	0	0	0	0	0	0
Conclusions and Related Outcomes	0	0	0	4	2	3	0	0	1	0	0	0	0

Legend: Explanation of the Problem — Evidence — Contexts and Assumptions — Student's Position — Conclusions and Related Outcomes
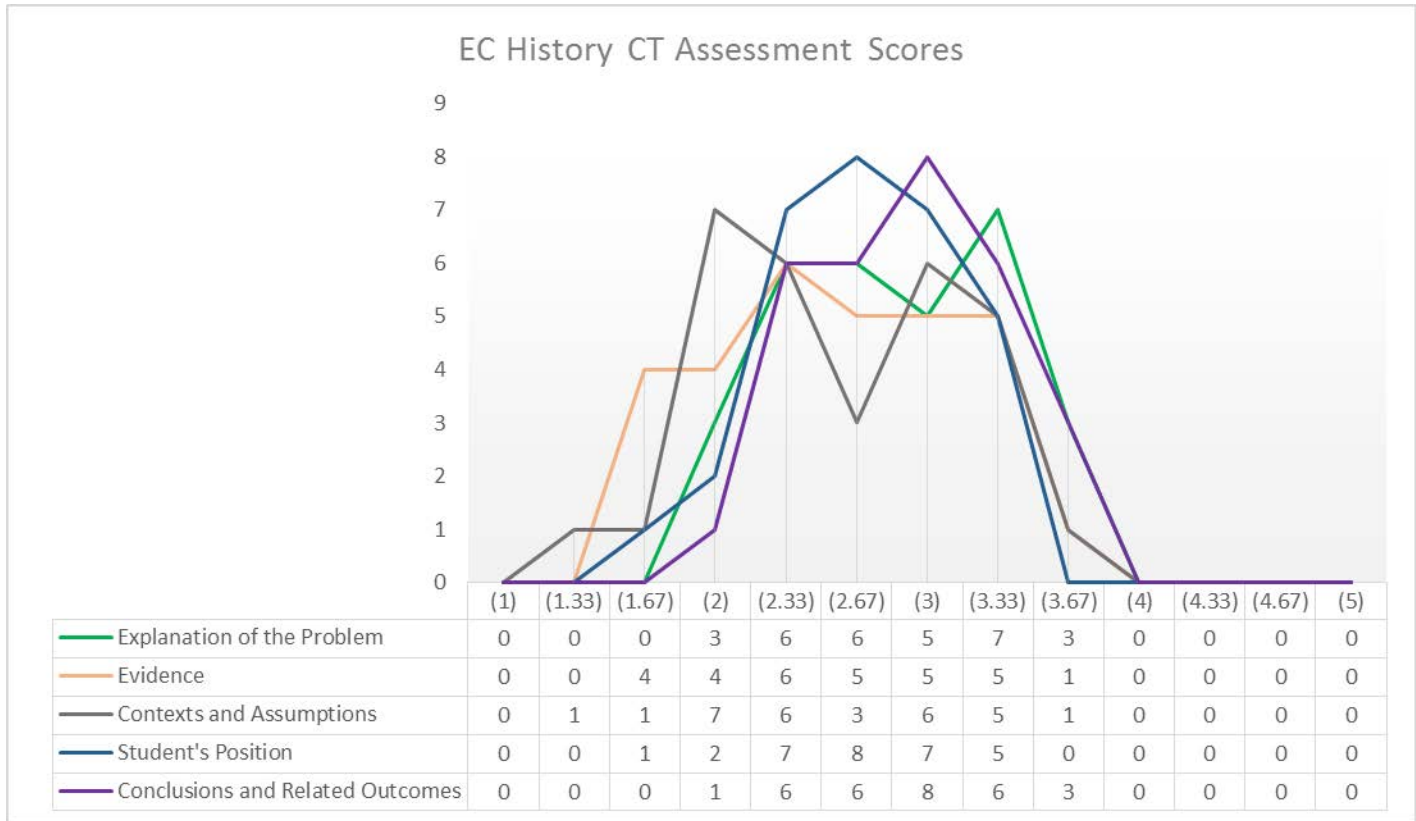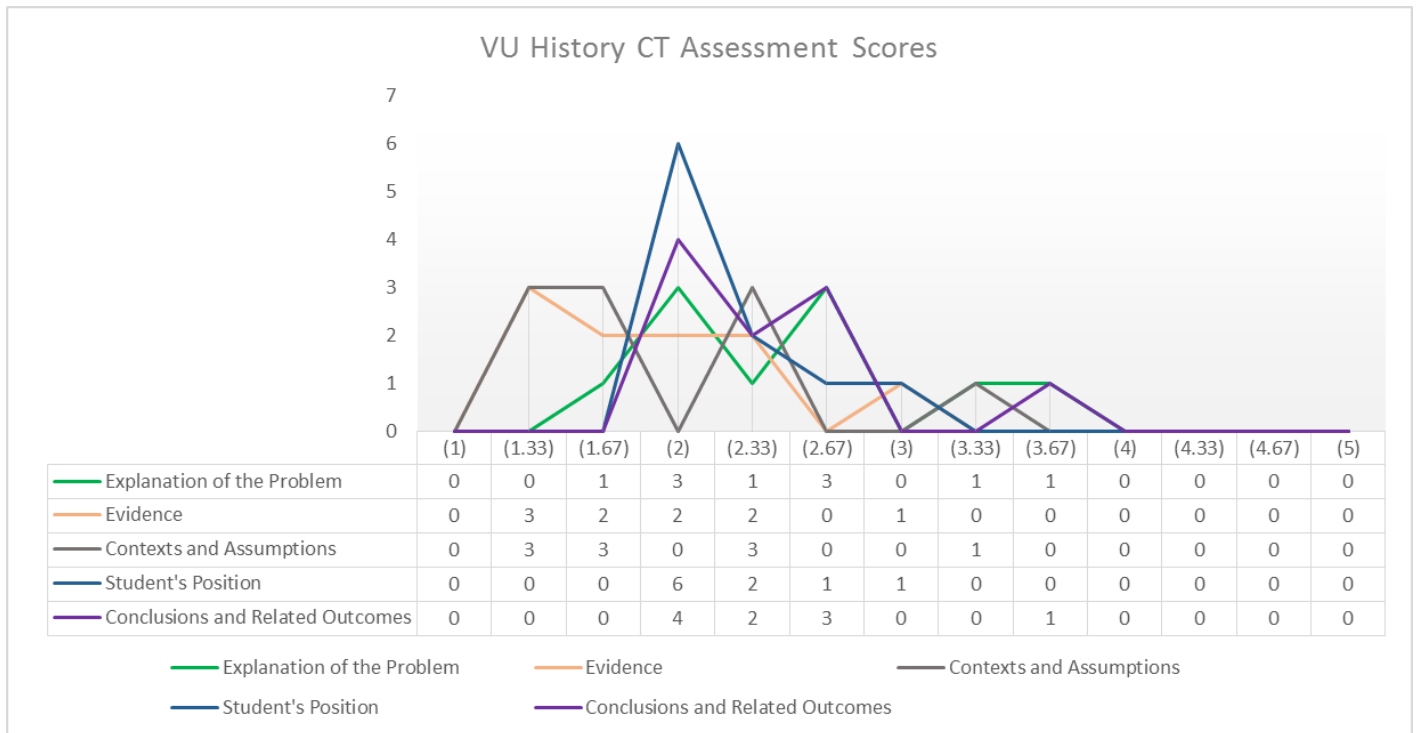
Spanish

Early College Artifacts: N=30

Table 55: Early College Spanish Avg. Scores and Rates of Agreement

Overall Average	2.544	2.344	2.633	2.200	2.156
Avg. Standard Deviation	0.486	0.473	0.500	0.533	0.491
Total Agreement	7	6	7	2	7
Total Agreement %	18%	15%	18%	5%	18%
Partial Agreement	13	14	14	19	14
Partial Agreement %	33%	35%	35%	48%	35%

VU Artifacts: N=10

Table 56: VU Spanish Avg. Scores and Rates of Agreement

Overall Average	2.567	2.567	2.900	2.400	2.533
Avg. Standard Deviation	0.553	0.575	0.540	0.609	0.502
Total Agreement	1	0	0	1	3
Total Agreement %	10%	0%	0%	10%	30%
Partial Agreement	6	3	8	4	3
Partial Agreement %	60%	30%	80%	40%	30%

EC Spanish Scores of "3" or Higher

	Score of 3	Score of 4	Score of 5	% of artifacts
Explanation of Problem	10	2	0	40%
Evidence	8	2	0	33%
Influence of Context and Assumptions	20	0	0	67%
Student's Position	11	0	0	37%
Conclusions and Related Outcomes	6	0	0	20%
"3" or higher in all categories	4			13%

Table 57: Early College Spanish "Explanation of the Problem" Scores

EC Spanish CT Assessment

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Explanation of the Problem	0	0	2	6	6	8	5	1	2	0	0	0	0
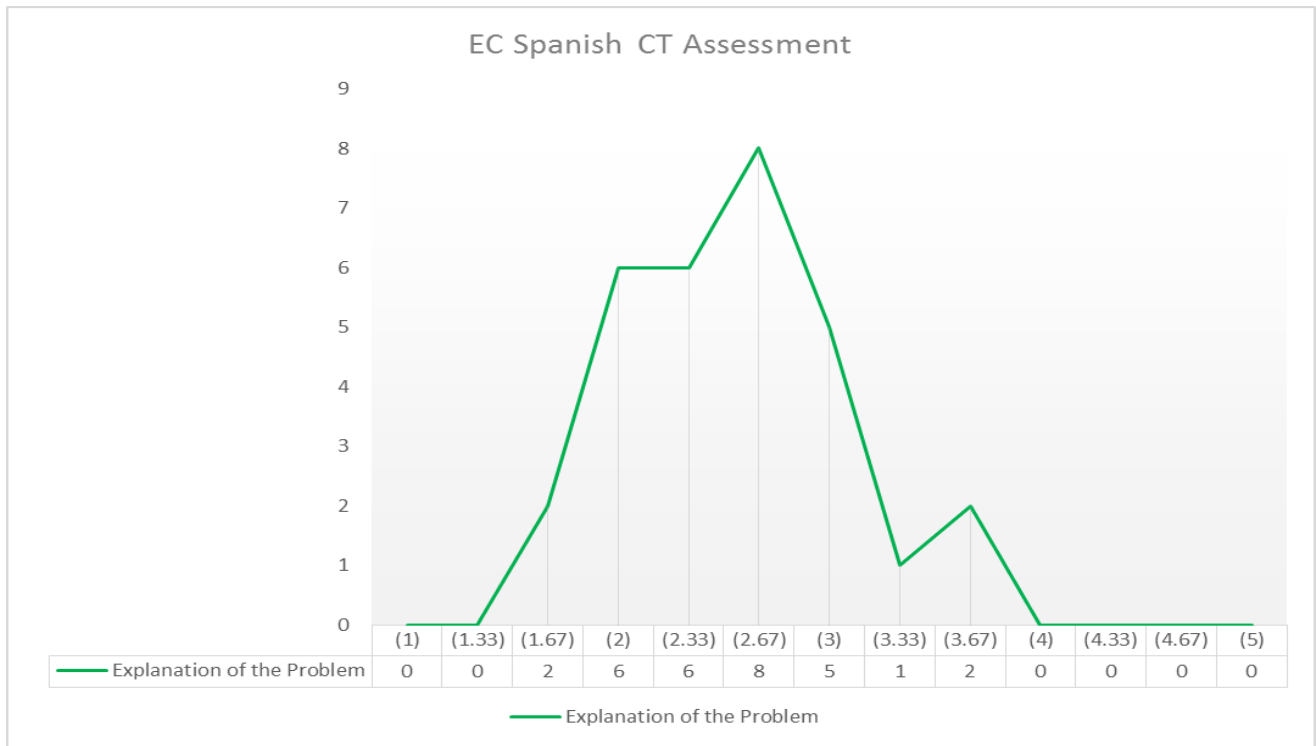
Table 58: VU Spanish "Explanation of the Problem" Scores

VU Spanish CT Assessment

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Explanation of the Problem	0	0	0	2	3	3	0	2	0	0	0	0	0
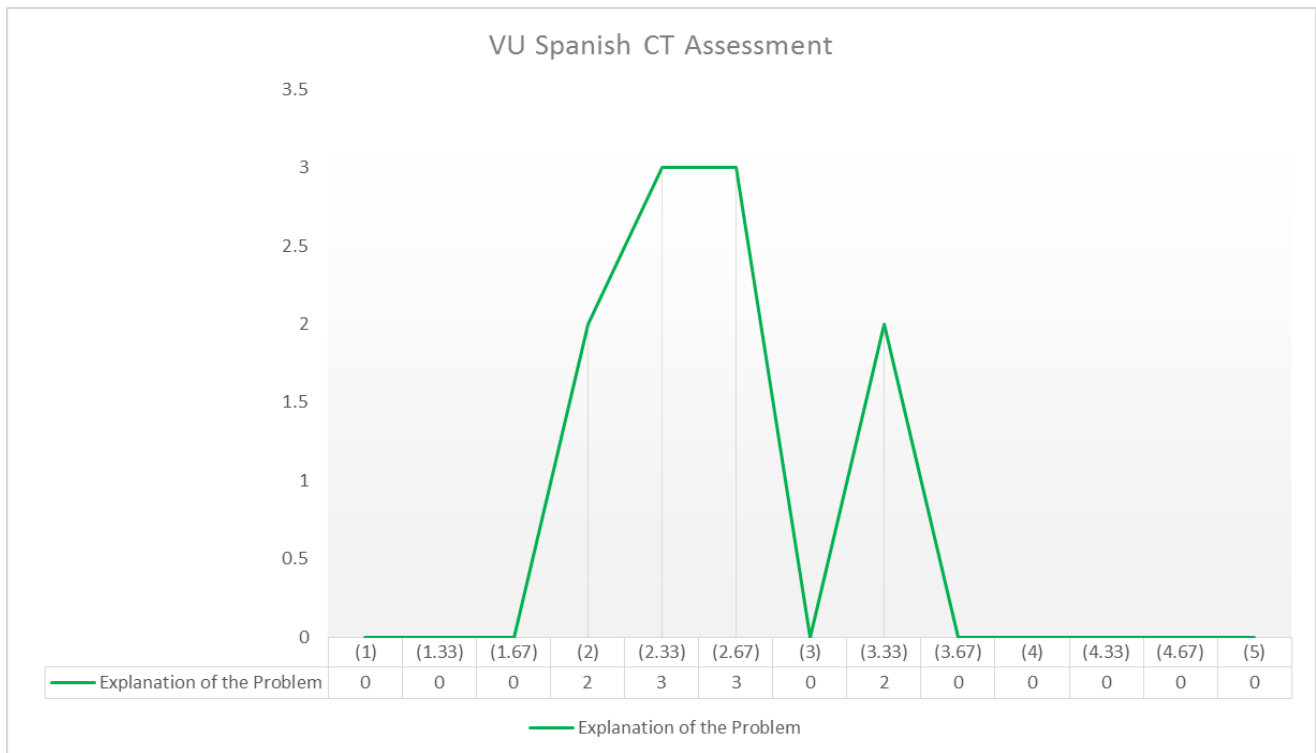
Table 59: Early College Spanish "Evidence" Scores

