

Report: Summer 2016 Assessment Project

Background

One of the aims of the General Education Program revision begun in 2010 was to have a program with clear student learning outcomes (SLO) that could be assessed to inform continual improvement of the program. Even before the new GenEd program went into effect in the fall of 2012, COGE (the Committee on General Education) established committees to work on rubrics for several SLOs in order to help faculty members tailor their GenEd courses to meet expected outcomes and to begin the process of assessment. COGE piloted assessments of three of the outcomes—written communication, research fluency, and critical and creative thinking—in the summer of 2014, using artifacts from FYS and FYW courses. In 2015, COGE conducted a full assessment of those three outcomes. The purpose of that assessment, according to the report presented to COGE in the fall of 2015, was “two-fold. First, we wanted to test the validity of the rubric by measuring inter-rater reliability. ...In addition, we wanted to determine how well our students are meeting the general education outcomes by looking at the rubric scores themselves.” Also in the fall of 2015, COGE held a listening session with those who had participated in the summer scoring, gathering information about the process and suggestions for how to improve it in the future. One limitation of the 2015 assessment, as well as of the earlier pilot sessions, was that all artifacts came from courses taken early in students’ careers. COGE members expressed interest in learning whether students in upper-division courses would score better on the rubrics than did the freshmen. Given that the GenEd program is vertical, not horizontal, and that the learning outcomes are meant to apply to students’ entire careers, not just GenEd courses, COGE members hoped that seniors would outscore freshmen. The summer 2016 assessment project grew from those discussions.

Scope of the Project and Preliminary Work

The May 2016 graduating class was the first to include students in three distinct groups: (1) students who entered as freshmen and completed the new GenEd program; (2) students who entered as freshmen and completed the old GenEd program; and (3) students who entered as non-freshmen, bringing in 20 or more transfer credits that often included some (or all) GenEd requirements. That mix of GenEd options presented an ideal opportunity to compare/contrast students’ performances on GenEd outcomes. The goals of the summer 2016 project, then, were both to see whether seniors scored better on the three outcomes previously measured—written communication, research fluency, and critical and creative thinking—than did freshmen and also to see whether there were measurable differences across the three GenEd groups.

In January of 2016, RIC’s assessment coordinator contacted all department chairs and program directors at the college, explaining the plan to assess senior papers and asking for chairs to identify any course in their departments limited to seniors (or largely enrolling seniors) and the spring 2016 instructor(s) for such courses. Most chairs sent that information. One chair decided his/her department would not participate; another failed to respond to multiple emails and calls; and several others responded that either their departments did not have such a course or that the relevant course was offered in the fall, not the spring. The assessment coordinator wrote to all faculty members identified by their chairs as teaching a relevant course in spring term, again explaining the plan to assess senior papers and asking them to participate.

The response was overwhelmingly positive: 26 faculty members from three schools (17 departments) plus the FSEHD assessment director agreed to submit students' papers.

At the end of spring term, papers were submitted by either email attachment or hard copy to the assessment coordinator, who then sorted them by GenEd category, further limiting the transfer category by eliminating all non-freshmen transfers who completed FYW at RIC. Faculty members had been asked to retain student identifying information on each paper so that they could be sorted in this way. The Director of Institutional Research, using rosters from each of the participating spring 2016 classes, had previously identified the GenEd category to which each student belonged. Because the FSEHD participants did not come from a single course, the assessment coordinator looked up the records of each student from whom a paper was submitted and sorted them accordingly. A total of 236 papers were submitted, of which 176 were usable. Papers deemed unusable were those written by non-seniors (including juniors, graduate students, and second-degree candidates), those lacking student identifying information, those that straddled two categories (e.g., non-freshmen transfers who completed FYW at RIC), and those co-written by two students from different GenEd categories. Of the 176 usable papers, 43 (24%) were by new GenEd students, 54 (31%) were by old GenEd students, and 79 (45%) were by transfer students who completed the FYW equivalent elsewhere and were exempted from the FYS requirement. Once sorted, papers were stripped of student identifying information and assigned numbers.

The assessment plan was to rate a stratified random sample of papers, with the three strata representing the distinct GenEd categories. Originally, the assessment coordinator hoped to rate a representative sample of senior papers, but that quickly proved impossible. In May 2016, RIC awarded 1393 undergraduate degrees. There were just 179 usable papers submitted, which meant just 7.91% of seniors had their work included. Further, papers did not proportionately represent the graduating students' majors. Then, too, even rating all of the 179 papers would be both cost- and time-prohibitive. Taking into account the budget for raters, the number of pages in each paper, and the average reading speed of college-educated adults in the USA as well as information from assessment experts who have conducted similar exercises, the assessment coordinator determined that 60 papers would be a reasonable pool. Subtracting one paper at random to be used in a shared norming exercise—more about that later in this report—left 59 papers, just slightly more than one third of the submitted papers. Each stratum was proportionately represented, with fourteen (14) from the new GenEd group, eighteen (18) from the old GenEd group, and 27 from the transfer group; the specific papers to be used were chosen via a randomizer.

