Writing Assessment Follow-Up Study
Class of 2007
Office of Institutional Research
Spring, 2007

GRINNELL COLLEGE

In fall 2003, Grinnell College began an institution-wide assessment of student writing. Faculty agreed to evaluate students' writing on 10 criteria (e.g. written work has a clear, central claim, sentences and paragraphs form a connected sequence, information is used to support a central claim.) Student writing would be evaluated in the first, fourth, and seventh semesters for each entering class in an effort to understand what, if any, progress students made in writing during their time at Grinnell.

For the first semester's assessment, tutorial instructors complete a questionnaire regarding first-year students' writing ability at the beginning of the semester. This questionnaire, which was developed with the input and support of the faculty, contains 10 criteria that are considered important to writing ability. A list of the 10 criteria and the rating scale can be found in Appendix A. Tutorial instructors rate each student during the first half of the fall semester using the following scale:

1 – Student needs significant work on this
2 – Variable quality, usually some problems
3 – Generally adequate
4 – Consistently excellent

In their fourth and seventh semesters, a subset of the population that was originally assessed is selected for follow-up evaluation. Students enrolled in courses deemed "writing intensive" by the Writing Advisory Committee are identified as candidates for assessment and faculty members rate the students writing ability at the end of the fourth and seventh semesters.

The purpose of this report is to reveal the writing assessment ratings of students in their first, fourth, and seventh semesters.

Participation

In fall 2003, tutorial instructors rated 350 first-year students on their writing skills. In spring 2005, (students' fourth semester), a subset of this population was selected for follow-up evaluations. In fall 2007 (students' seventh semester) this same subset was selected and faculty members again were asked to evaluate students' writing. Students enrolled in courses deemed "writing intensive" by the Writing Advisory Committee were identified as candidates for assessment. This filter was applied to ensure that faculty members had substantive opportunities to review the writing skills of these students.
Due to the sampling procedures as well as faculty response, we had complete data (assessments for the first, fourth, and seventh semesters) for 53 students.

Results

Student Characteristics

Table 1 provides a comparison of the demographics for students evaluated in their first, fourth, and seventh semesters. Between the seventh and first semester, there was a slightly higher percentage of female students (59% vs. 54%) and white students (77% vs. 74%). There was a slightly lower percentage of students of color (13% vs 17%) and international students (8% vs. 9%) rated in the seventh semester compared to first semester. Average ACT scores for all semesters were similar; average SAT verbal and math scores were higher for the seventh semester cohort than for the first semester cohort.

Table 1. Student Demographics:

	First Semester	Fourth Semester	Seventh Semester
Number of Students Rated	350	86	53
Female	54%	56%	59%
Male	46%	44%	41%
White students	74%	76%	77%
Students of color	17%	15%	13%
International students	9%	7%	8%
Average ACT Score	29.5	29.6	29.6
Average SAT Verbal Score	668	665	671
Average SAT Math Score	663	666	666

Writing Assessment Ratings

In order to assess changes in writing ability over seven semesters, only the 53 students who were evaluated in the first, fourth, and seven semesters were used in the following analyses. First, fourth, and seventh semester ratings for each of the ten criteria as well as the summed score are shown on the following pages in two ways:

(1) The bar charts (at the top) display the number of students who received each respective rating for the first, fourth, and seventh semesters.

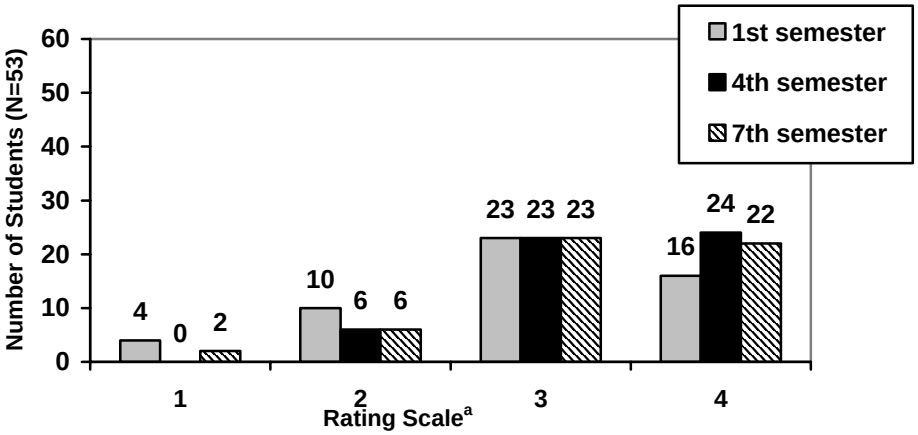
(2) Two histograms provide a summary of the variation in individual change in ratings over time. [$change_{4-1}$] was calculated by subtracting the first semester rating from the fourth semester rating and [$change_{7-4}$] by subtracting the fourth semester rating from the seventh semester rating. Positive values thus mean an increase in ratings over time.

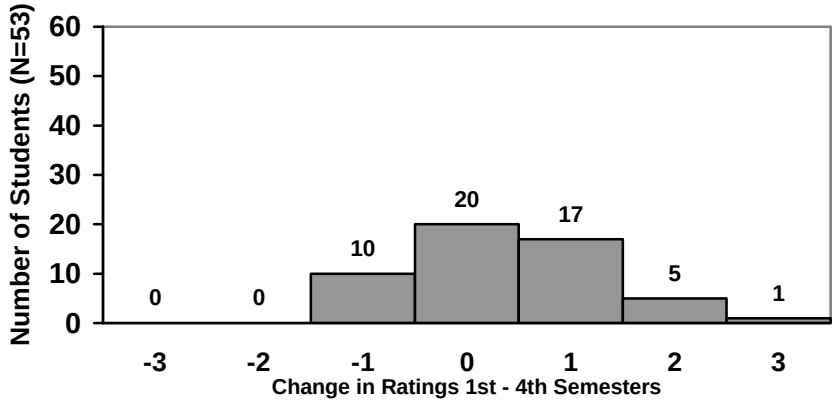
We analyzed the statistical significance of changes in rating in two ways, both of which are appropriate for data which are ordinal (meaning, e.g., that a score of 2 is between scores of 1 and 3, but averaging a score of 1 and 3 to get a score of 2 is not appropriate):

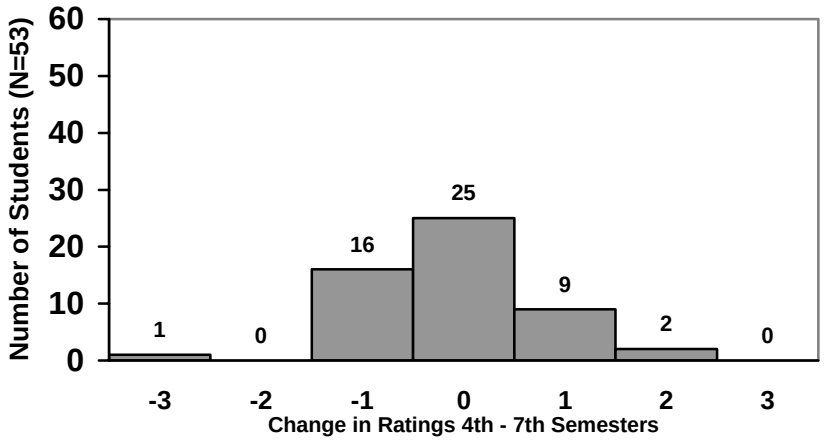
(1) The Wilcoxon Signed-Ranks Test determined whether differences between the ratings from the first and fourth semester and from the fourth and seventh semester were statistically significant. This is equivalent to asking whether the change is significantly different from zero.