EC Spanish CT Assessment

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Evidence	0	2	2	10	6	4	3	1	2	0	0	0	0
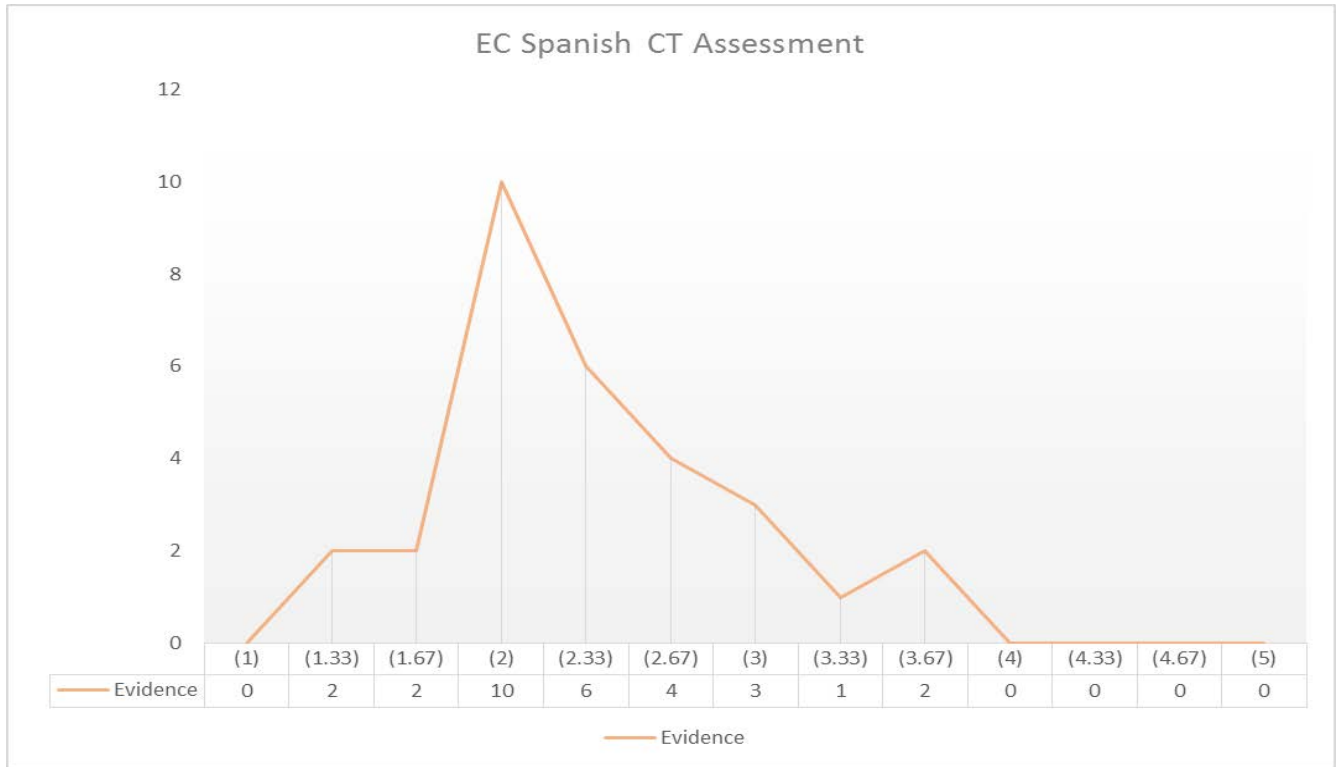
— Evidence

Table 60: VU Spanish "Evidence" Scores

VU Spanish CT Assessment

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Evidence	0	0	0	2	5	0	1	1	1	0	0	0	0

— Evidence
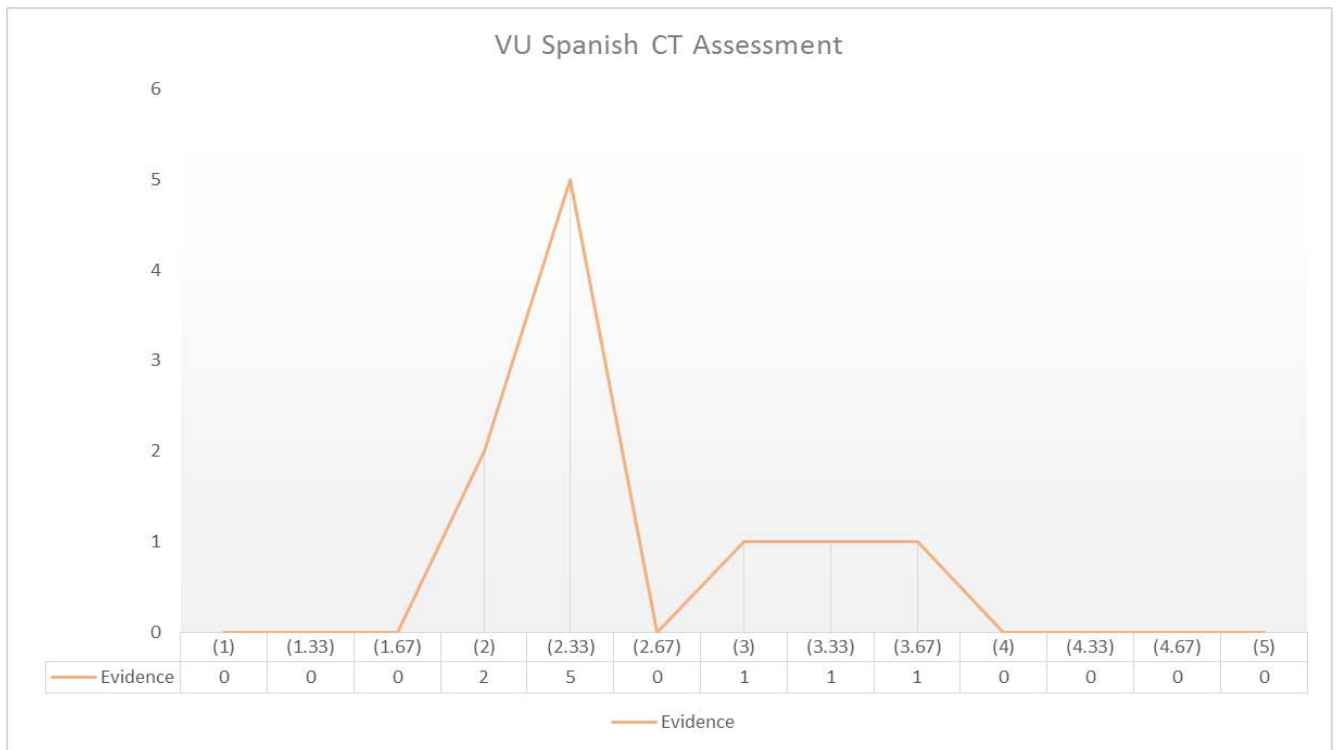
Table 61: Early College "Contexts and Assumptions" Scores

EC Spanish CT Assessment

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Contexts and Assumptions	0	0	0	4	7	10	6	3	6	0	0	0	0

— Contexts and Assumptions
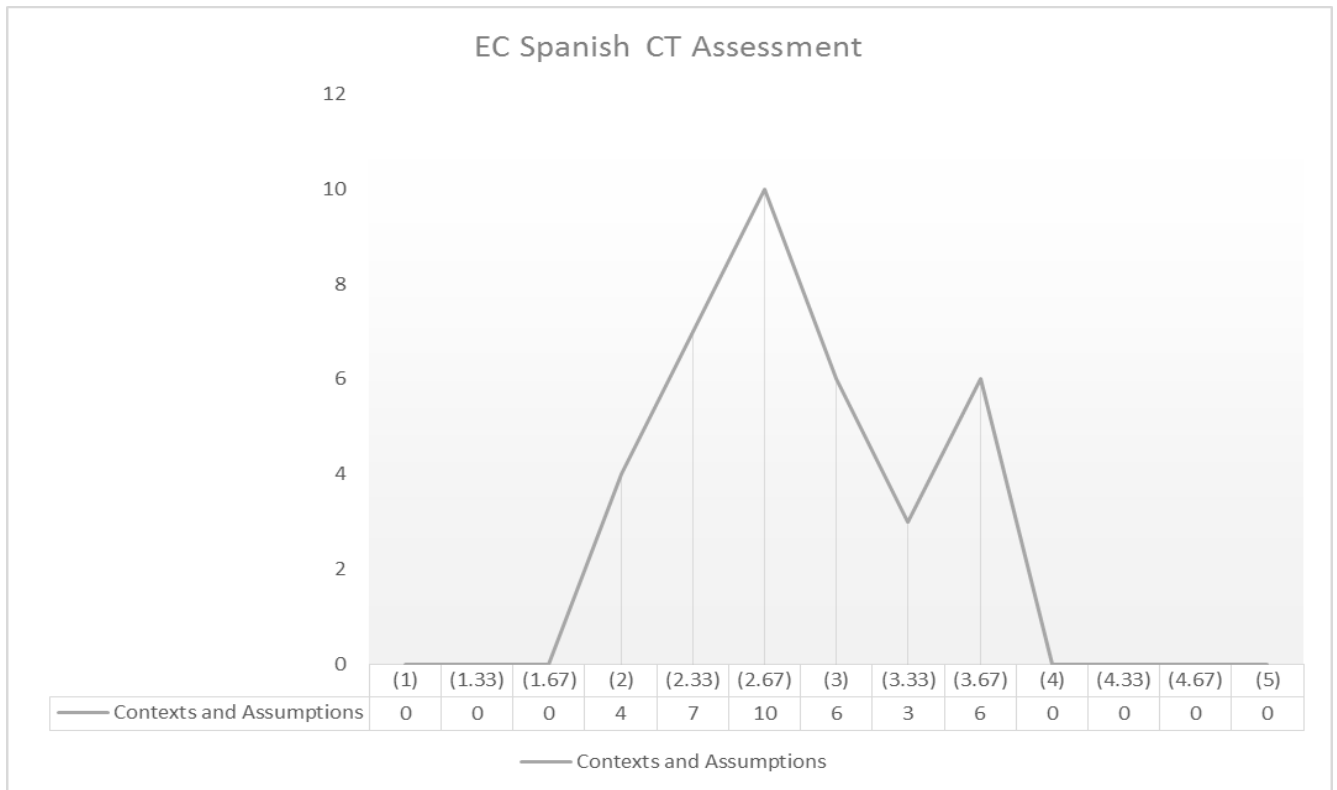
Table 62: VU Spanish "Contexts and Assumptions" Scores

VU Spanish CT Assessment

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Contexts and Assumptions	0	0	0	1	0	4	1	4	0	0	0	0	0