The twenty-six raters plus three team leaders—one for each outcome--needed were recruited through several different methods. The three faculty members who led the assessment groups in the summer of 2015 agreed to serve as team leaders and a date for the assessment event was set based on their schedules. Everyone who had participated in prior years' assessments was invited to participate; then members of COGE were invited; and then faculty members (both full- and part-time) known to the assessment coordinator to have participated in other assessment activities and/or recommended by either the team leaders or by department chairs were invited to fill out the slate of raters. Raters were divided into pairs, with four pairs each assigned to the written communication and research fluency outcomes and five to critical/creative thinking (this outcome was assigned one additional team because it had

more separate rubric items to rate than the others). Most of the pairs were composed of faculty members from two different disciplines. Again using a randomizer, the assessment coordinator divided the 59 papers among pairs on each team. Each of the papers was to be rated on all three outcomes, with a pair from each outcome team reading each paper.

Changes from 2015 Assessment

Based on the debriefing session COGE held in fall 2015 with participants in earlier GenEd assessments, the assessment coordinator eliminated several of the rubric components of the research fluency and critical/creative thinking outcomes. Participants had complained that the rubrics were excessively elaborate and therefore difficult to employ. The written communication outcome was unchanged from prior years and all items were rated. COGE's rubric shows that the critical and creative thinking outcome has eight distinct components. Only the first five of these were used in 2016, with the final three ("selects and then analyzes evidence for reasoning"; "considers alternate, potentially divergent or contradictory perspectives"; and "produces something original") eliminated from this assessment. Those were the components that raters found most difficult to score in prior assessments. Similarly, although COGE's rubric for the research fluency outcome includes just four components, each of these has two to four distinct subtopics to be considered. For the 2016 assessment, these subtopics were collapsed into a single item for each main component. See appendices 1 (COGE's rubrics) and 2 (rubrics used in 2016) for complete details.

The July 19 Event

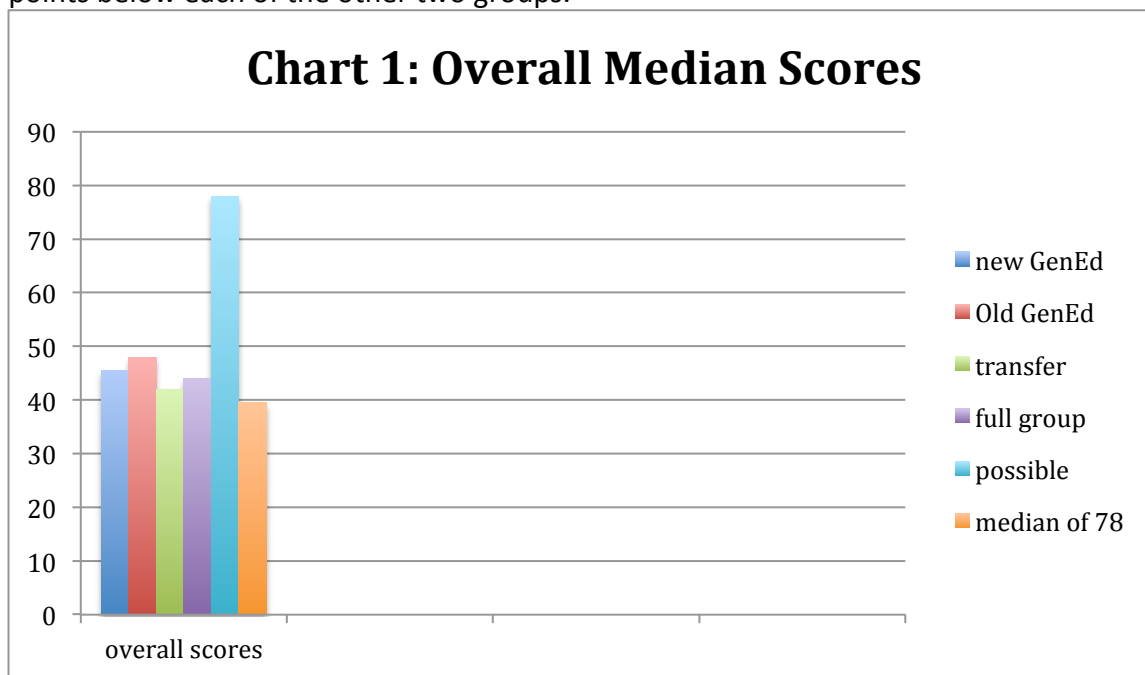
The first hour of the assessment event was devoted to general instructions and a norming session. Participants were given their assigned papers and asked to make sure none of the papers came from their classes, as several raters were instructors who had submitted senior papers. Raters did not know which papers came from which GenEd group, nor did they have any information on the courses or students apart from what papers themselves indicated. That is, presumably raters could guess that a paper about, say, *Moby Dick* probably came from an English course. Each team went over the detailed rubrics for their assigned outcome and discussed their meaning. The plan for the day was that a pair of raters would read the same paper at the same time, rate it 0-3 on the rubrics, and share their scores. If on any item a pair was more than one (1) point apart, they were to discuss that item to see if they could reach agreement. If they were not able to do so, they were to ask the team leader to step in. The team leader would rate the paper and then record her own score and the score of the rater closest to her (again, no more than one point apart). Each paper would have a total of six possible points on each rubric item. In the norming session, everyone in the room read the same paper and each pair rated it. Each outcome group discussed the ratings and came to an understanding about what each point of their rubrics meant. This norming session was extremely successful: no pair had to ask a team leader to step in on any paper for the rest of the day and most scores by pairs were identical, not even the acceptable one point apart.