(2) We used Spearman's rho correlations to test whether the change in scores was correlated with the initial score. If the correlation is negative, it means that those who scored higher initially tend to have less positive change in scores. This might be expected, since the scoring system has a ceiling score of 4.

Criteria 1. Written work has a clear central claim, idea, or focus. [CENTRAL CLAIM]







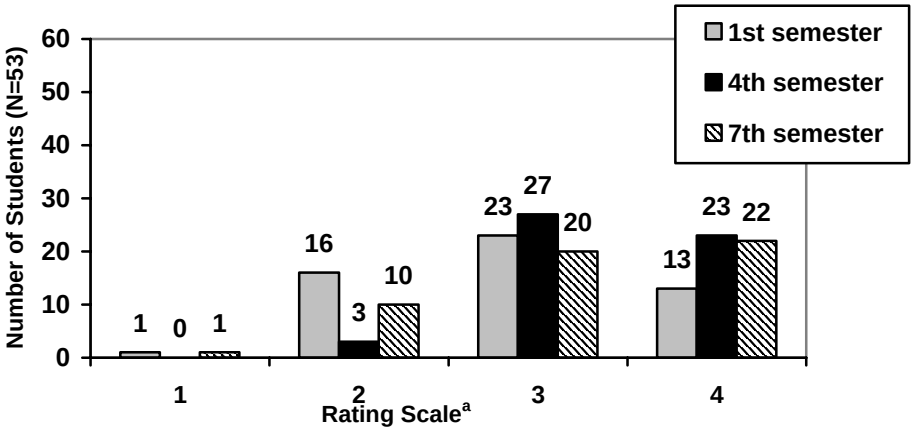
There was a statistically significant difference between the first and fourth semester scores for "central claim." Wilcoxon Signed-Ranks Results: (N=53; Z = -2.69; p < .01).
There was not a statistically significant difference between the fourth and seventh semester scores for "central claim." Wilcoxon Signed-Ranks Results: (N=53; Z = -.82; p = .41).

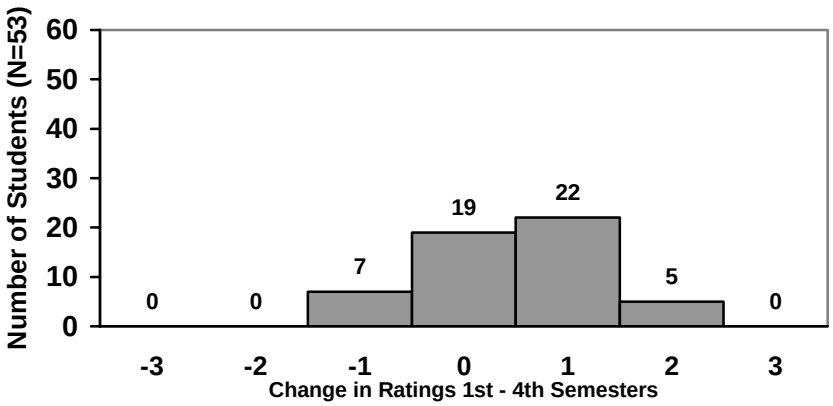
There was a statistically significant negative correlation between the first semester score and the change[1] score* (N=53; r_s = -.718; p. < .001).
There was a statistically significant negative correlation between the fourth semester score and the change[2**] score* (N=53; r_s = -.470; p. < .001).

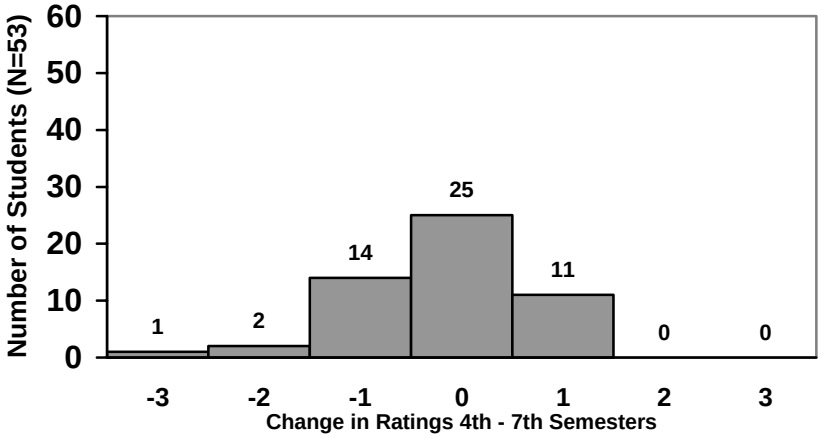
*change[1] score is equal to the difference between the first and fourth semester scores.
** change[2] score is equal to the difference between the fourth and seventh semester scores.

[a]Rating Scale
1 – Student needs significant work on this
2 – Variable quality, usually some problems
3 – Generally adequate
4 – Consistently excellent

Criteria 2. Written work maintains its unity of focus. [MAINTAINS UNITY]







There was a statistically significant difference between the first and fourth semester scores for "unity." Wilcoxon Signed-Ranks Results: (N=53; Z = -3.57; p. < .001).

There was not a statistically significant difference between the fourth and seventh semester scores for “unity.” Wilcoxon Signed-Ranks Results: (N=53; Z = -1.50; p = .134).

There was a statistically significant negative correlation between the first semester score and the change[1*] score* (N=53; r_s = -.745; p. < .001).
There was a statistically significant negative correlation between the fourth semester score and the change[2**] score* (N=53; r_s = -.436; p. = .001).

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** change[2] score is equal to the difference between the fourth and seventh semester scores.