— Contexts and Assumptions
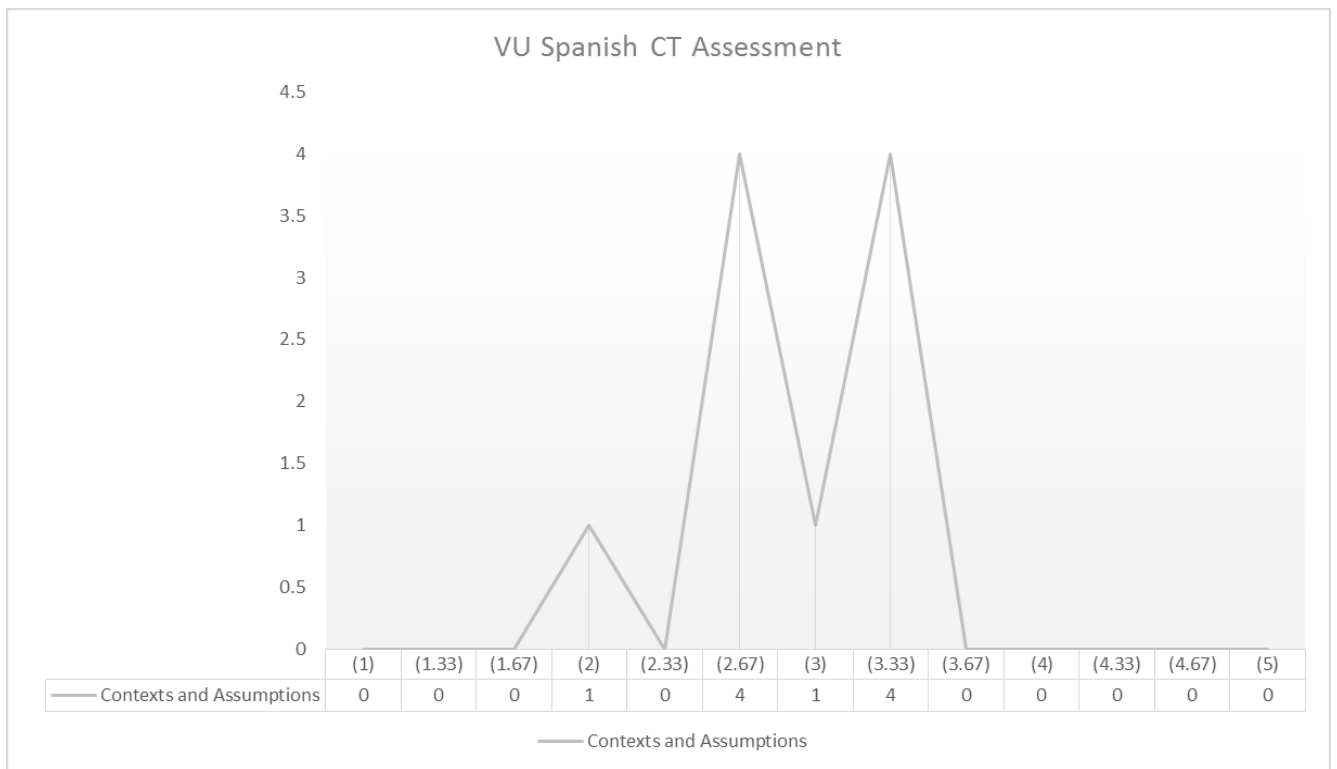
Table 63: Early College Spanish "Student's Position" Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Student's Position	0	6	6	2	4	6	4	2	0	0	0	0	0
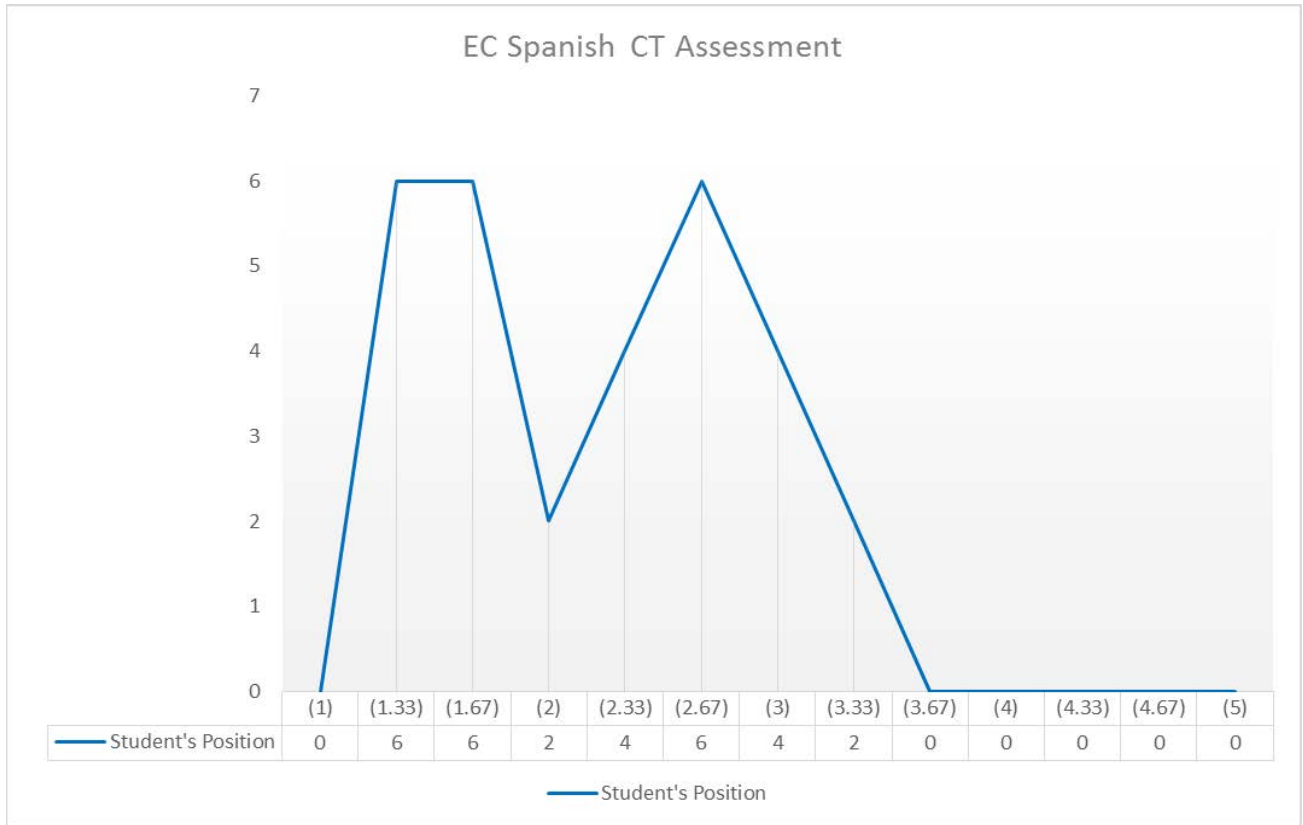
Table 64: VU Spanish "Student's Position" Scores

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Student's Position	0	0	1	4	2	0	1	2	0	0	0	0	0
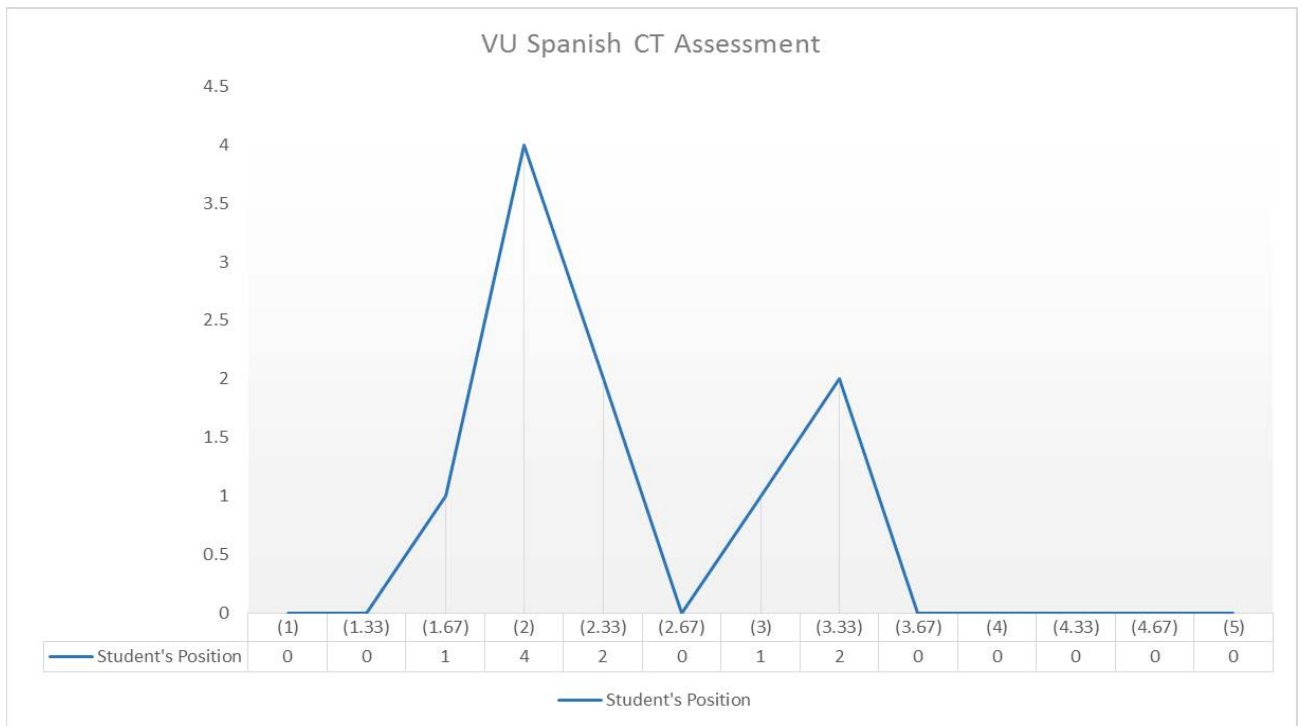
Table 65: Early College Spanish "Conclusions and Related Outcomes" Scores

EC Spanish CT Assessment

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Conclusions and Related Outcomes	1	2	6	8	5	4	2	2	0	0	0	0	0
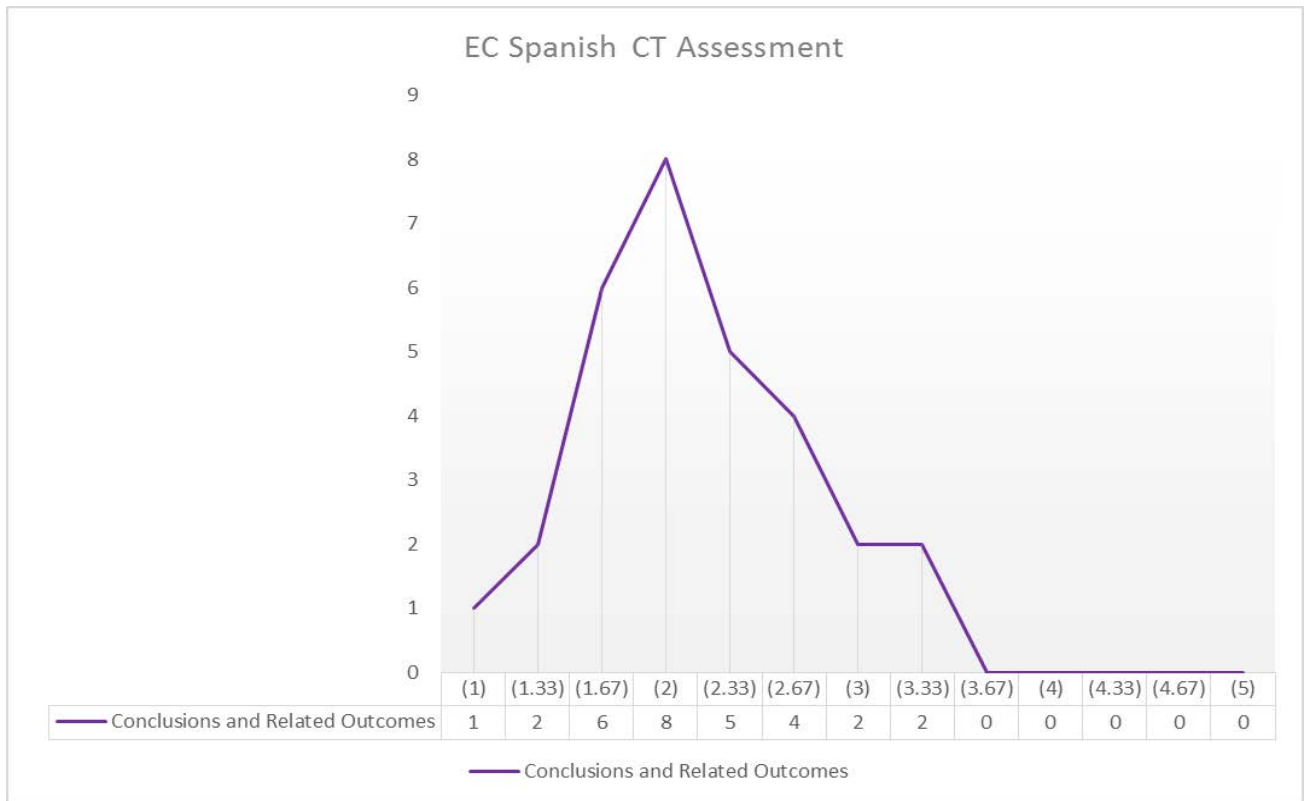
Table 66: VU Spanish "Conclusions and Related Outcomes" Scores

VU Spanish CT Assessment

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Conclusions and Related Outcomes	0	0	0	2	3	3	1	1	0	0	0	0	0
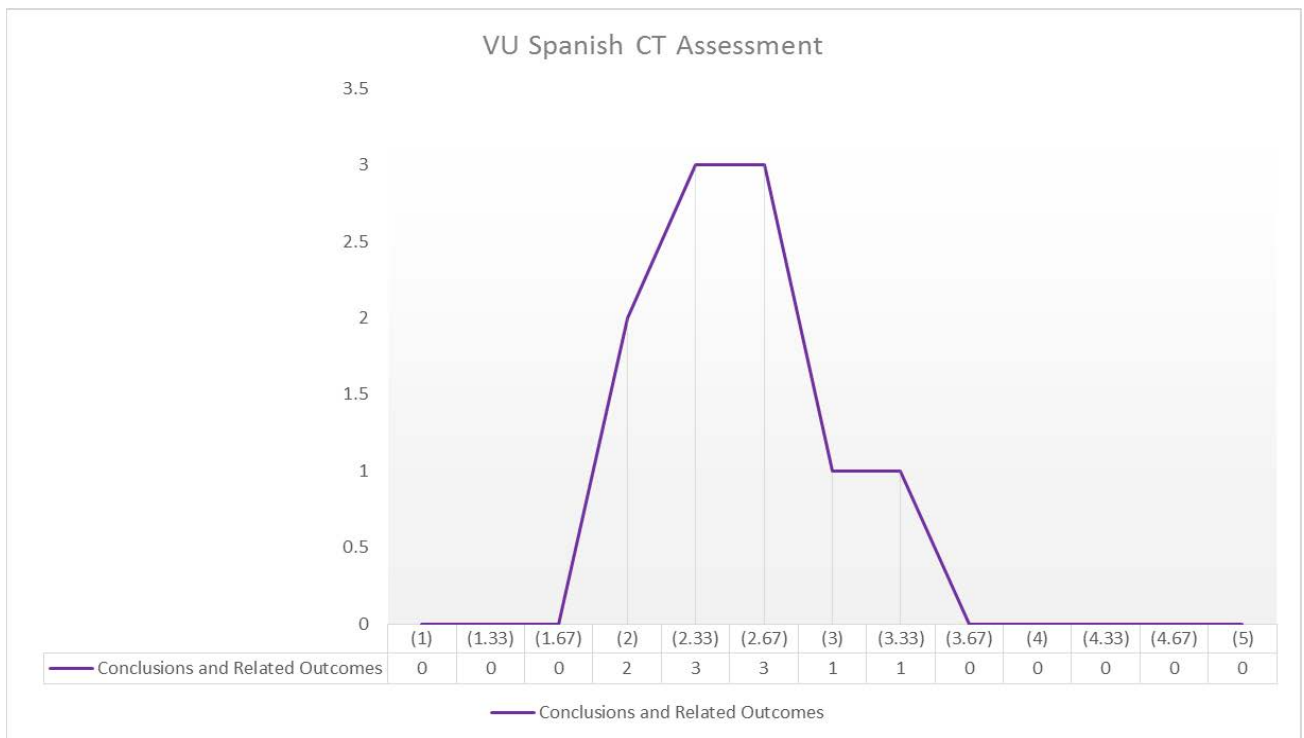
Table 67: Early College Spanish Aggregate Scores