By the end of the day, we had complete data on 57 papers and partial data on two more. The partial data resulted from the research fluency raters finding two papers (one in the old GenEd group, one in the transfer group) impossible to rate. The two papers evidently responded to assignments that did not require research of any kind, and the raters argued that

therefore scoring them on the research fluency rubric—for which they would receive zeroes—would have been misleading.

The Results: Overview

Appendix 3 contains two excel spreadsheets with all scores included and both medians and means in each category as well as overall calculated; please note that the rest of this report discusses only median scores. The M papers=new GenEd; the O=old GenEd; and the P=transfer. Because the sample size was so small relative to the total number of seniors at RIC in spring 2016 (7.91% of seniors included) and because the margin of error within that sample size was fairly large (n=176; margin of error=7.5%), readers should take care not to extrapolate too much from the results or to make sweeping claims based upon them. Nonetheless, even if thought of simply as a snapshot of the performance on three GenEd outcomes by a smallish group of students at the end of their undergraduate careers, the assessment results offer some interesting information. For example, the highest score possible for each paper was 78 (six possible points on each of 13 items), with a median of 39.5. The median scores were 45.5 for the new GenEd, 48 for the old GenEd, and 42 for the transfer, with the median for the entire sample 44. Chart 1 offers a visual representation of the overall scores. None of the three groups scored impressively well overall, then, but both the new GenEd and the old GenEd students—whose median scores were just 2.5 points apart on that 78-point scale and whose mean scores were even closer—scored better than the transfer group, whose median overall score was 3.5-6 points below each of the other two groups.



For the sake of brevity and readability, Charts 2-4 below use short titles for each component of the three outcomes; the reader should consult appendix 2 for detailed explanations of each component and its rubric.