[a]Rating Scale
1 – Student needs significant work on this
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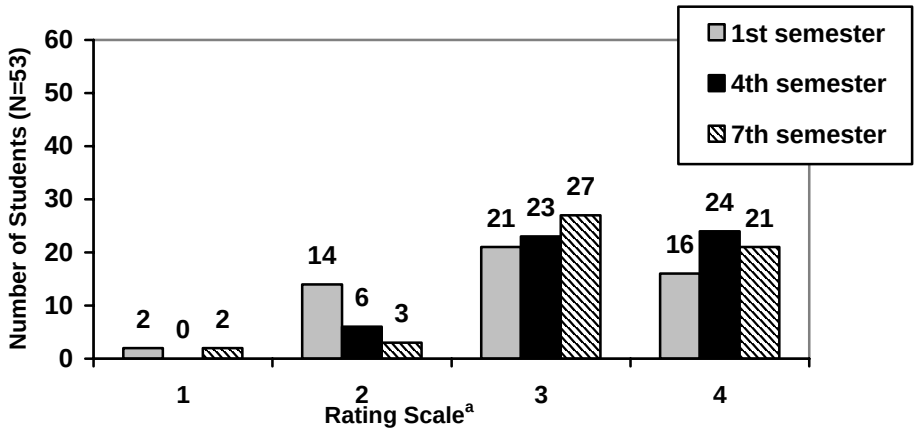
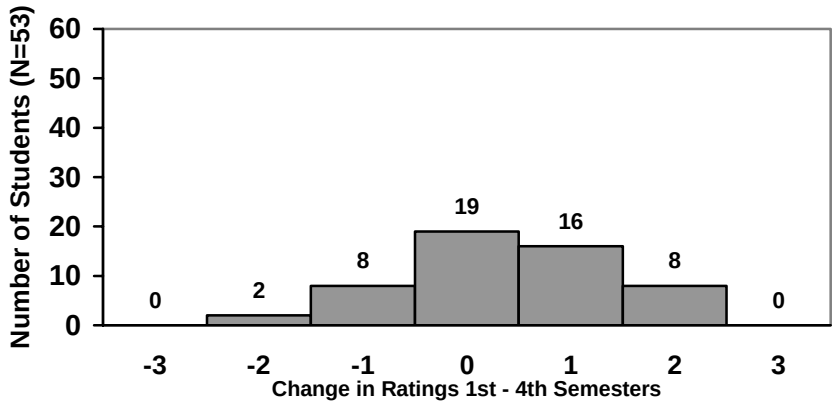
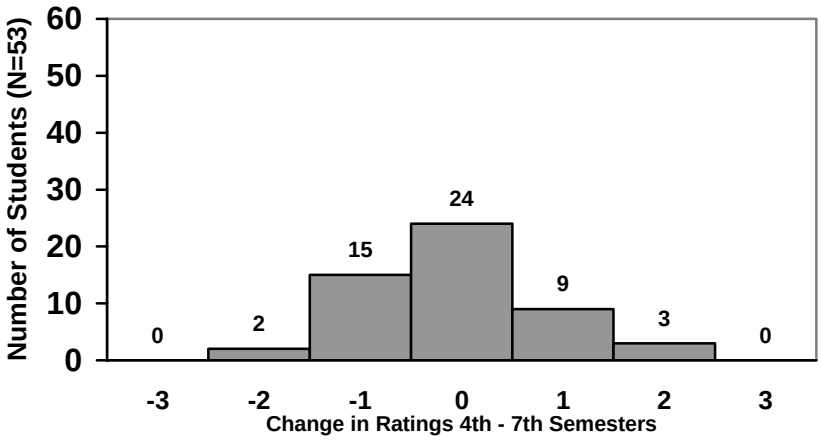
Criteria 3. Opening passages announce the central question or claim. [OPENING]







There was a statistically significant difference between the first and fourth semester scores for "opening." Wilcoxon Signed-Ranks Results: (N=53; Z = -2.48; p < .05).
There was not a statistically significant difference between the fourth and seventh semester scores for "opening." Wilcoxon Signed-Ranks Results: (N=53; Z = -.558; p = .577).

There was a statistically significant negative correlation between the first semester score and the change[1*] score* (N=53; r_s = -.768; p. < .001).
There was a statistically significant negative correlation between the fourth semester score and the change[2**] score* (N=53; r_s = -.589; p. < .001).

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** change[2] score is equal to the difference between the fourth and seventh semester scores.

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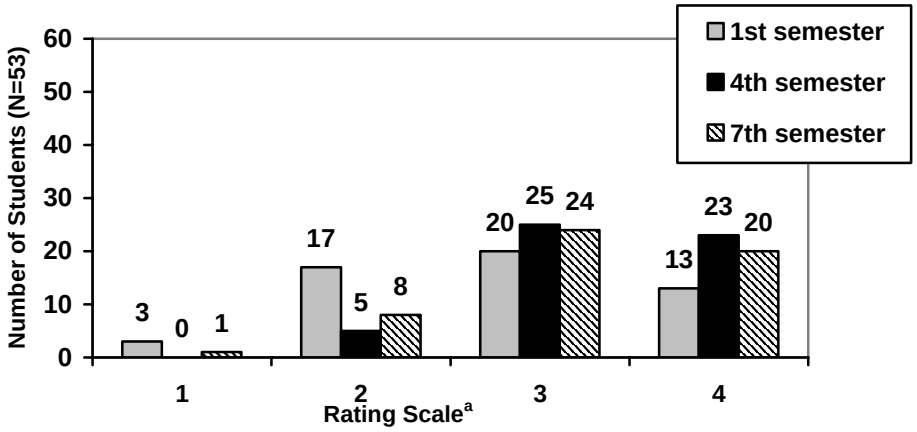
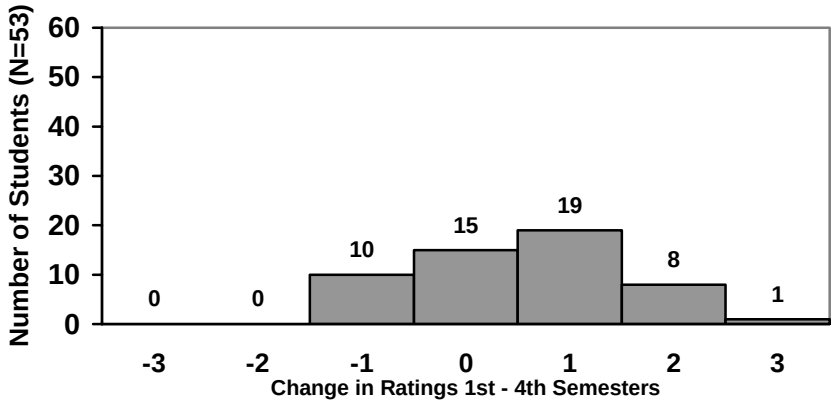
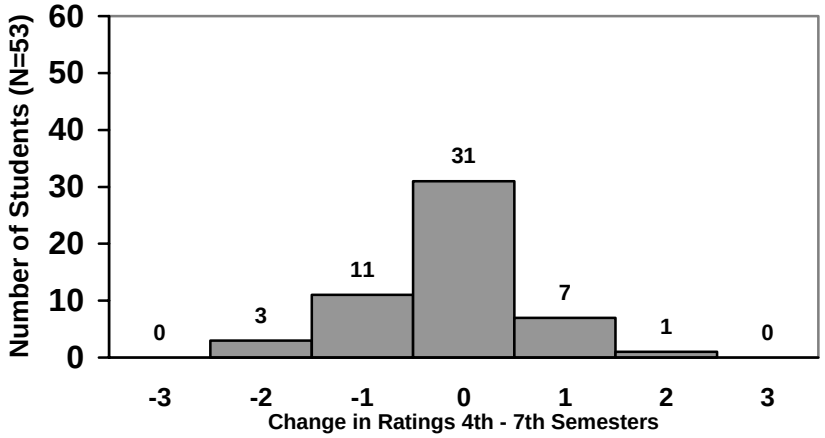
Criteria 4. Closing passages leave the reader with a clear sense of the central claim or focus. [CLOSING]