EC Spanish CT Assessment

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Explanation of the Problem	0	0	2	6	6	8	5	1	2	0	0	0	0
Evidence	0	2	2	10	6	4	3	1	2	0	0	0	0
Contexts and Assumptions	0	0	0	4	7	10	6	3	6	0	0	0	0
Student's Position	0	6	6	2	4	6	4	2	0	0	0	0	0
Conclusions and Related Outcomes	1	2	6	8	5	4	2	2	0	0	0	0	0
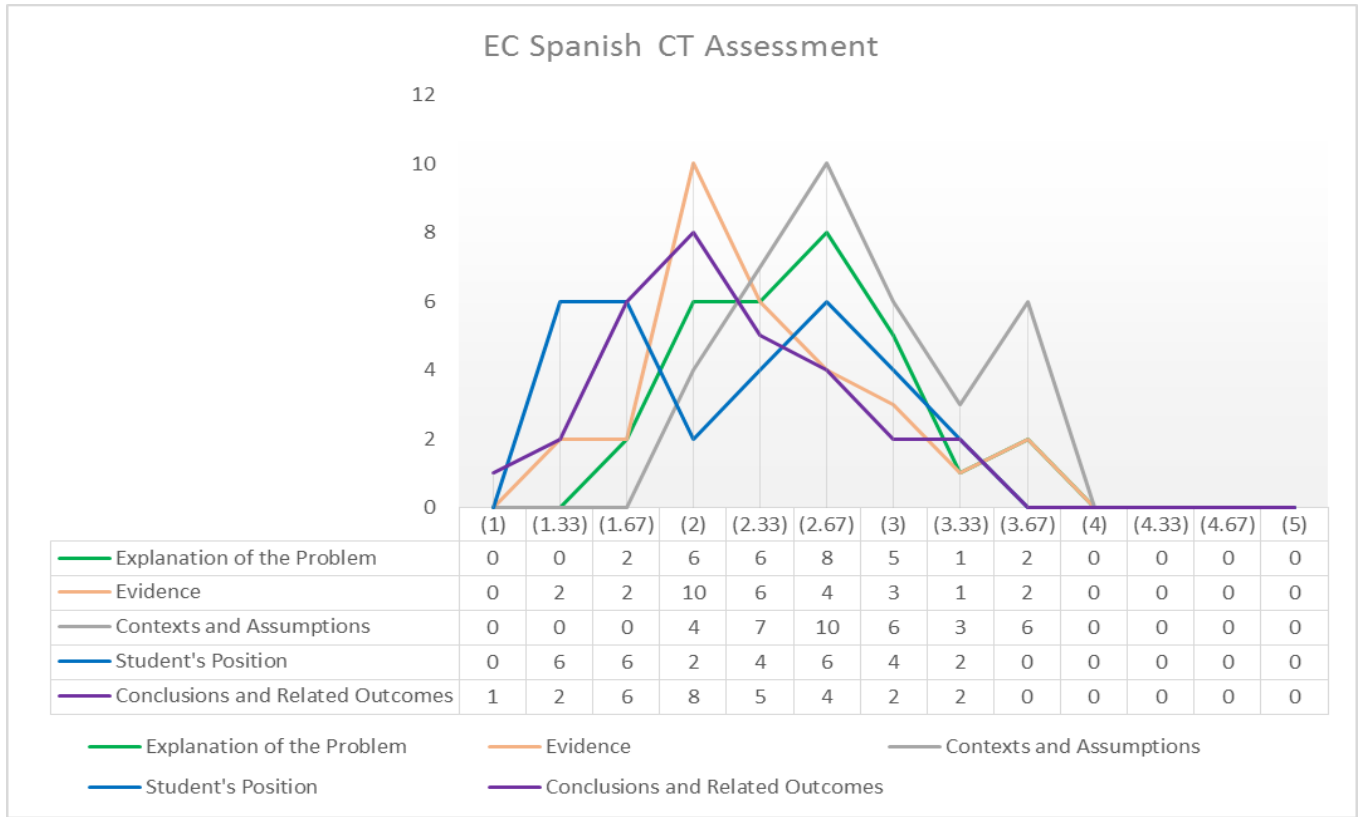
Table 68: VU Spanish Aggregate Scores

VU Spanish CT Assessment

	(1)	(1.33)	(1.67)	(2)	(2.33)	(2.67)	(3)	(3.33)	(3.67)	(4)	(4.33)	(4.67)	(5)
Explanation of the Problem	0	0	0	2	3	3	0	2	0	0	0	0	0
Evidence	0	0	0	2	5	0	1	1	1	0	0	0	0
Contexts and Assumptions	0	0	0	1	0	4	1	4	0	0	0	0	0
Student's Position	0	0	1	4	2	0	1	2	0	0	0	0	0
Conclusions and Related Outcomes	0	0	0	2	3	3	1	1	0	0	0	0	0
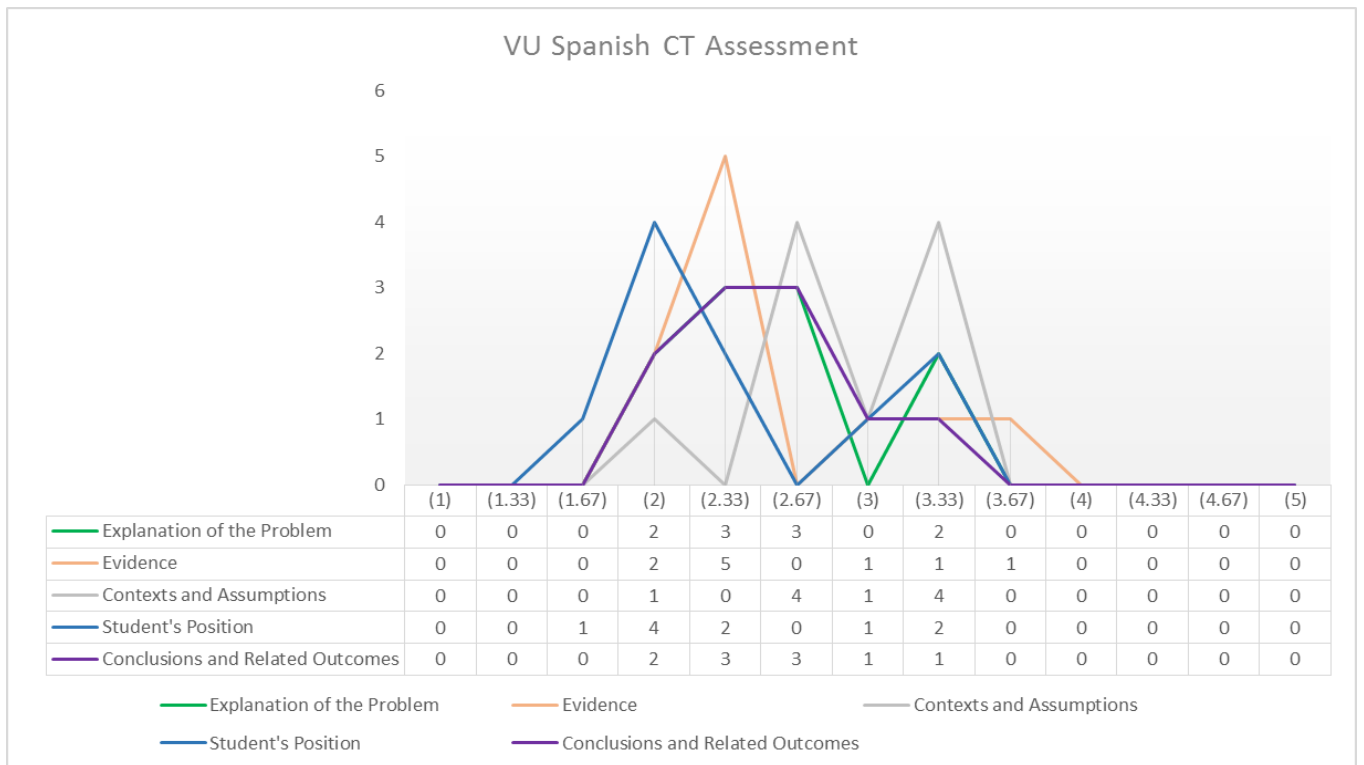
Written Communication

Early College Artifacts: N=30

Table 69: Early College Written Communication Avg. Scores and Rates of Agreement

Overall Average	1.933	1.606	1.789	1.717	2.106
Avg. Standard Deviation	0.459	0.547	0.537	0.503	0.447
Total Agreement	8	6	8	9	8
Total Agreement %	27%	20%	27%	30%	27%
Partial Agreement	15	11	10	9	16
Partial Agreement %	50%	37%	33%	30%	53%

VU Artifacts: N=10

Table 70: VU Written Communication Control Sample Avg. Scores and Rates of Agreement

Overall Average	2.033	1.700	1.867	1.567	2.067
Avg. Standard Deviation	0.399	0.540	0.305	0.283	0.540
Total Agreement	3	1	5	4	2
Total Agreement %	30%	10%	50%	40%	20%
Partial Agreement	5	6	3	6	4
Partial Agreement %	50%	60%	30%	60%	40%

The written communication goal is that 66% of students will score an average of 2.67 in the dimensions of Context and Purpose, Content Development, Sources and Evidence, and an average of 2.33 in the dimensions of Genre and Disciplinary Conventions and Control of Syntax and Mechanics as assessed by three faculty assessors:

Table 71: Percent of Early College WC Artifacts Meeting Goals (N = 30)

Score an average of 2.67 or higher			*Score an average of 2.33 or higher*		
Context of and Purpose for Writing	Content Development	Sources and Evidence	Genre and Disciplinary Conventions	Control of Syntax and Mechanics	% Meeting All Goals
17%	0%	0%	17%	40%	0%

While a few students scored an average of 2.33 in the dimensions of Content Development and Evidence, none met the goal of 2.67 in these dimensions; thus, none met the overall goal either.

Table 72: Early College Written Communication "Context and Purpose for Writing" Scores
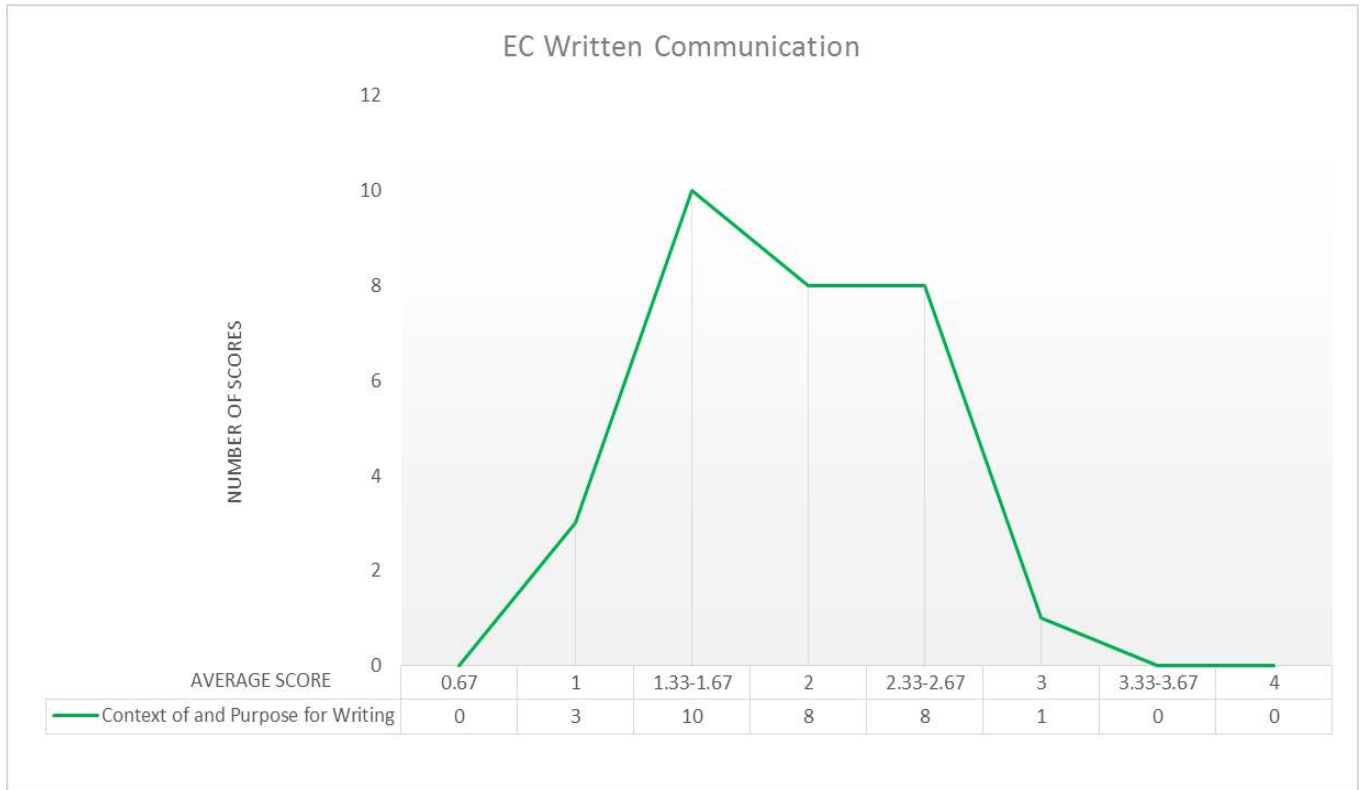
EC Written Communication