Chart 2: Written Communication Median Scores

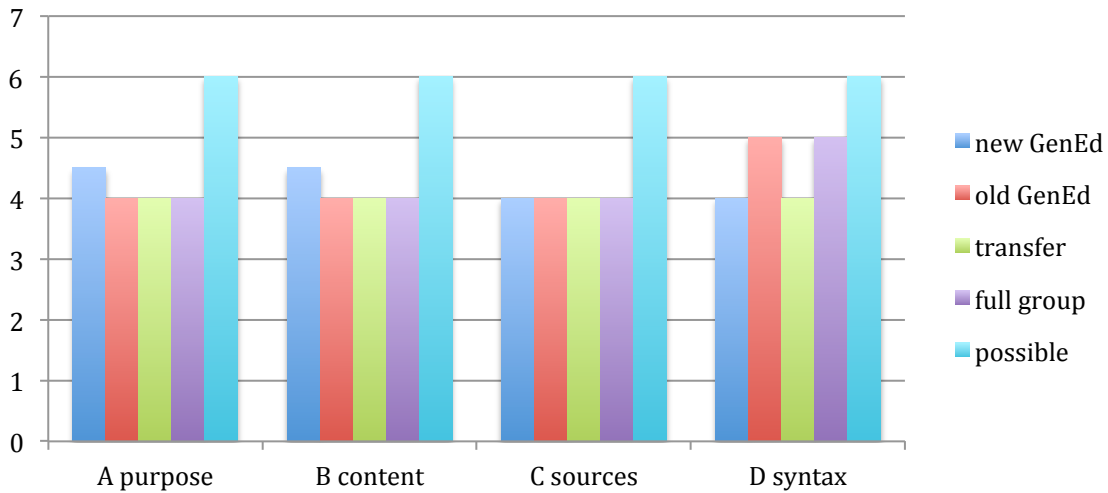
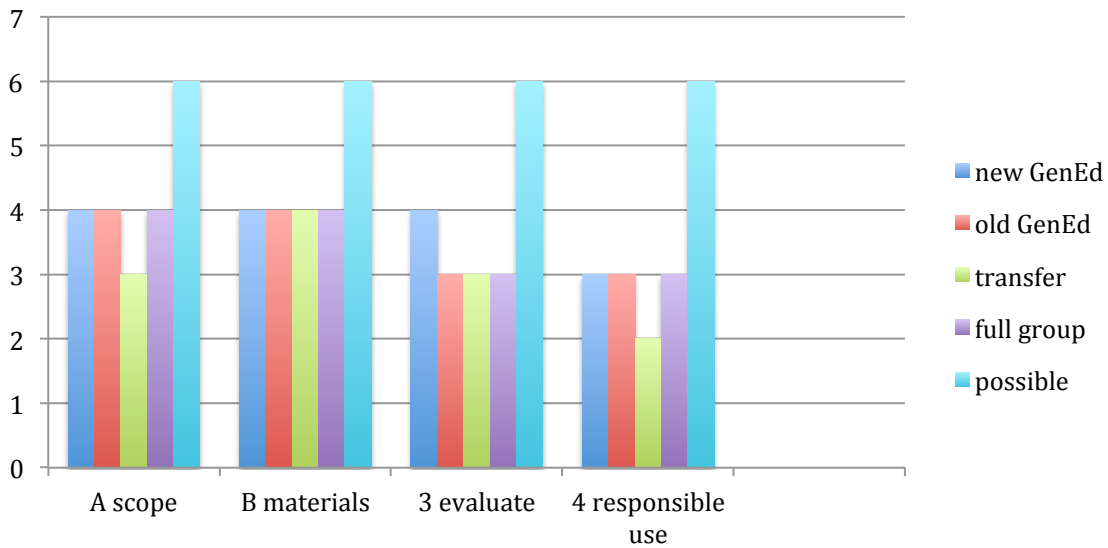
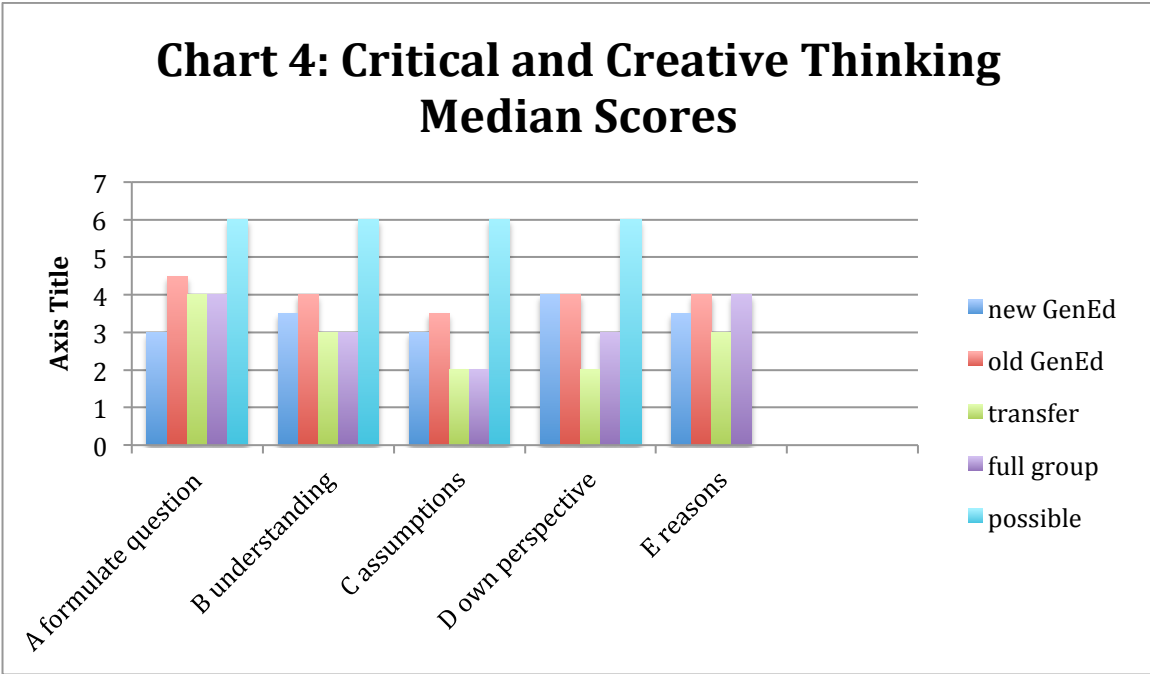


Chart 3: Research Fluency Median Scores





To gloss the visual evidence of charts 2-4: there are no meaningful differences across groups in written communication; there are differences among groups in research fluency, but those differences are not statistically significant; there are statistically significant differences among groups for two components of critical and creative thinking (B and D, chart 4). Both the new GenEd and the old GenEd students performed significantly better than the transfer students on “demonstrates understanding of the problem, question, or issue” and on “articulates own perspective, hypothesis, or position.”

This overview of the results provides the answer to one of the questions animating the assessment project: were there measurable differences across the three GenEd groups on these three outcomes? The answer is yes, there were measurable differences but those differences were not significant, with the exception of two components of one outcome. The next section of this report responds to the other question with which the project began.