There was a statistically significant difference between the first and fourth semester scores for "closing." Wilcoxon Signed-Ranks Results: (N=53; *Z* = -3.39; *p*. = .001). There was not a

statistically significant difference between the fourth and seventh semester scores for “closing.” Wilcoxon Signed-Ranks Results: (N=53; Z = -1.37; p = .169).

There was a statistically significant negative correlation between the first semester score and the change[1*] score* (N=53; r_s = -.783; p. < .001).
There was a statistically significant negative correlation between the fourth semester score and the change[2**] score* (N=53; r_s = -.439; p. = .001).

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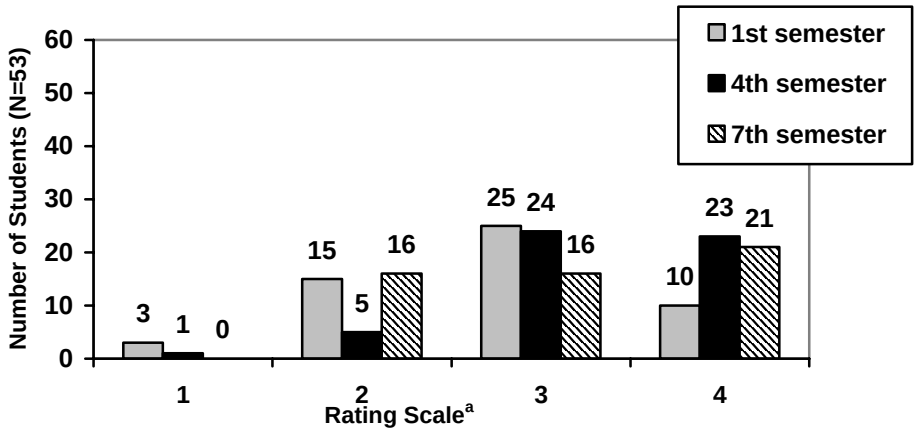
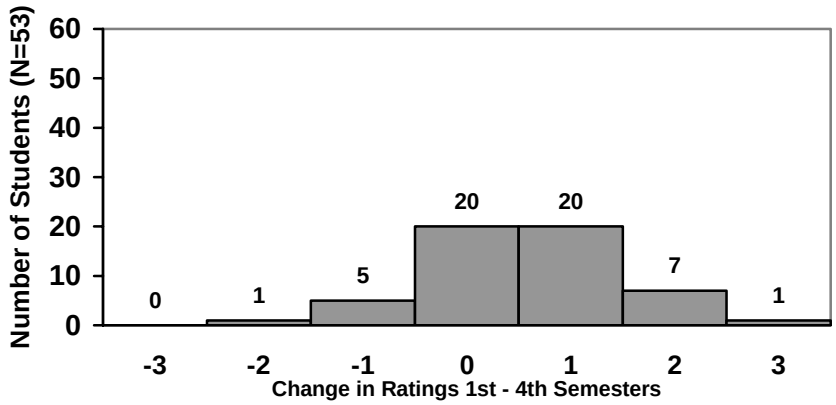
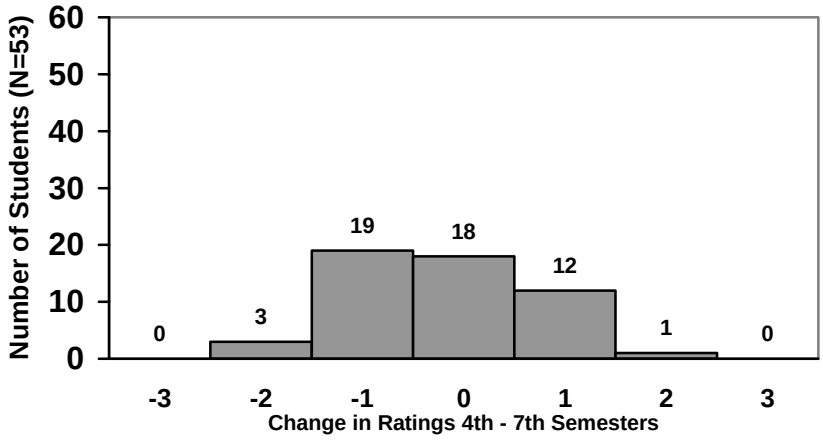
Criteria 5. Each paragraph advances the central claim or intensifies the central focus. [STAYS FOCUSED]







There was a statistically significant difference between the first and fourth semester scores for "focus." Wilcoxon Signed-Ranks Results: (N=53; Z = -3.52; p. < .001). There was not a

statistically significant difference between the fourth and seventh semester scores for “focus.” Wilcoxon Signed-Ranks Results: (N=53; Z = -1.61; p = .108.

There was a statistically significant negative correlation between the first semester score and the change[1*] score* (N=53; r_s = -.662; p. < .001).
There was a statistically significant negative correlation between the fourth semester score and the change[2**] score* (N=53; r_s = -.444; p. = .001).