AVERAGE SCORE	0.67	1	1.33-1.67	2	2.33-2.67	3	3.33-3.67	4
Context of and Purpose for Writing	0	3	10	8	8	1	0	0

Table 73: VU Written Communication Control Sample "Context and Purpose for Writing" Scores

VU Written Communication--Control

AVERAGE SCORE	0.67	1	1.33-1.67	2	2.33-2.67	3	3.33-3.67	4
Context of and Purpose for Writing	0	1	1	4	4	0	0	0
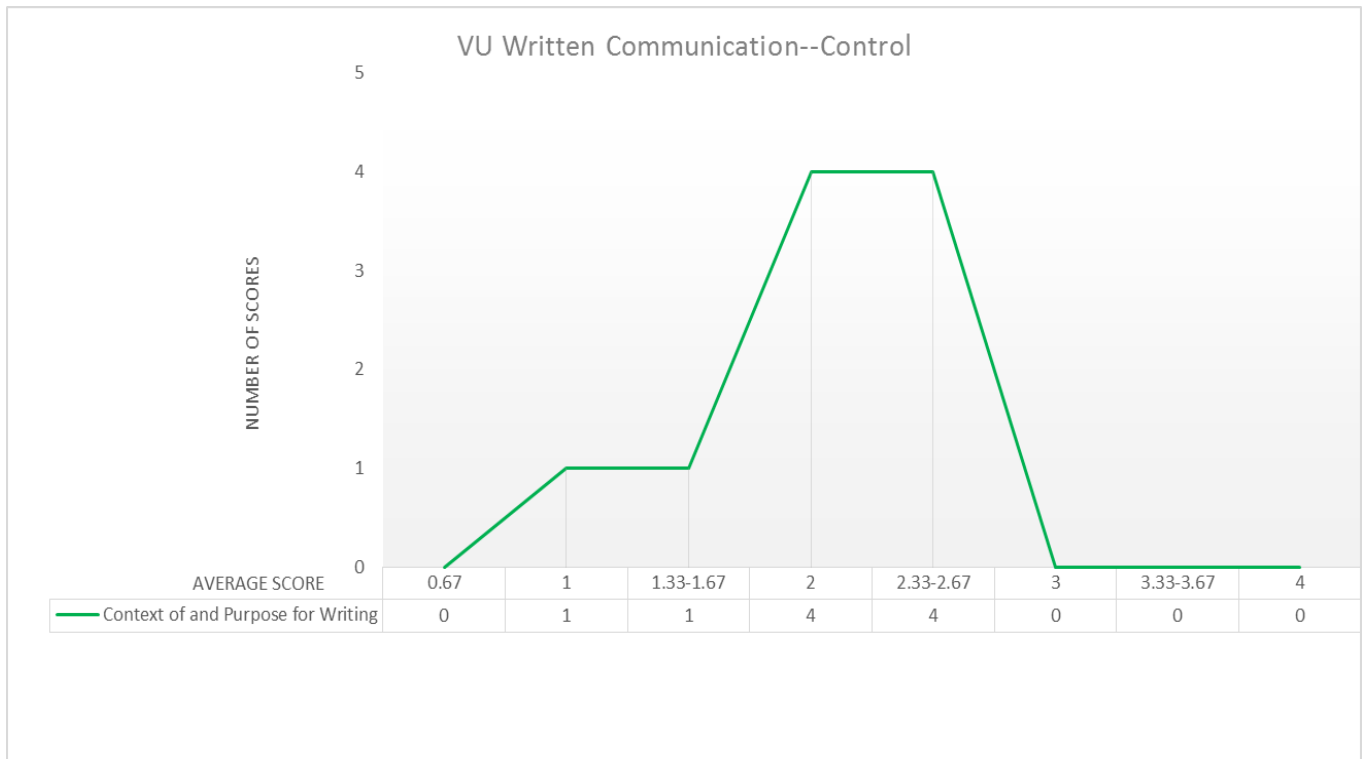
Table 74: Early College Written Communication "Content Development" Scores

EC Written Communication

AVERAGE SCORE	0.67	1	1.33-1.67	2	2.33-2.67	3	3.33-3.67	4
Content Development	1	5	13	8	3	0	0	0
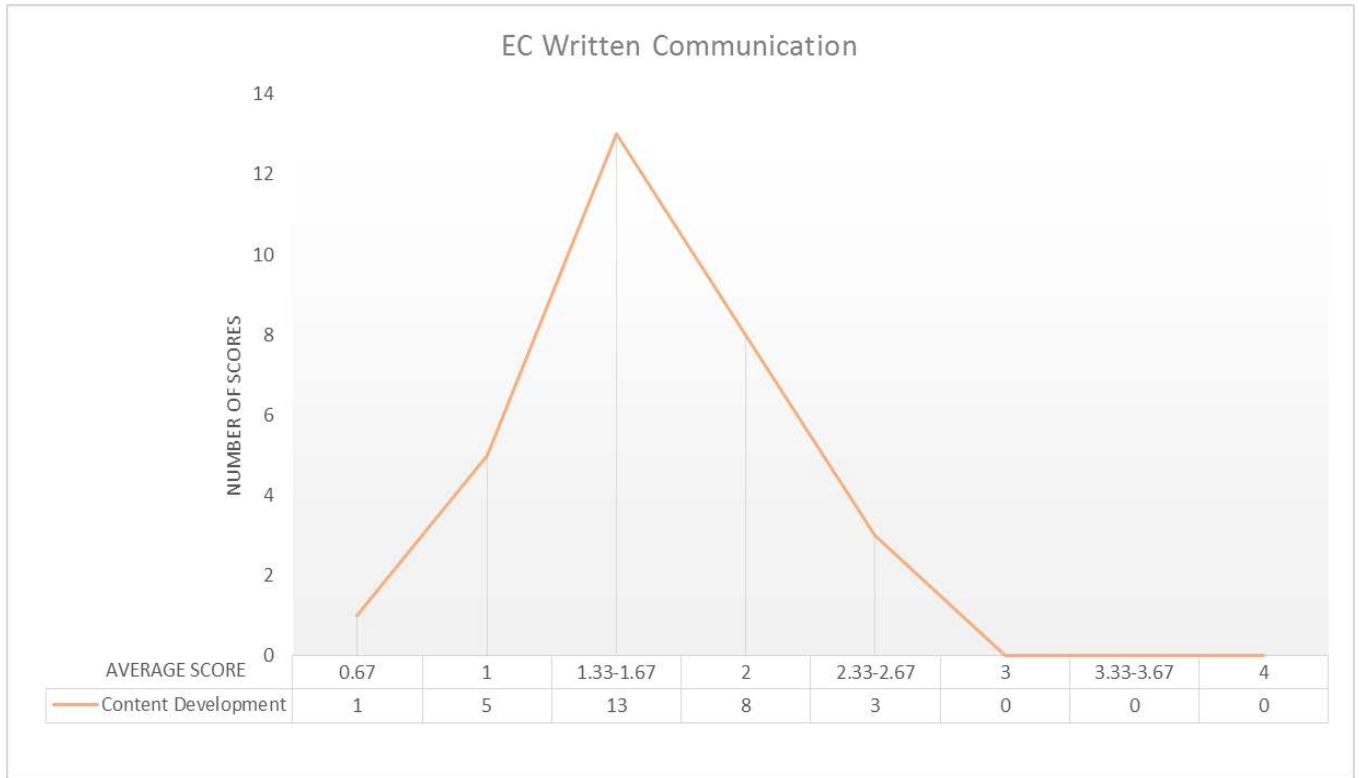
Table 75: VU Written Communication Control Sample "Content Development" Scores

VU Written Communication--Control

AVERAGE SCORE	0.67	1	1.33-1.67	2	2.33-2.67	3	3.33-3.67	4
Content Development	0	1	6	2	1	0	0	0
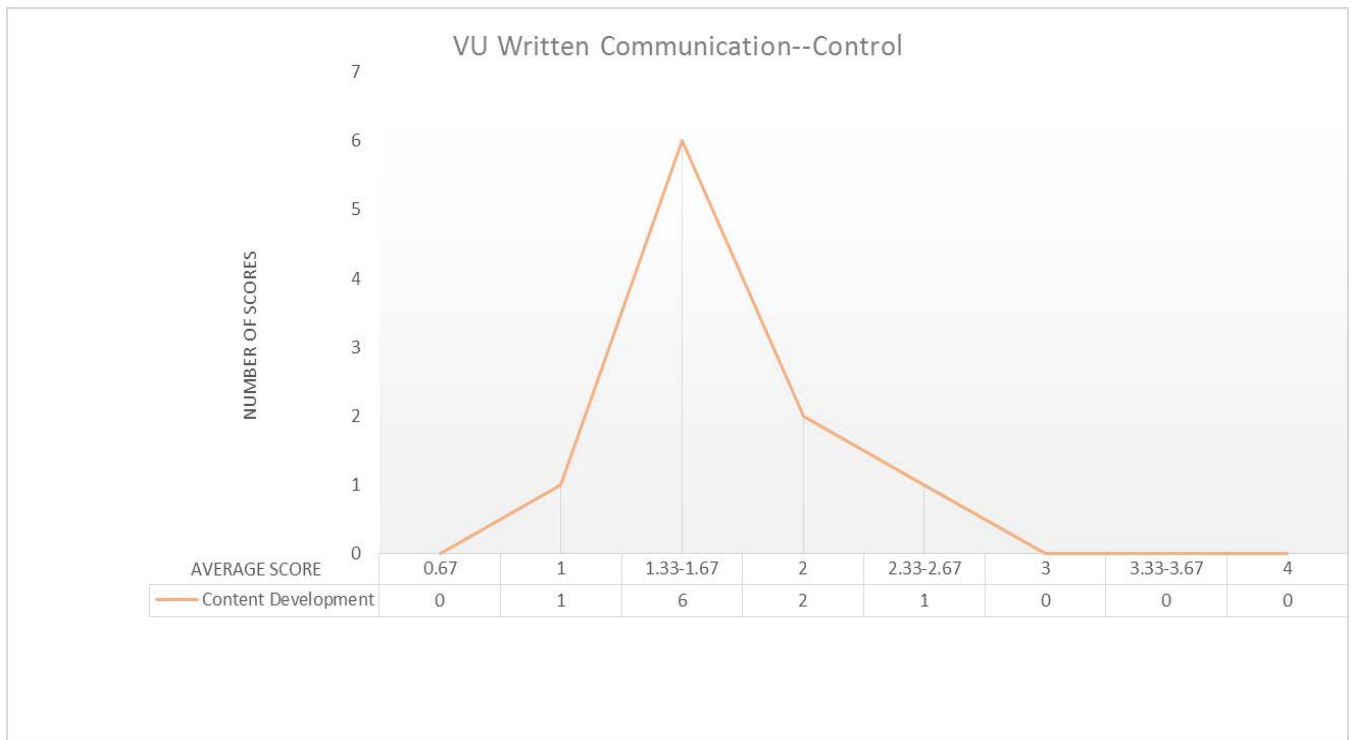
Table 76: Early College Written Communication "Genre and Disciplinary Conventions" Scores

AVERAGE SCORE	0.67	1	1.33-1.67	2	2.33-2.67	3	3.33-3.67	4
Genre and Disciplinary Conventions	0	5	9	11	5	0	0	0
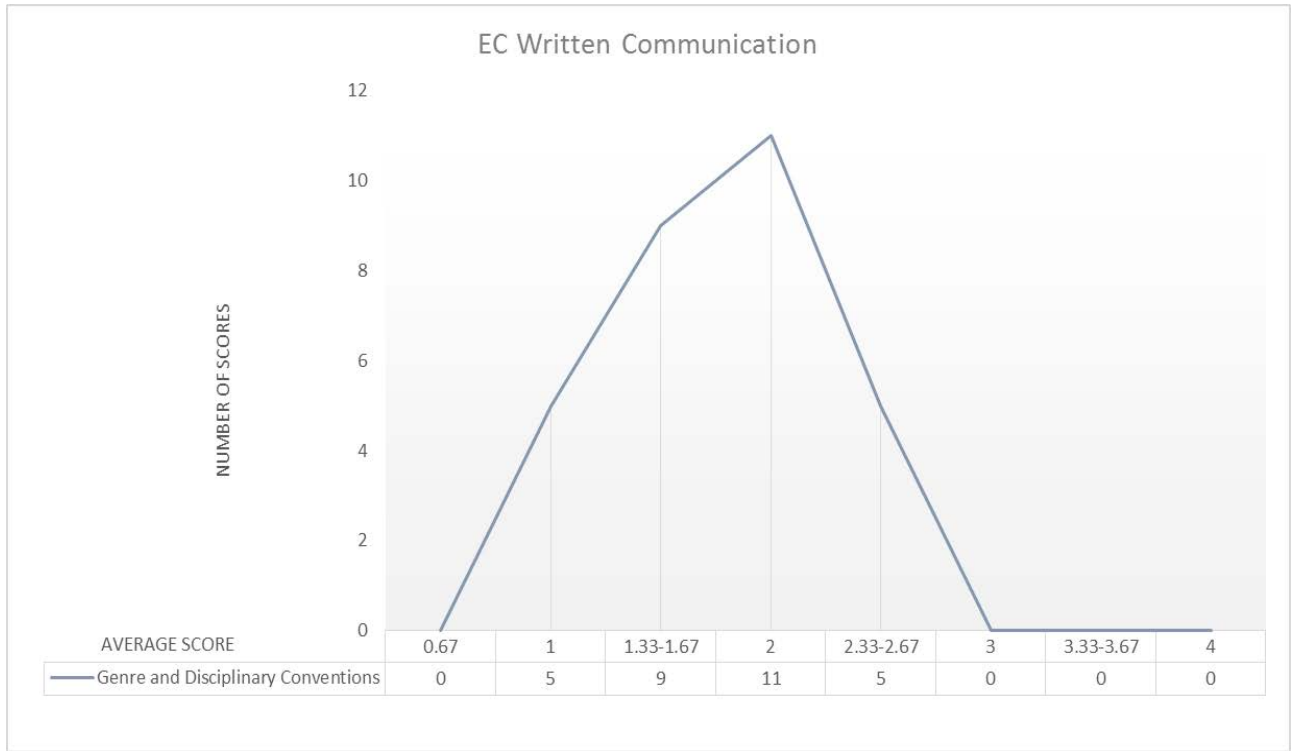
Table 77: VU Written Communication Control Sample "Genre and Disciplinary Conventions" Scores