Comparison of 2016 to 2015 Assessment Results

Did seniors perform better than freshmen on the three SLOs measured? The answer is a muddy maybe. The differences between the 2015 and the 2016 assessment sessions and the different ways in which results were tallied and reported make it hard to draw any firm conclusions in response to this question.

Only one such difference is fairly easy to handle, and that is which data to compare. The data used in the 2015 assessment report for COGE all came from artifacts from First Year Writing (FYW) and First Year Seminar (FYS) courses offered in spring 2015. Therefore, almost all artifacts were written by students in the new GenEd, although it is possible that some old GenEd and even transfer students were enrolled in FYW and that some of these students’ work was included in the random sample analyzed. However, the likelihood of more than a tiny number of such students being represented in this report is so small that it makes sense to compare the 2015 assessment results only to the new GenEd 2016 results.

However, that comparison is not easily accomplished. In 2015, raters did not work in pairs and their scores were tallied independently. Each component therefore had a possible total of 3 points. In 2016, raters' scores were tallied by pair, so each component had a possible total of 6 points; individual raters' scores were not reported. In addition, whereas in 2016, the subtopics in each component of the research fluency SLO were collapsed into a single component, the 2015 raters scored each one separately, so that each component had two to three separate items rated. That is, what in 2016 was treated as one component into which was folded all subtopics—such as the 2016 component A, “ability to access information to satisfy specific need: define scope of research and effectively use appropriate tools”—in 2015 was broken into three distinct subtopics, each with its own score. To complicate matters further, because one major goal of the 2015 assessment was to test rubric validity by measuring inter-rater reliability, the 2015 report focused on presenting the data by percentages of median scores and examining rater agreement/disagreement. It is of course also possible that the 2016 raters would rate the 2015 artifacts differently than did the original raters and that the 2015 raters would rate the 2016 artifacts differently than did the 2016 raters. Because raters in 2015 knew they were reading papers written by freshmen and raters in 2016 knew they were reading papers by seniors, it is also possible—indeed, judging from conversations in the room during the 2016 session, likely—that raters applied higher standards to the papers in 2016 than they would have in 2015. In short, any comparison of the two years' assessment data is necessarily at best an informed guess based on an approximation.

Charts 5-7 offer such an approximation, using the mean of the greatest percentage distribution of the median scores of the 2015 report. In those cases in which a component had numerous subtopics in 2015, the figure used was the mean of the subtopics' median. The 2016 medians were simply divided in two to reflect the single raters' 0-3 point scale used in 2015. Obviously, then, this approximation is quite broad.