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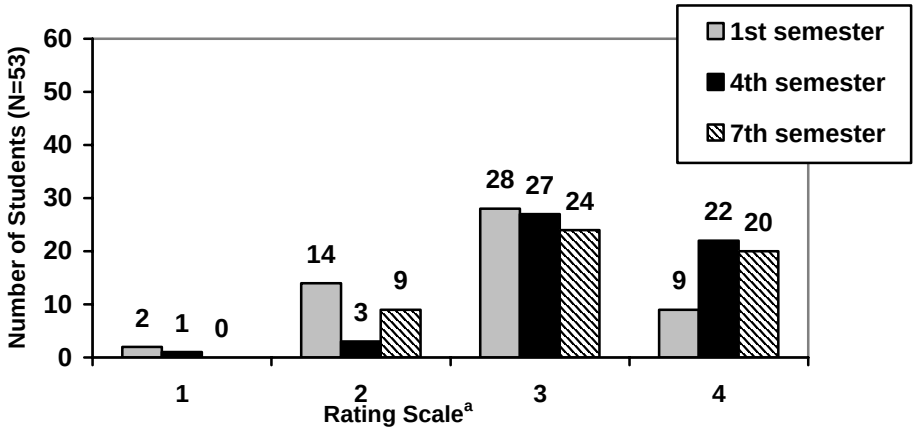
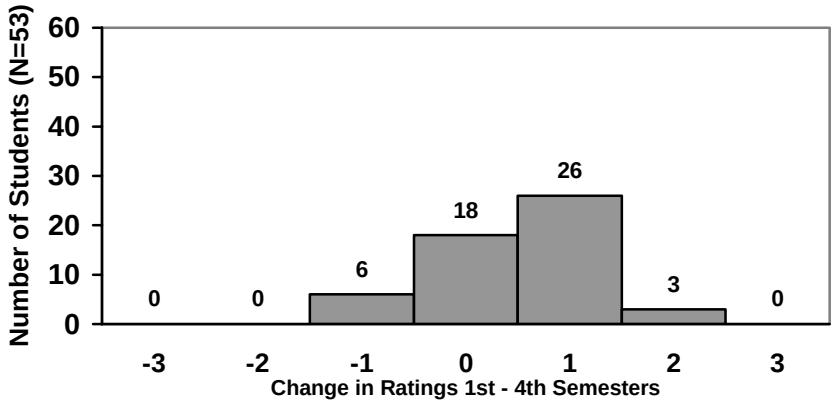
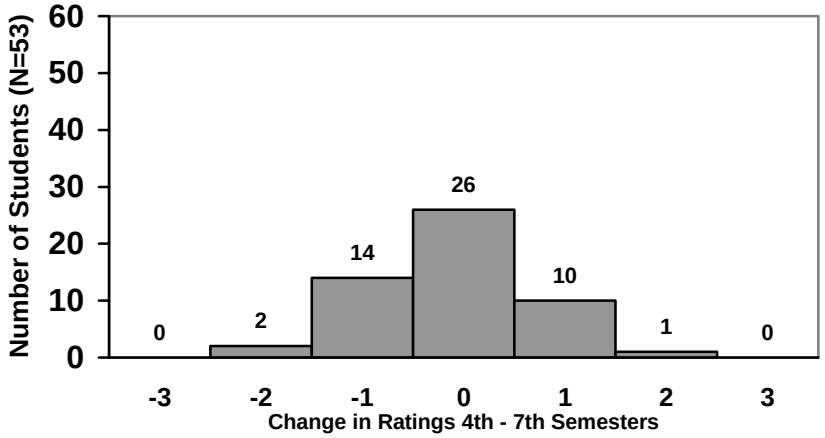
Criteria 6. Sentences and paragraphs form a reasonable and clearly connected sequence. [CONNECTED]







There was a statistically significant difference between the first and fourth semester scores for "connectedness." Wilcoxon Signed-Ranks Results: (N=53; Z = -3.91; p. < .001). There was

not a statistically significant difference between the fourth and seventh semester scores for "connectedness." Wilcoxon Signed-Ranks Results: (N=53; Z = -1.00; p = .317).

There was a statistically significant negative correlation between the first semester score and the change[1*] score* (N=53; r_s = -.603; p. < .001).
There was a statistically significant negative correlation between the fourth semester score and the change[2**] score* (N=53; r_s = -.492; p. < .001).

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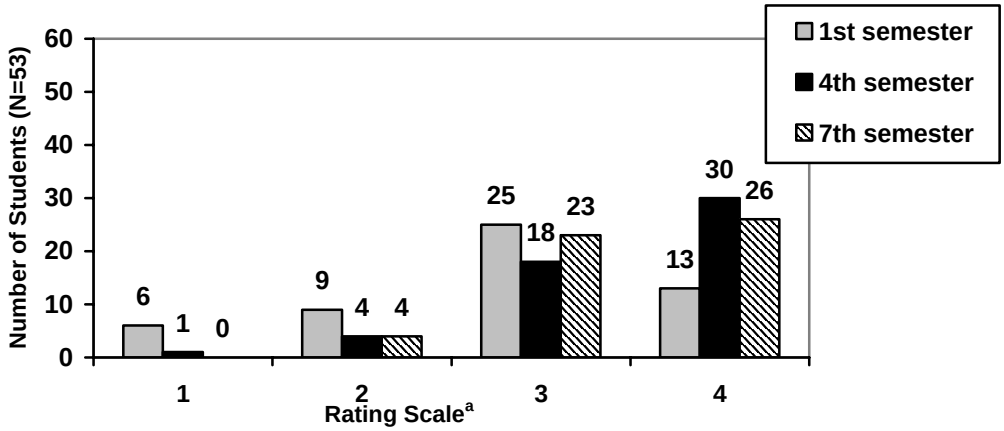
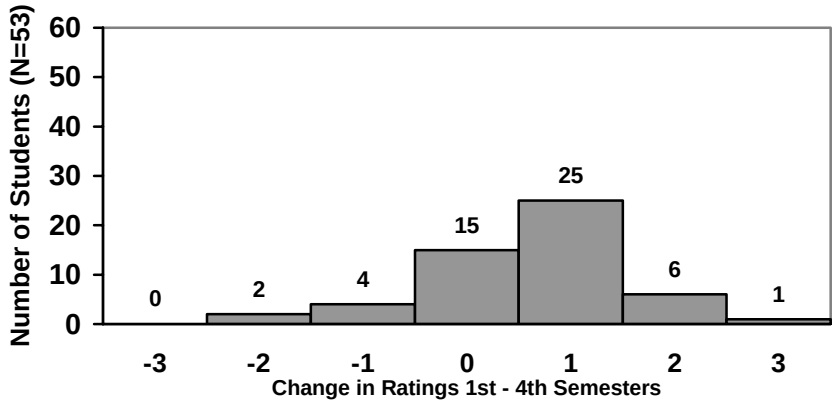
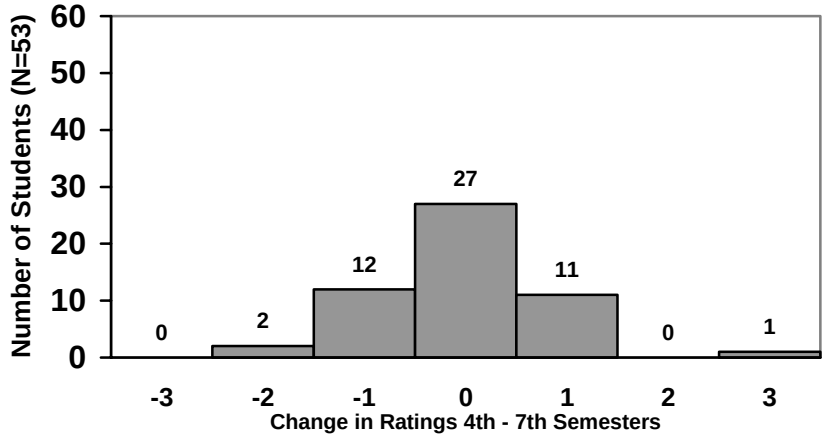
2 – Variable quality, usually some problems
3 – Generally adequate
4 – Consistently excellent