AVERAGE SCORE	0.67	1	1.33-1.67	2	2.33-2.67	3	3.33-3.67	4
Genre and Disciplinary Conventions	0	2	2	4	1	1	0	0
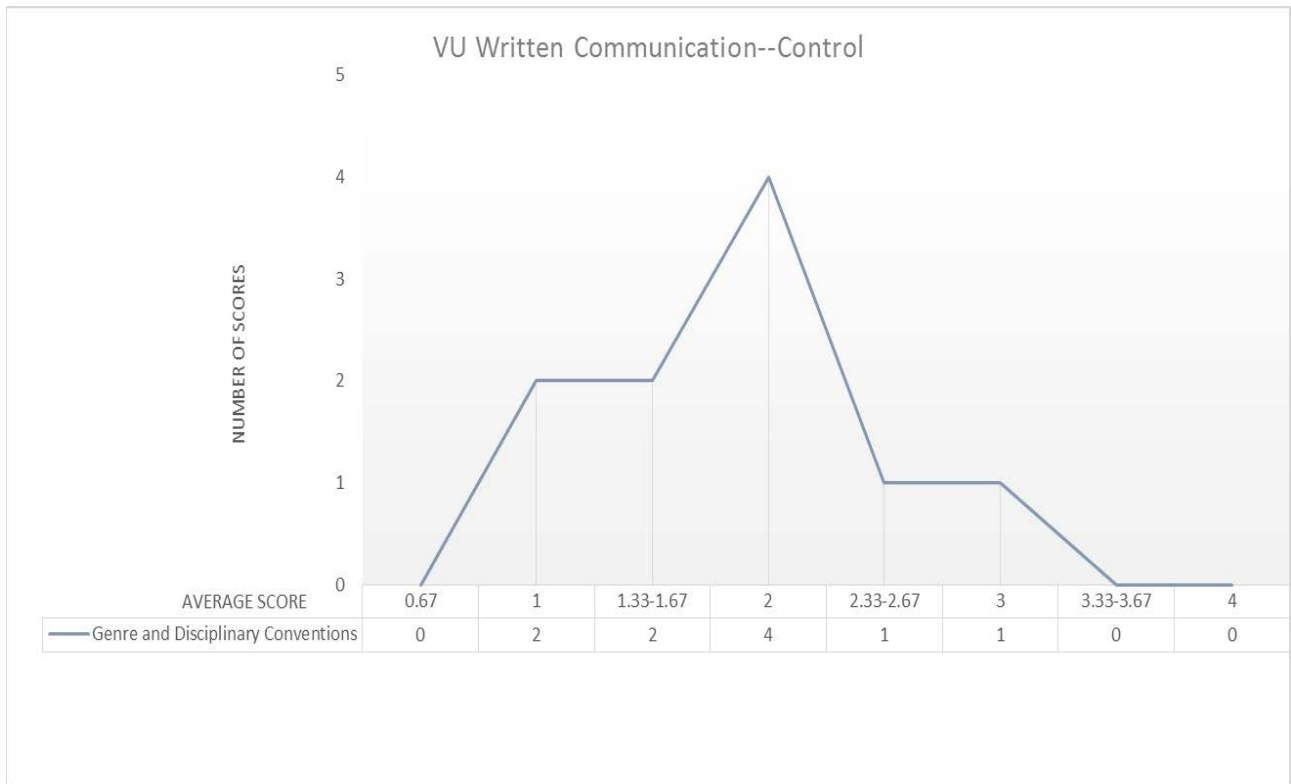
Table 78: Early College Written Communication "Sources and Evidence" Scores

EC Written Communication

AVERAGE SCORE	0.67	1	1.33-1.67	2	2.33-2.67	3	3.33-3.67	4
Sources and Evidence	1	5	9	9	6	0	0	0
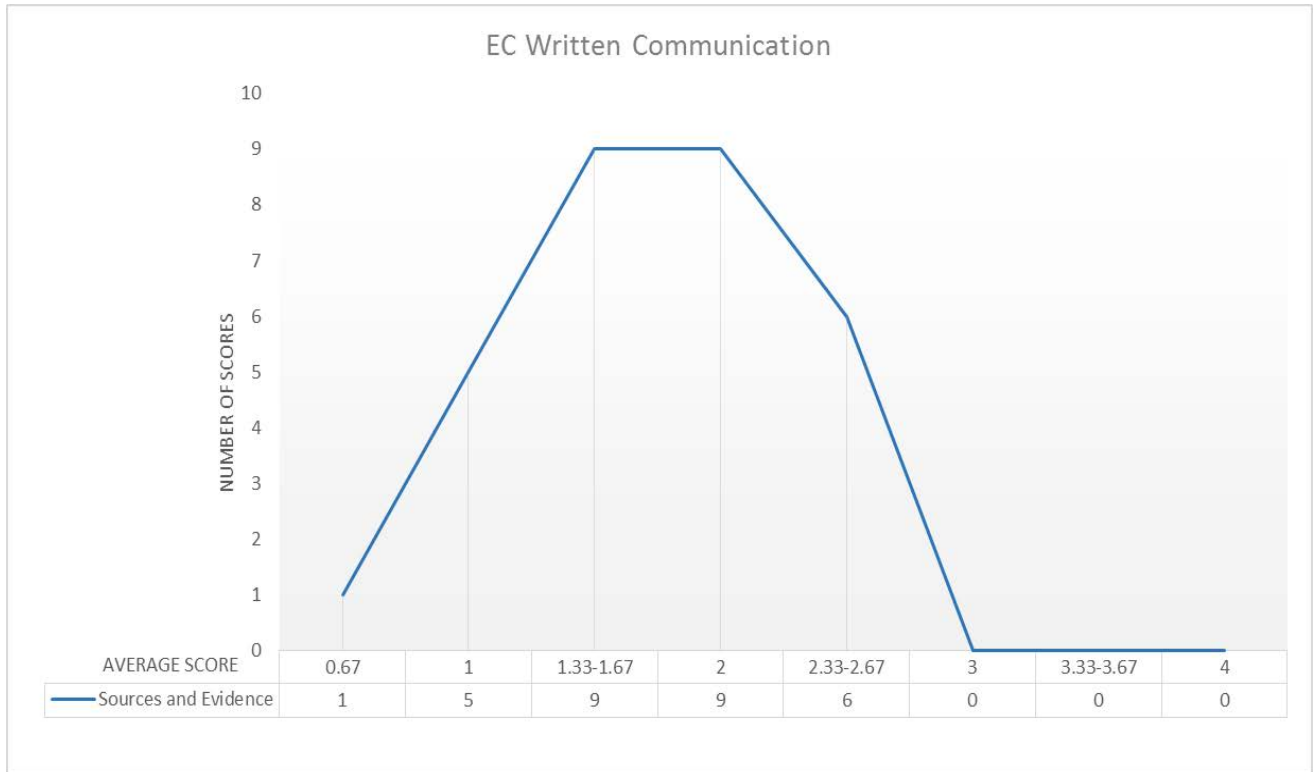
Table 79: VU Written Communication Control Sample "Sources and Evidence" Scores

VU Written Communication--Control

AVERAGE SCORE	0.67	1	1.33-1.67	2	2.33-2.67	3	3.33-3.67	4
Sources and Evidence	0	3	5	1	0	0	1	0
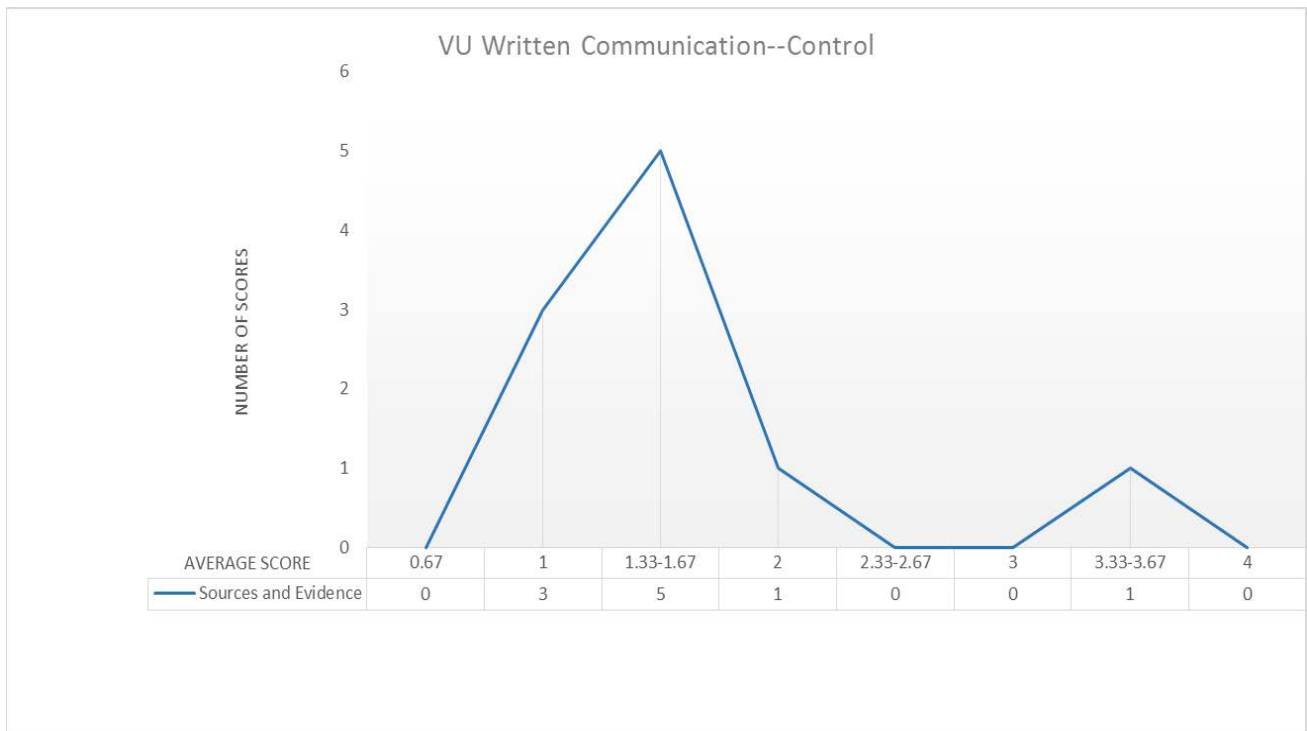
Table 80: Early College Written Communication "Control of Syntax and Mechanics" Scores

EC Written Communication

AVERAGE SCORE	0.67	1	1.33-1.67	2	2.33-2.67	3	3.33-3.67	4
Control of Syntax and Mechanics	0	2	9	5	11	3	0	0
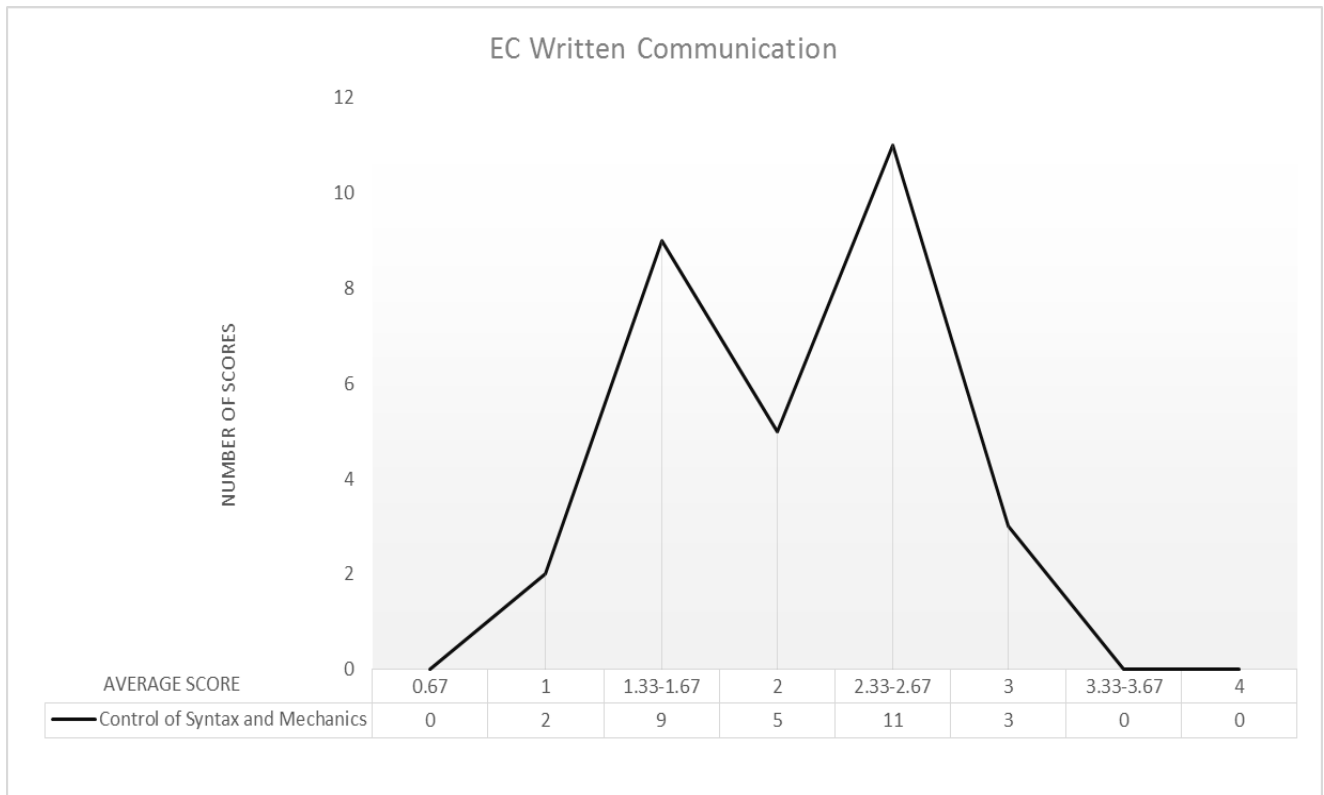
Table 81: VU Written Communication Control Sample "Control of Syntax and Mechanics" Scores