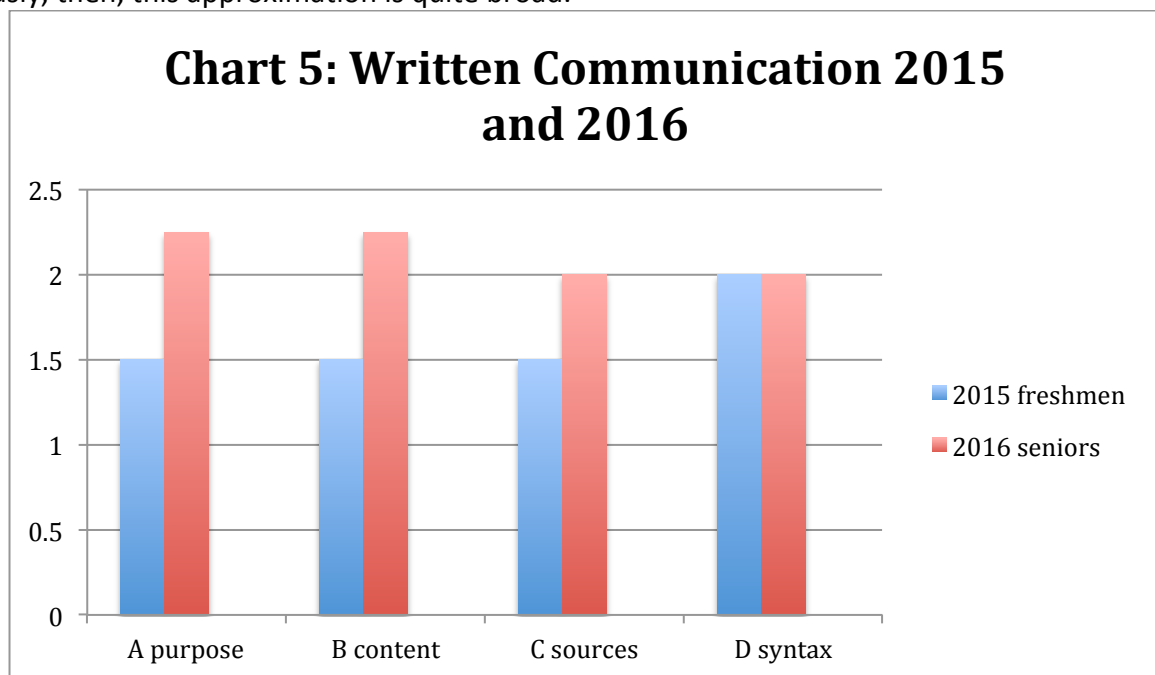


Chart 6: Research Fluency 2015 and 2016

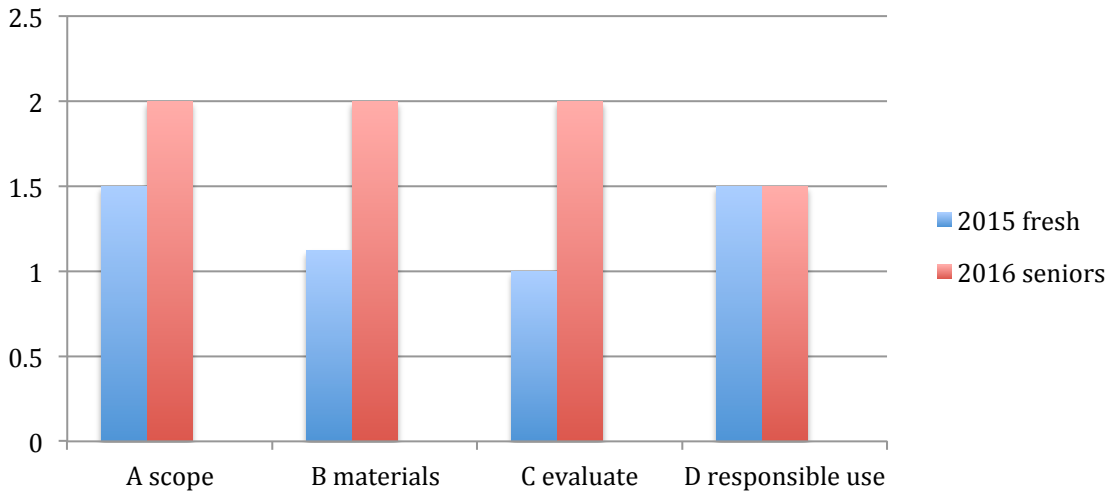
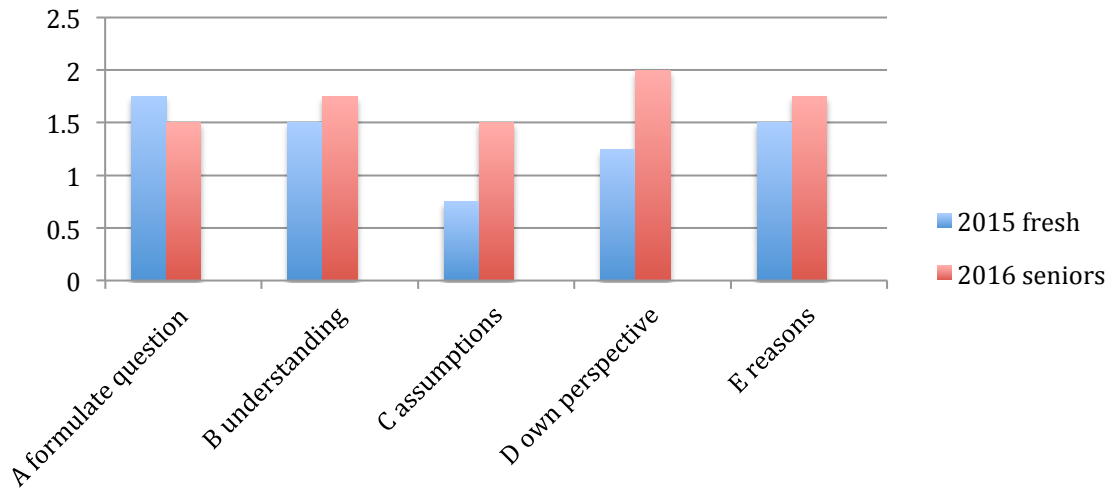


Chart 7: Critical and Creative Thinking, 2015 and 2016



Some observations—those informed guesses based on approximations mentioned earlier—about these comparisons follow. First, the seniors did perform better than the freshmen on all but three components, one in each SLO. Median scores were the same for freshmen and seniors in component D of written communication (control of syntax and mechanics) and in component D of research fluency (use information responsibly). In component A of critical and creative thinking (formulates a significant question, problem or issue), seniors actually scored somewhat lower than did freshman (senior median 1.5, freshman median 1.75). COGE may want to look closely at these outcome components and perhaps to consider ways to improve student performance.