Criteria 7. Written work demonstrates competence in standard grammar, punctuation, spelling, and idioms. [GRAMMAR]







There was a statistically significant difference between the first and fourth semester scores for "grammar." Wilcoxon Signed-Ranks Results: (N=53; Z = -3.74; p. < .001). There was not a

statistically significant difference between the fourth and seventh semester scores for "grammar." Wilcoxon Signed-Ranks Results: (N=53; Z = -.49; p = .627).

There was a statistically significant negative correlation between the first semester score and the change[1*] score* (N=53; r_s = -.749; p. < .001).
There was a statistically significant negative correlation between the fourth semester score and the change[2**] score* (N=53; r_s = -.641; p. < .001).

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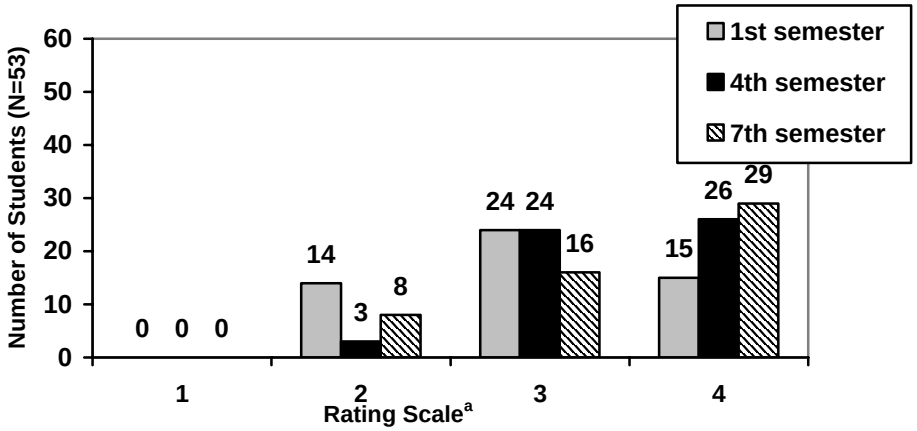
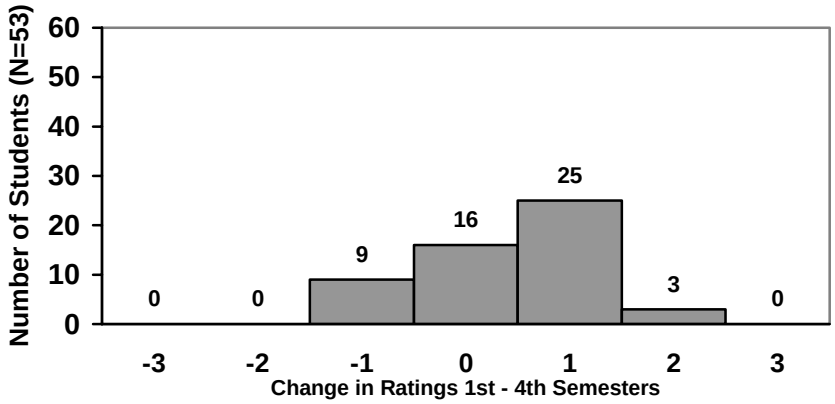
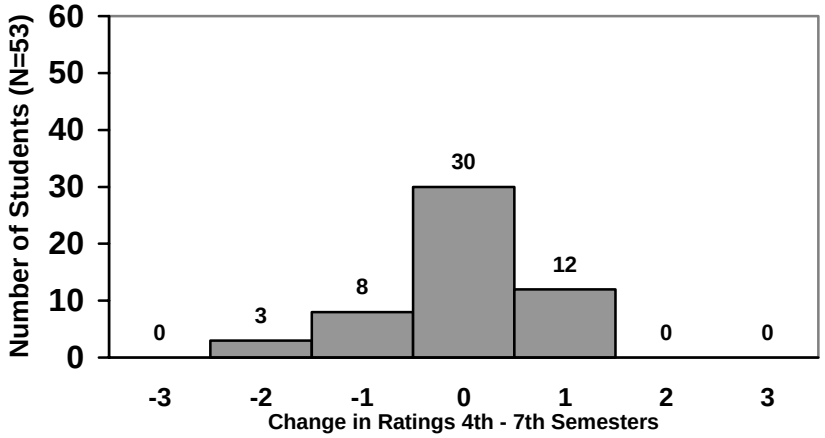
** change[2] score is equal to the difference between the fourth and seventh semester scores.

[a]Rating Scale
1 – Student needs significant work on this
2 – Variable quality, usually some problems
3 – Generally adequate
4 – Consistently excellent

Criteria 8. Information is used to support a central claim and is presented in conventional and appropriate forms (quotations, footnotes, figures, etc.). [USE OF INFO.]







There was a statistically significant difference between the first and fourth semester scores for "use of info." Wilcoxon Signed-Ranks Results: (N=53; *Z* = -3.25; *p*. = .001). There was not a

statistically significant difference between the fourth and seventh semester scores for “use of info.” Wilcoxon Signed-Ranks Results: (N=53; Z = -.397; p = .691).

There was a statistically significant negative correlation between the first semester score and the change[1*] score* (N=53; r_s = -.716; p. < .001).
There was a statistically significant negative correlation between the fourth semester score and the change[2**] score* (N=53; r_s = -.467; p. < .001).

*change[1] score is equal to the difference between the first and fourth semester scores.
** change[2] score is equal to the difference between the fourth and seventh semester scores.