VU Written Communication--Control

AVERAGE SCORE	0.67	1	1.33-1.67	2	2.33-2.67	3	3.33-3.67	4
Control of Syntax and Mechanics	0	0	3	4	3	0	0	0
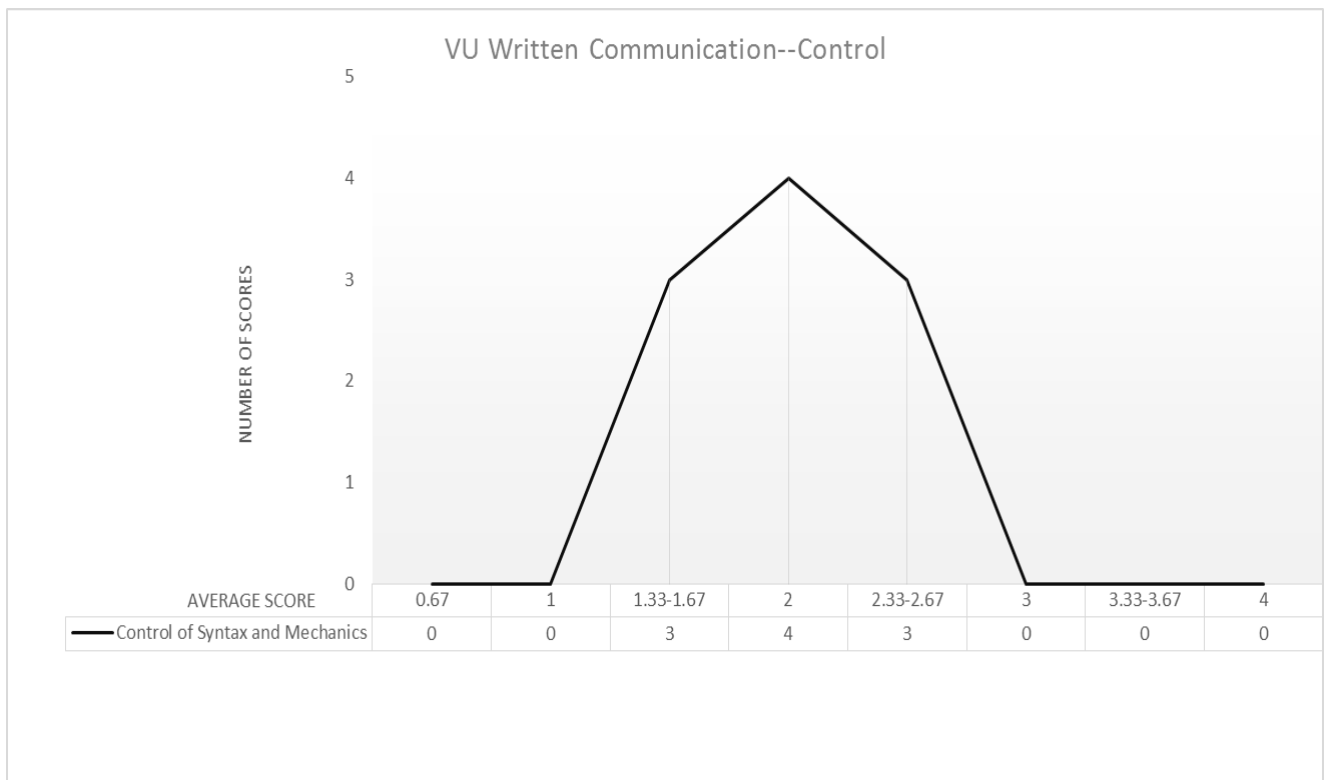
Table 82: Early College Written Communication Aggregate Scores

EC Written Communication

	0.67	1	1.33-1.67	2	2.33-2.67	3	3.33-3.67	4
Context of and Purpose for Writing	0	3	10	8	8	1	0	0
Content Development	1	5	13	8	3	0	0	0
Genre and Disciplinary Conventions	0	5	9	11	5	0	0	0
Sources and Evidence	1	5	9	9	6	0	0	0
Control of Syntax and Mechanics	0	2	9	5	11	3	0	0
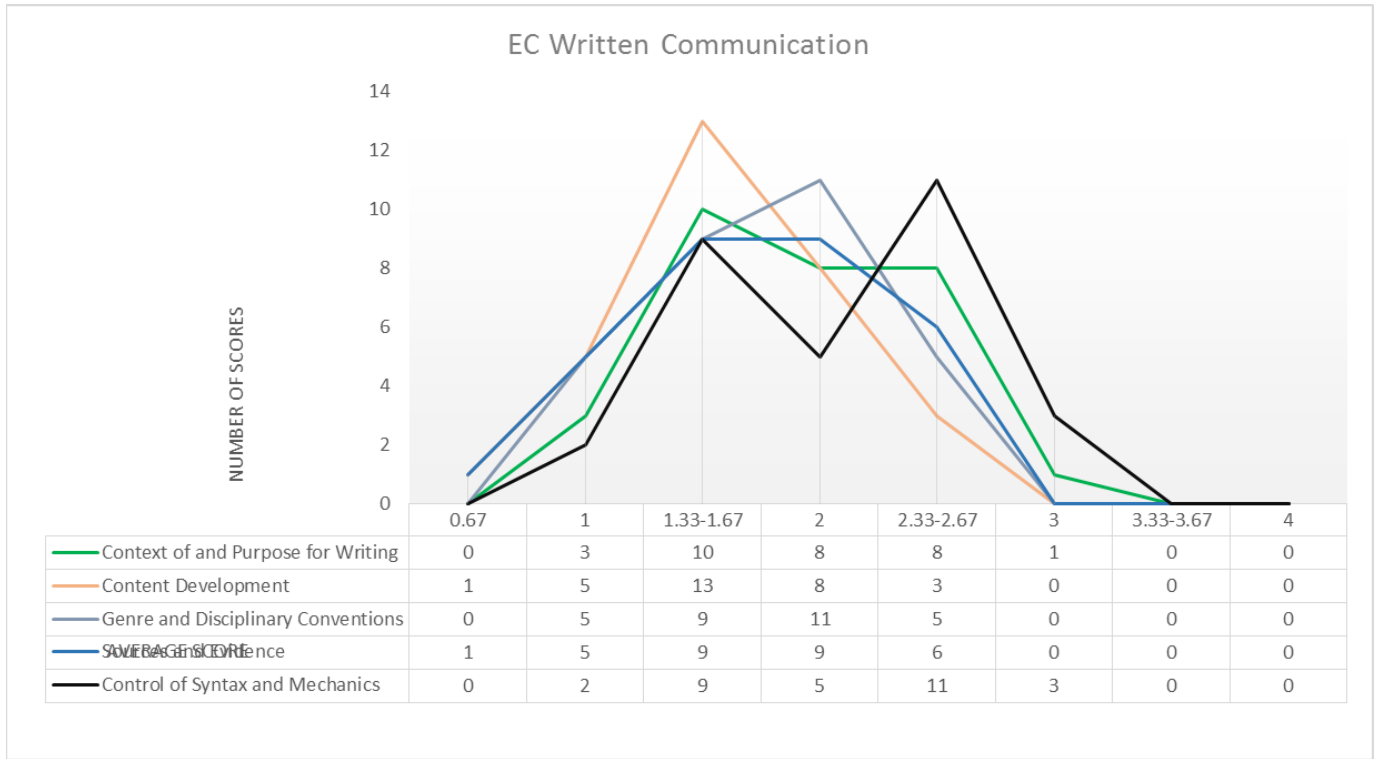
Table 83: VU Written Communication Control Sample Aggregate Scores

VU Written Communication--Control

AVERAGE SCORE	0.67	1	1.33-1.67	2	2.33-2.67	3	3.33-3.67	4
Context of and Purpose for Writing	0	1	1	4	4	0	0	0
Content Development	0	1	6	2	1	0	0	0
Genre and Disciplinary Conventions	0	2	2	4	1	1	0	0
Sources and Evidence	0	3	5	1	0	0	1	0
Control of Syntax and Mechanics	0	0	3	4	3	0	0	0
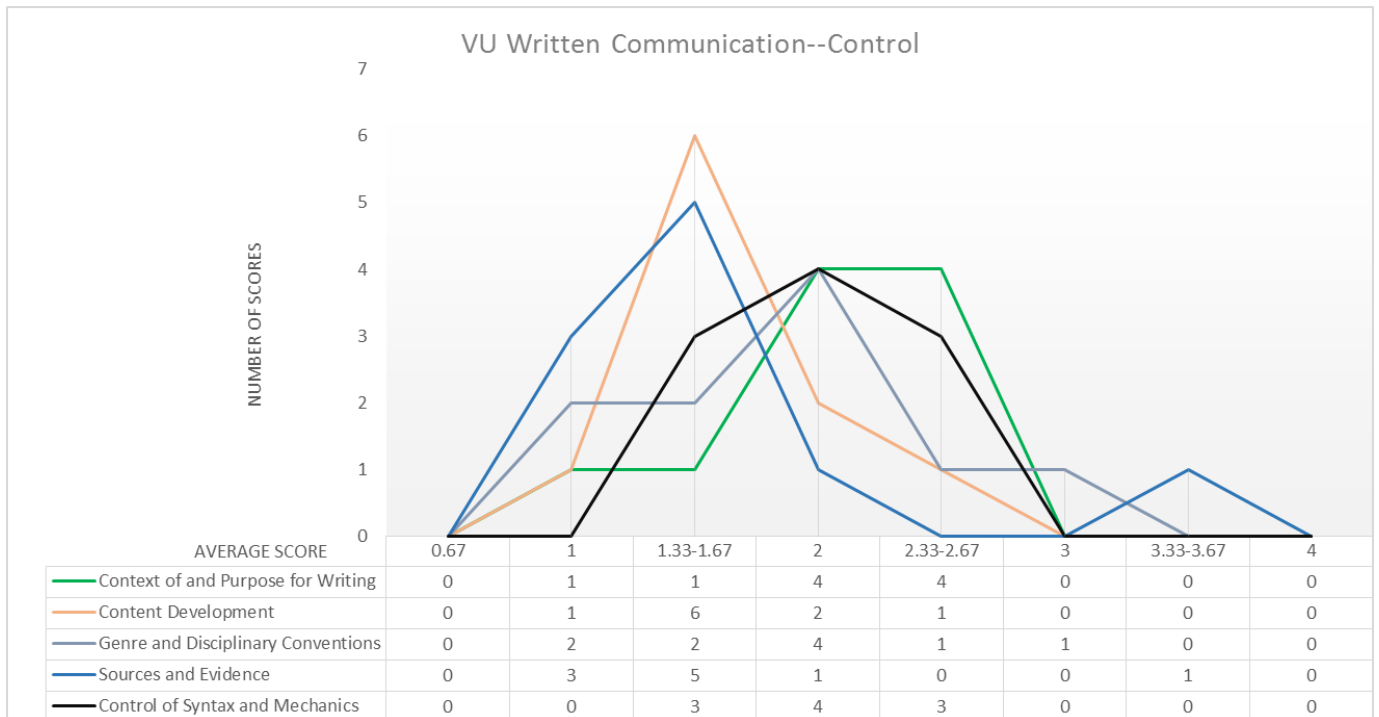
Qualitative Feedback from Assessors of Early College Artifacts

Question 1: Did you have any problems or concerns with the process of the early college assessment? Do you have any suggestions or observations you would like to make concerning the process?

"Overall, the early college samples were as good as or better than the on-campus samples. No concerns."

"I thought the early college assessment process worked well. Meeting and discussing the first six early college critical thinking papers at Vincennes University and discussing our ratings based upon the Critical Thinking Rubric was very helpful. I would like to have compared my rankings of the first 10 student papers with the other evaluators in my group. This would have given me even more confidence when evaluating the remaining 30 student papers. The collaborative online session helped to reinforce my understanding of the project."

"I think that the generic rubric used for each discipline is too generic and does not help students understand what they will be graded on. I think it can be updated slightly to be geared more towards what each discipline is requiring/expecting. Biology's CTE was almost the complete opposite of the requirement for Spanish, for example. It does not seem prudent to use the same wording for each CTE. Secondly, I think the wording for "Influence of Context and Assumptions" is quite confusing. Every time I am assessing an artifact, I have to read and reread this area. If I have a hard time following the requirements for this criteria, I know the students do as well."

Question 2: What general observations did you make regarding students' demonstrations of critical thinking? Were there any elements of the assignments that were particularly revealing of students' ability to think critically?

"My general observations of the students' critical thinking was positive. I did not notice a difference between work at the Early College level and by the students on VU's campus. I did notice the students in many cases did not fully state the ill-defined problem in their paper. I also noticed students did not express judgment about the evidence which kept them from scoring above Acceptable in the Evidence dimension of the rubric. Another area the students had trouble with was looking at the strengths and weaknesses of their viewpoint."

"In general the students did a poor job of thinking/writing critically. The most revealing aspects of this was that most of the students were unable to explain what the problem was in their opening paragraphs."

"I thought most of the students demonstrated acceptable critical thinking skills. Some of the students were able to identify the historical event or person they would save, but did not really go on to explain the benefits of saving the chosen historical event or person. I was pleasantly surprised to find that a significant number of students were able to achieve one or more advanced ratings on their critical thinking papers. I even rated two papers advanced in all critical thinking categories. I think this is exceptional for students at this level."