Critical and creative thinking is the area in which the improvement from freshman to senior scores was the most varied. Apart from the one area in which seniors scored lower than freshmen, senior gains range from 0.25 on components B (demonstrates understanding of the problem, question or issue) and E (provides reasons for position) to 0.75 on C (considers underlying assumptions) and D (articulates own perspective, hypothesis or position). In written communication, other than component D, students improved by either 0.5 or 0.75, both of which are significant gains given the range of 0-3. Similarly, in research fluency, other than component D, students improved significantly: by 0.5 on A (ability to access information to satisfy specific need: define scope of research and effectively use appropriate tools), 0.88 on B (demonstrates understanding of sources used and information found. Selects materials appropriate to the task), and 1 on C (evaluate relevant sources to address the research question, topic, or task. Recognize point of view in and/or quality of material).

The 2016 raters were asked to provide comments on this assessment activity during the course of the day. Several suggestions are summarized in the next section, but one that came up several times offers insight into how the scoring worked and puts the perhaps disappointingly low scores in perspective: “It was our sense that 3 (A+) and 0 (F?) were slightly off-limits—or maybe just of limited use—so that the remaining options couldn’t accurately register our sense of things. We thought that even a 1-5 scale (where there are 3 rather than 2 intermediate options) would work well and also has the benefit of being familiar. Is it possible that the extra # would also make results more statistically significant?” These comments suggest one possible reason for the scores clustering in the 1-2 (or 2-4) range.

The 2015 assessment report on early-career GenEd courses presented the data differently than does this report, using frequency. For the sake of easier comparison and for the convenience of those who prefer that method of analysis, Appendix 4 offers three sets of frequency summary charts of students’ scores on all the elements of the assessment project. The third chart in that appendix includes only those students who met the criterion of a minimum score of 4 (two 2s, given that no pair of raters’ scores were more than 1 point apart). Four is roughly the equivalent of the bottom of “satisfactory” or a grade in the C to B- range. Using that standard, the frequency chart shows that a large percentage of student papers did not demonstrate satisfactory achievement in many of the areas assessed.

Reflections and Suggestions

If the results of the 2016 assessment have any validity at all, they strongly suggest that students are not achieving at high levels on the GenEd SLOs. Although student work does improve somewhat between freshman and senior years, the amount of improvement as well as the level of achievement is disappointing. COGE might want to consider what percentage of students achieving a satisfactory or above score on each of the elements of the SLOs should be the goal. Would RIC want to see 80% of students meeting that standard? More? Fewer? That is a matter for serious discussion and decision-making. The coming year—the fifth of the current GenEd program—might be a good moment to take stock and to consider some ways to increase student success and to set goals for assessments. The FCTL and COGE together could perhaps devise some strategies for the former going forward.

The current rubrics for the research fluency and critical and creative thinking SLOs present numerous problems for raters, and therefore very likely for other faculty members

trying to meet these outcomes in their courses. In addition to the comment quoted in the earlier section about the 0-3 scale, several people thought the four categories (0-3) were too limited and rigid for their determinations. People consistently wanted a category in between 1 and 2—something in between emerging and developed. As defined, they thought the gap was too far apart in expectation. Raters also had specific suggestions for improving the wording of rubrics to make clearer their meaning; although they are too detailed to be included in this report, they will be submitted to COGE for consideration.

Despite the limited claims to be made for its results, the 2016 assessment activity was a real success. It brought a large and diverse group of faculty members together to focus on student writing, prompting interesting and useful conversations about differences across disciplines and schools. Raters had suggestions for future assessments—for instance, including a summary of the assignment for each paper and vetting the random sample to be sure paper assignments actually required research—that will be helpful in future years.

Please note: the author of this report has limited knowledge of statistical analysis. Mikaila Arthur of the Sociology Department very kindly provided the materials in appendix 3, thereby saving the author the embarrassment of numerous errors. Earl Simson, dean of FAS, created the frequency charts (appendix 4). Any remaining errors are mine. –Maureen Reddy

Rubrics for Assessing General Education

Critical and Creative Thinking Rubric:

- Critical Thinking is characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.
- Creative Thinking reflects the capacity to combine existing ideas, images, or expertise in original ways; and the experience of thinking, reacting, and working in an imaginative way characterized by a high degree of innovation and risk taking.