[a]Rating Scale
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2 – Variable quality, usually some problems
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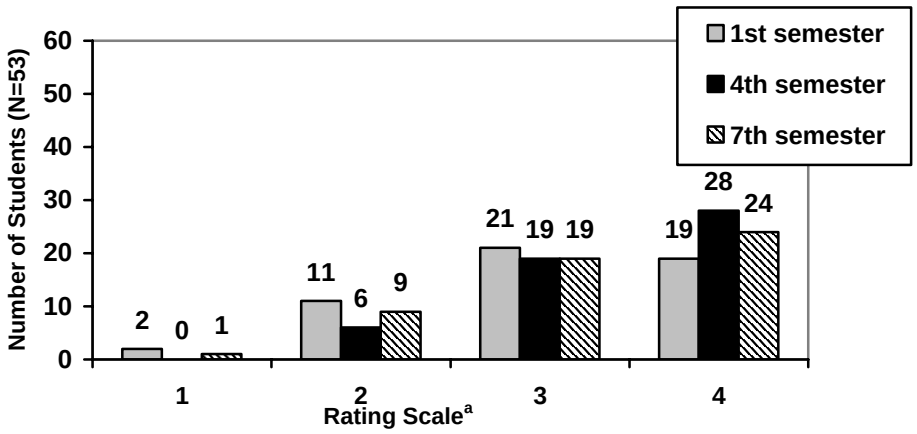
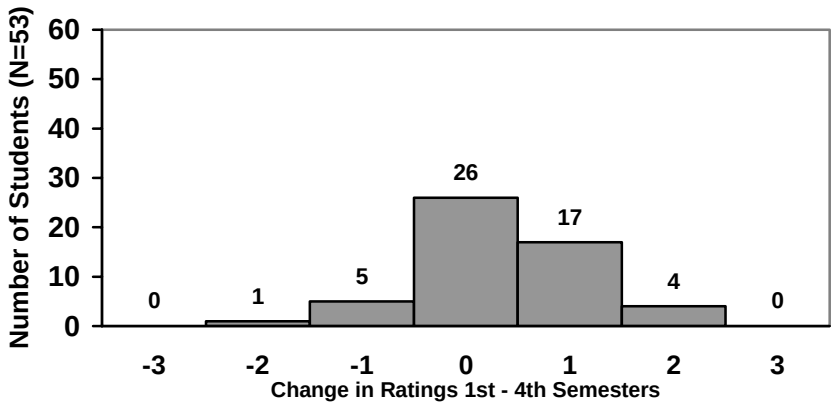
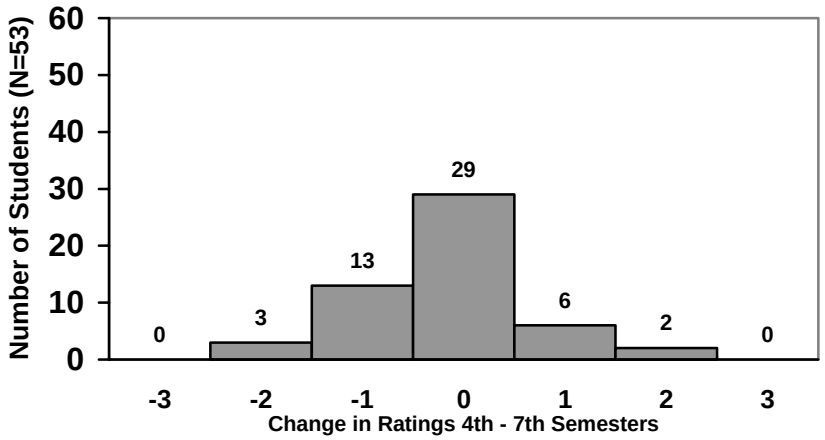
Criteria 9. Writing reveals a narrative voice that is engaged intellectually with the topic. [ENGAGEMENT]







There was a statistically significant difference between the first and fourth semester scores for "engagement." Wilcoxon Signed-Ranks Results: (N=53; Z = -2.74; p. < .01). There was not a

statistically significant difference between the fourth and seventh semester scores for "engagement." Wilcoxon Signed-Ranks Results: (N=53; Z = -1.40; p = .162).

There was a statistically significant negative correlation between the first semester score and the change[1*] score* (N=53; r_s = -.680; p. < .001).
There was a statistically significant negative correlation between the fourth semester score and the change[2**] score* (N=53; r_s = -.412; p. < .01).

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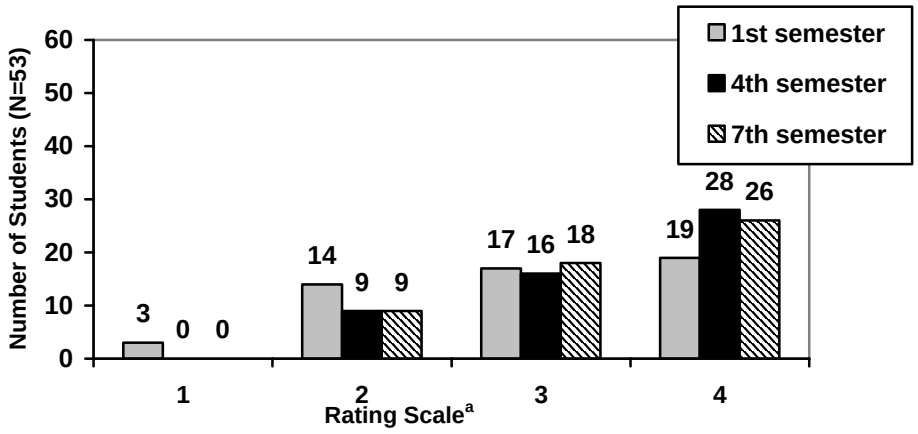
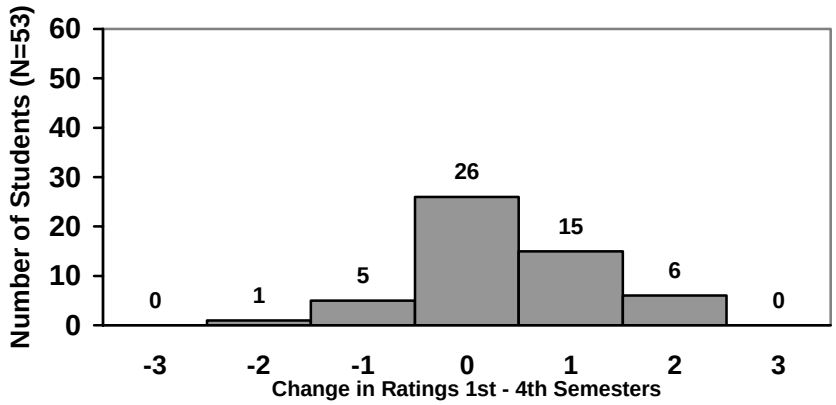
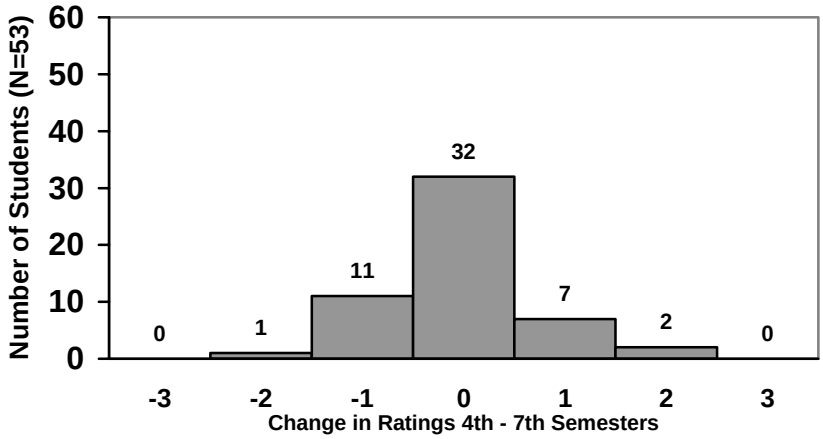
** change[2] score is equal to the difference between the fourth and seventh semester scores.