"After reading 40 of the Spanish artifacts, the general consensus is that the students did not demonstrate much (if any) critical thinking. They either did not understand what was required of them or did not know how to think critically and apply it to their lives/worldview. The majority of the artifacts stated only facts and information, but the students were unable to apply it to their own lives. The categories "Influence of Context and Assumptions," "Student's Position," and "Conclusions and Related Outcomes" are the three areas where critical thinking should be found and applied. Because of the lack of critical thinking in the artifacts I have read, I believe these areas should be better explained. We should stress the importance that the students need to do something with the research, more than just presenting it."

Question 3: What observations did you make regarding the assignments? What elements of the assignments worked best? Which were the least effective? Why? Are there particular observed traits, elements, or issues that inform your evaluation of the assignments?

"When it came to evaluating, the biggest weaknesses of the students' paper in my eyes came from the evidence and outcome sections. When it came to evidence there was a wide range of how students (and teachers) utilized it. It looked like some instructors required students to do outside research while others did not. When I graded I was looking for sources and in-text citations. Students who utilized outside resources of scholarly quality seemed to have a better grasp on the subject matter and could elaborate more on the topics. The other weakness was the outcomes section. I was looking to see if students panned out and looked at the big picture when it came to stakeholders and

the results of their decisions. Quite a few papers just looked at the immediate people that would be impacted and only short-term results."

"I feel like the argumentation assignment the way it is set up invites plagiarism and there were a few times I could see at least unintentional plagiarism or maybe even intentional. The common assessment writing prompts are very broad and paint students written communication into very specific boxes with sources and writing style. If the argumentation assignment was opened up a bit more to specific genre studies and source structure, I feel like some of this could be fixed or avoided. It was also a struggle to determine genre and disciplinary conventions for each paper."

"Asking the students opinion in the second question of the assignment does not allow the student to go through the critical thinking process before drawing a conclusion. Or the critical thinking process is not be demonstrated in the paper order as it is written."

"For each topic about which students may write, in the assignment instructions we provide a list of sub topics that we ask the students to address in their papers. Most students use these lists as a framework to organize their papers. These sub topics seem to be helpful for students. On the other hand, in their papers students do not wrestle enough- -or sometimes at all--with the last questions on the assignment guides, those questions that ask them to communicate an appreciation for the Spanish-speaker's cultural frame of reference, to reflect on their own values, and to help the native speaker of Spanish understand those values. I have noticed the same trend in my own Main Campus students—the tendency to not address the last questions on the assignment guide. In order to call attention to this part of the assignment I have created a handout titled 'SPAN 101 Critical Thinking Essay on Culture: Things to Remember for the Final Draft.'"

Question IV: How effective is the rubric as a tool for measuring students' critical thinking ability? Were there any dimensions of the rubric that were more difficult for you to score than others? How so? What suggestions do you have for improving the CT rubric?

"When I first began looking over the rubric, I felt as it was very vague and left a lot of room for interpretation. It wasn't until meeting with VU faculty in May (and then again in June) did I fully understand as to why it was vague and for the most part I am okay with the layout. I do believe it covers all that is needed, but I have a hard time distinguishing

between the advanced and excellent when scoring as I believe there is always room for improvement! I feel there could be a bit more clarification and detail written between those 2 parts of the rubric to clarify what actually constitutes as excellent. I also would like to see the evidence category have the research component added to it where students are required to use peer-reviewed sources and cite them within their responses. The easiest portion of the rubric to review was the student's position as from what I saw as long as they stated an option it at least got them to the acceptable category. Depending on how much a student elaborated it could then easily move up to the advanced category."

"Suggestion – take the names off the categories of the rubric (inadequate, developing, adequate) and just number 1 through 5. I find myself scoring by what I define as developing or adequate, rather than what is defined in the dimension of the rubric wording. I really did not realize I was doing this until we were required to assign numbers instead of categories on this assessment project."

"I think more specific language in areas would help and I would also provide a specific area for less than 1 because there were a few who I believe didn't earn even a 1."

"I think that the rubric is an effective tool for measuring critical thinking, but I recognize that at times it can be difficult to use the rubric with the critical thinking assignments in 101 and 103 world languages courses, since we are not asking students to take a position on a controversial issue. We are, however, asking them to evaluate difficulties that can emerge as a result of cultural differences and how to mitigate those difficulties. Students definitely have to think critically in order to do this."

"In the Spanish CTE, each assignment explanation/prompt is almost verbatim of the previous. Only the topic has changed. To me, the prompt does not place enough importance on the critical thinking. The emphasis is placed more on comparing and contrasting, which the students do well. I noticed that the traditional college students thought more critically than the early college students. Therefore, I suggest that we include more resources for the students. I believe the students should have an example of a paper that earns 1s and 2s for each category, a "3" paper, and a paper that earns 4s and 5s."

Question V: After completing this process what would be your advice to the early college faculty concerning engaging students in critical thinking and demonstrating it in writing? What observations from this process or the assignments or student artifacts inform that advice?

"I definitely feel that the tug sheets provided to the biology faculty really enhanced the scores when reviewing the other content areas during our norming session in June. It allowed the students to work through the problems and gather ideas before writing their paper. In my classroom I had students complete the tug sheet and I spent 2 class periods meeting with the students to discuss it before they started writing to ensure they grasped the concepts. Feedback from my students was that the meetings were helpful as they were able to ask more questions regarding the assignment and what they were writing about. It also helped that topics/questions were unified between the biology courses so students were writing about the same topic. It allowed for more cohesiveness and ease of reviewing them to the rubric. I also feel that instructors should choose topics that allow for critical thinking to be completed rather than comparing and contrasting. During the norming session I was exposed to the topics in history and Spanish. When comparing them to the biology I felt as if there weren't "ethical" dilemmas actually been discussed. For example, one of the Spanish papers dealt with looking at someone from a Latin background to that of an American background. I saw more comparing and contrasting along with students not getting their points of view expressed as there really wasn't a question to help them along with that."

"The student's ability to articulate words on paper affects the outcome of displaying their critical thinking. If the student cannot tell you clearly their thoughts and put those thoughts on paper then the reader cannot determine the degree of critical thinking. Need to emphasize the need for including outside references to support their findings in the case study."

"I have advised Early College instructors to have staggered due dates throughout the semester for steps involved in the writing process as well as to provide feedback on a rough draft. Because of the large number of students many Early College instructors have, I am sure that requiring a rough draft is very challenging. While this critical thinking project is going on through the course of the semester, the instructors must continue with the presentation and evaluation of discipline-specific content to help students achieve greater proficiency in the target world language.

There is a real struggle over the amount of time that the instructor can dedicate to the critical thinking project without sacrificing discipline-specific content."

"I think that we as a faculty, both early college and traditional, can take each of the prompts and work them into a class discussion. It could include other "hot topics" as well. We would essentially ask the students to do some rudimentary research, form opinions/ assumptions, and relate what they discovered to their own lives and values. Allowing time in class to openly discuss these topics will give the students a chance to hear more than just facts; it will allow the students to hear multiple opinions/perspectives; and it will give the students a glimpse of what we expect out of them as a part of this assignment without the pressure of being graded for it."

PART IV: APPENDIX

Rates of Agreement

The data indicates the number and associated percentage of artifacts that meet the criteria for each form of agreement.

Partial Agreement—A majority of artifact assessors agree on the score for the dimension of the rubric and the outlying score diverges by one success level. In groups of three, this level of agreement is signified with a standard deviation of 0.471. In a group of four, partial agreement results in a standard deviation of 0.433.

Even Split—The assessment group is evenly split between two scores on the rubric within one success level of each other. This level of agreement occurs only in groups of four and results in a standard deviation of 0.5.

Total Agreement—All members of the assessment group agree upon the score for the dimension. A standard deviation of 0.0 results from total agreement.

Rubric Descriptions

Critical Thinking—AAC&U defines critical thinking as "a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion." The VU critical thinking rubric is based on the AAC&U VALUE rubric for critical thinking with its five dimensions—Explanation of the Problem, Evidence, Influence of Contexts and Assumptions, Student Position, and

Conclusions and Related Outcomes, with five levels of success—Excellent (5),

Advanced (4), Acceptable (3), Developing (2), and Inadequate (1).

Written Communication—The dimensions of VU's written communication rubric are

based on the AAC&U Written Communication VALUE rubric—Context and Purpose for

Writing, Content Development, Genre and Disciplinary Conventions, Sources and

Evidence, and Control of Syntax and Mechanics. AAC&U defines written

communication as "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." The success levels are Poor (1), Marginal (2), Acceptable (3), and

Exemplary (4).

Vincennes University Critical Thinking Rubric

Qualities of Critical Thinking	1 (Inadequate)	2 (Developing)	3 (Acceptable)	4 (Advanced)	5 (Excellent)
Explanation of problem, question, conflict or issue	Fails to identify, summarize, or explain the main problem, question, conflict or issue. Represents the issues inaccurately or inappropriately.	Identifies main issues but does not summarize or explain them clearly or sufficiently	Clearly identifies and summarizes the main issues, but does not clearly explain why/how the issues are problems or create questions.	Clearly and completely identifies and summarizes the main issues, and explains why/how they are problems, questions, conflicts or issues.	Clearly and completely identifies and summarizes the main issues, and explains why/how they are problems, questions, conflicts or issues and recognizes issues that are not explicitly stated.
Evidence *Selecting and using information to investigate a point of view or conclusion*	Doesn't state data or information that counts as evidence **(No research completed)**	States limited data or information but fails to evaluate the quality of the evidence **(Fails to research each side equally or poor quality)**	States the data or information with limited evaluation of evidence from both perspectives. **(Research represents multiple perspectives but some questionable sources)**	Clearly understands the data or information from both perspectives and expresses judgment about the evidence. **(Research is limited but uses quality sources)**	Fully recognizes and evaluates evidence from both perspectives and uses skillful judgment. **(Research is from high quality resources and fully develops multiple perspectives)**
Influence of context and assumptions **(i.e. cultural/social, educational, technological, political, scientific, economic, ethical, personal experience)**	Presents main problem, question, conflict, or issue as having no connections to other conditions or contexts. No analysis of assumptions.	Limited identification of contexts and/or assumptions related to main problem, question, conflict, or issue.	Identifies multiple contexts and/or multiple assumptions but limited application to main problem, question, conflict or issue. Limited recognition of own and others contexts and/or assumptions.	Fully identifies multiple contexts and assumptions, both author's own and others and integrates them into the discussion as it applies to the main problem, question, conflict or issue.	Thoroughly and systematically analyzes own and others assumptions and relevant contexts. Fully applies the analysis of the contexts and assumptions to the main problem, question, conflict, or issue.
Student's position :	Fails to formulate and clearly express or imply own point of view regarding main problem, question, conflict, or issue.	Vaguely states or implies a position regarding main problem, question, conflict or issue with limited awareness of other perspectives and no discussion of strengths and weaknesses of author's viewpoint.	States a position regarding main problem, question, conflict, or issue with awareness of other perspectives and considers only minor objections and considers only the weakest and/or mostly easily refuted alternative positions. Minimal discussion of strengths and weaknesses of author's viewpoint.	Formulates a clear and precise personal point of view concerning main problem, question, conflict or issue. Considers a range of alternative positions and discusses strengths and weaknesses of author's position.	States a specific, imaginative , and reasonable personal point of view concerning main problem, question, conflict or issue. Recognizes limits of own position while synthesizing other perspectives into own position.
Conclusions and related outcomes *(implications and consequences)*	No consideration of implications and related outcomes.	Limited connections between the conclusions drawn and the information provided; little or no discussion of implication of the position taken	Conclusions follow from the information, but conclusions are of limited significance; position assumptions and implications of conclusions are not explored.	Most conclusions clearly follow from the information considered and integrate multiple perspectives. Position assumptions and implications are explored although full significance might not be developed.	Conclusions and implications are fully fleshed out in a systematic way that follows from consideration of multiple perspectives; conclusions and implications are insightful and creative

Written Communications Rubric*

	Exemplary 4	Acceptable 3	Marginal 2	Poor 1
Context of and Purpose for Writing *Includes considerations of audience, purpose, and the circumstances surrounding the writing task(s).*	Demonstrates a thorough understanding of context, audience, and purpose that is responsive to the assigned task(s) and focuses all elements of the work.	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).	Demonstrates awareness of context, audience, purpose, and to the assigned tasks(s) (e.g., begins to show awareness of audience's perceptions and assumptions).	Demonstrates minimal attention to context, audience, purpose, and to the assigned tasks(s) (e.g., expectation of instructor or self as audience).
Content Development	Uses appropriate, relevant, and compelling content to illustrate mastery of the subject, conveying the writer's understanding, and shaping the whole work.	Uses appropriate, relevant, and compelling content to explore ideas within the context of the discipline and shape the whole work.	Uses appropriate and relevant content to develop and explore ideas through most of the work.	Uses appropriate and relevant content to develop simple ideas in some parts of the work.
Genre and Disciplinary Conventions *Formal and informal rules inherent in the expectations for writing in particular forms and/or academic fields (please see glossary).*	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	Demonstrates consistent use of important conventions particular to a specific discipline and/or writing task(s), including organization, content, presentation, and stylistic choices	Follows expectations appropriate to a specific discipline and/or writing task(s) for basic organization, content, and presentation	Attempts to use a consistent system for basic organization and presentation.
Sources and Evidence	Demonstrates skillful use of high-quality, credible, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing	Demonstrates consistent use of credible, relevant sources to support ideas that are situated within the discipline and genre of the writing.	Demonstrates an attempt to use credible and/or relevant sources to support ideas that are appropriate for the discipline and genre of the writing.	Demonstrates an attempt to use sources to support ideas in the writing.
Control of Syntax and Mechanics	Uses graceful language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.	Uses straightforward language that generally conveys meaning to readers. The language in the portfolio has few errors.	Uses language that generally conveys meaning to readers with clarity, although writing may include some errors.	Uses language that sometimes impedes meaning because of errors in usage.

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