[a]Rating Scale
1 – Student needs significant work on this
2 – Variable quality, usually some problems
3 – Generally adequate
4 – Consistently excellent

Criteria 10. Writing acknowledges and grapples with the complexity of the material.
[COMPLEXITY]







There was a statistically significant difference between the first and fourth semester scores for "complexity." Wilcoxon Signed-Ranks Results: (N=53; Z = -2.85; p. < .01). There was not a

statistically significant difference between the fourth and seventh semester scores for "complexity." Wilcoxon Signed-Ranks Results: (N=53; Z = -.339; p = .735).

There was a statistically significant negative correlation between the first semester score and the change[1*] score* (N=53; r_s = -.647; p. < .001).
There was a statistically significant negative correlation between the fourth semester score and the change[2**] score* (N=53; r_s = -.456; p. = .001).

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3 – Generally adequate
4 – Consistently excellent

Total Scores

The chart below provides the frequency of each of the total scores for the first and fourth semester.

Total Score	First Semester	Fourth Semester	Seventh Semester	**Total Score**	First Semester	Fourth Semester	Seventh Semester
13	1			**27**	4	2	3
14				**28**	3	2	1
15	1			**29**	5	5	1
16	1			**30**	2	8	4
17				**31**	2	3	4
18			2	**32**	1	1	2
19	1			**33**	2		2
20	4	1		**34**		1	
21		1	1	**35**	1	2	2
22	1		1	**36**	6	2	6
23	3			**37**	2	4	1
24	1	1	1	**38**	1	2	1
25			5	**39**	1	6	2
26	5	1	1	**40**	5	11	13

There was a statistically significant difference between the total scores for the first semester and the fourth semester. Wilcoxon Signed-Ranks Results: (N=53; Z = -4.00; p < .001). There was not a statistically significant difference between the total scores for the fourth semester and the seventh semester. Wilcoxon Signed-Ranks Results: (N=53; Z = -1.33; p = .185).

There was a statistically significant negative correlation between the total scores for the first semester and the change score* (N=53; r_s = -.672; p. < .001).
There was a statistically significant negative correlation between the fourth semester score and the change[2**] score* (N=53; r_s = -.326; p. < .05).

*change[1] score is equal to the difference between the first and fourth semester scores.
** change[2] score is equal to the difference between the fourth and seventh semester scores.

Summary
Table 2 provides a summary of the Wilcoxon Signed-Ranks Results and the Spearman rho correlations for each of the ten criteria and the total score.

Table 2. Results of Wilcoxon Signed Ranks and Spearman rho correlation results: 1st, 4th and 7th semesters

Questionnaire Item	**Wilcoxin Signed Ranks**		**Spearman rho correlations**	
	1st - 4th semester (N=53)	4th -7th semester (N=53)	1st - 4th semester (N=53)	4th -7th semester (N=53)
Q1. Central claim	-2.69**	-.82	-.718***	-.470***
Q2. Maintains unity	-3.57***	-1.50	-.745***	-.436***
Q3. Opening	-2.48*	-.558	-.768***	-.589***
Q4. Closing	-3.39***	-1.37	-.783***	-.439***
Q5. Stays focused	-3.52***	-1.61	-.662***	-.444***
Q6. Connected	-3.91***	-1.00	-.603***	-.492***
Q7. Grammar	-3.74***	-.49	-.749***	-.641***
Q8. Use of info.	-3.25***	-.397	-.716***	-.467***
Q9. Engagement	-2.74**	-1.40	-.680***	-.412**
Q10. Complexity	-2.85**	-.339	-.647***	-.456***
Total	-4.00***	-1.33	-.672***	-.326*

*p. < .05
**p. < .01
***p. ≤ .001

Appendix A

1. Written work has a clear central claim, idea, or focus. [CENTRAL CLAIM]

- Consistently Excellent (4)
- Generally Adequate (3)
- Variable Quality, Usually Some Problems (2)
- Student Needs Significant Work on This (1)

2. Written work maintains its unity of focus. [MAINTAINS UNITY]

- Consistently Excellent (4)
- Generally Adequate (3)
- Variable Quality, Usually Some Problems (2)
- Student Needs Significant Work on This (1)

3. Opening passages announce the central question or claim. [OPENING]

- Consistently Excellent (4)
- Generally Adequate (3)
- Variable Quality, Usually Some Problems (2)
- Student Needs Significant Work on This (1)

4. Closing passages leave the reader with a clear sense of the central claim or focus. [CLOSING]

- Consistently Excellent (4)
- Generally Adequate (3)
- Variable Quality, Usually Some Problems (2)
- Student Needs Significant Work on This (1)

5. Each paragraph advances the central claim or intensifies the central focus. [STAYS FOCUSED]

- Consistently Excellent (4)
- Generally Adequate (3)
- Variable Quality, Usually Some Problems (2)
- Student Needs Significant Work on This (1)

6. Sentences and paragraphs form a reasonable and clearly connected sequence. [CONNECTED]

- Consistently Excellent (4)
- Generally Adequate (3)
- Variable Quality, Usually Some Problems (2)
- Student Needs Significant Work on This (1)

7. Written work demonstrates competence in standard grammar, punctuation, spelling, and idioms. [GRAMMAR]

- Consistently Excellent (4)
- Generally Adequate (3)
- Variable Quality, Usually Some Problems (2)
- Student Needs Significant Work on This (1)

8. Information is used to support a central claim and is presented in conventional and appropriate formats (quotations, footnotes, figures, etc.). [USE OF INFO.]

- Consistently Excellent (4)
- Generally Adequate (3)
- Variable Quality, Usually Some Problems (2)
- Student Needs Significant Work on This (1)

9. Writing reveals a narrative voice that is engaged intellectually with the topic. [ENGAGEMENT]

- Consistently Excellent (4)
- Generally Adequate (3)
- Variable Quality, Usually Some Problems (2)
- Student Needs Significant Work on This (1)

10. Writing acknowledges and grapples with the complexity of the material. [COMPLEXITY]

- Consistently Excellent (4)
- Generally Adequate (3)
- Variable Quality, Usually Some Problems (2)
- Student Needs Significant Work on This (1)