Student...	3 Highly-Developed Stage	2 Developed Stage	1 Emerging Stage	0 Non-Existent
Formulates a Significant Question, Problem or Issue	The question, problem or issue to be considered critically, in addition to being answerable or addressable, and in the scope of the assignment, is interesting, significant and complex.	The question, problem or issue to be considered critically is answerable or addressable, is appropriate for the scope of the assignment, and is one which is interesting but has limited significance or complexity.	The question, problem or issue to be considered critically is answerable or addressable, but is inappropriate for the scope of the assignment, or is relatively basic, uninteresting or insignificant.	The question, problem or issue to be considered critically is absent, a truism, or unanswerable
Demonstrates Understanding of the Problem, Question or Issue	Issue/problem to be considered critically is stated clearly and described thoroughly, delivering all relevant information necessary for full understanding.	Issue/problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue/problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	Issue/problem to be considered critically is stated without clarification or description.
Considers Underlying Assumptions	Assumptions of self or others are considered thoroughly.	Assumptions of self or others are subject to questioning.	Assumptions of self or others are identified, but with little or no questioning.	Assumptions of self or others are not considered.
Articulates Own Perspective, Hypothesis or Position	Position presented is clear and sophisticated, addressing the complexity of the issue.	Position is clear and adequate but lacks complexity.	Position is simplistic, unclear, obvious or just repeats another's position.	Perspective, hypothesis or position is missing.
Provides Reasons for Position	Reasons provided are logical, relevant and thorough.	Reasons provided are logical and relevant, but not thorough.	Reasons are provided but only occasionally, or are not logical or sufficiently relevant.	No reasons are provided.
Selects and Then Analyzes Evidence for	Evidence selected is relevant and analyzed.	Evidence selected is relevant and subjected to some basic analysis.	Evidence is selected but only occasionally, or is either not relevant or not analyzed.	No evidence is selected or analyzed.

Student...	3 Highly-Developed Stage	2 Developed Stage	1 Emerging Stage	0 Non-Existent
Reasoning				
Considers Alternate, Potentially Divergent or Contradictory Perspectives	Alternative perspectives or counterarguments thoroughly considered, and this consideration is reflected in the development of the student's own perspective.	Uses awareness of alternative perspectives or counterarguments to develop student's own perspective, but not thoroughly.	Makes minimal use of counterarguments or perspectives alternative to student's own.	No consideration of counterarguments or perspectives alternative to student's own.
Produces Something Original	Transforms or goes beyond existing ideas or solutions by creating something entirely new.	Creates an idea, question, format or product with significant elements which are novel or unique.	Makes a new application of existing ideas, questions, formats or products.	Merely reports or repeats existing ideas, questions, formats or products.

Research Fluency Rubric:

The demonstrated ability to access, understand, evaluate and responsibly use information to address a wide range of goals or problems.

[As defined by the General Education program of Rhode Island College, approved RI Board of Governors for Higher Education, 2012-01-23]

1) Demonstrate ability to access information to satisfy a specific need				
Desired Behavior	Highly Developed	Developed	Emerging	Non-Existent
	3	2	1	0
A) Define scope of research question, thesis, or information needed	Defines scope more than adequately.	Defines scope adequately.	Scope is defined incompletely (too broad to be answerable; too narrow to research in time available).	Research question, thesis, or information need is undefined.
B) Effectively use tools appropriate for a specific task	Uses discipline- standard and/or subject-specific tools and databases in addition to other library licensed, academic search tools and/or general, publicly accessible search tools, as appropriate to the task.	Uses both general, publicly accessible search tools and library licensed, academic search tools appropriate to the task.	Uses mostly general, publicly accessible search tools such as Google, Bing, or Yahoo; not all appropriate for the task.	Does not use appropriate tools for the task.
C) Identify key concepts for effective search strategy	Identifies a comprehensive set of key concepts that describe all aspects of the research question, resulting in a well-structured, effective search strategy. Finds a wide variety of relevant information of high quality.	Identifies sufficient key concepts to describe the research question resulting in an adequate search strategy. Finds a variety of relevant information sources of good quality in sufficient number to meet information need.	Incompletely identifies limited key concepts. Search terms incomplete or inappropriate to topic or task resulting in elementary search strategy. Some information gathered is relevant. Issues of quality remain.	Does not identify key concepts to describe research question, thesis or information needed. Does not construct effective search strategy so information gathered lacks relevance and quality

2) Demonstrate understanding of sources used and information found				
<u>Desired Behavior</u>	<u>Highly Developed</u>	<u>Developed</u>	<u>Emerging</u>	<u>Non-Existent</u>
	3	2	1	0
A) Differentiates among tertiary, secondary, and primary materials	Differentiates among and consistently selects tertiary, secondary, and primary sources as dictated by the information need.	Differentiates among tertiary, secondary, and primary sources. Usually uses appropriate type for the information sought.	Inconsistently differentiates tertiary, secondary, and primary sources. Uses a single type of source when other, more appropriate types are available.	Confuses tertiary, secondary, and primary sources
B) Selects material or sources, i.e. books, essays, articles, media, government documents, etc, appropriate to the task, considering appropriateness of popular/general sources vs scholarly/ academic sources.	Selects material appropriate for task of a wide variety of types. Consistently uses physical and/or digital sources as needed for best content.	Selects material of appropriate types, but may only select one or two of many appropriate types. Uses physical and/or digital sources.	Selects material with little regard for the appropriateness of type for the task	Selects materials or sources based on convenience, not appropriateness of source type for the task.

3) Evaluate all information critically, including its sources and authority				
<u>Desired Behavior</u>	<u>Highly Developed</u>	<u>Developed</u>	<u>Emerging</u>	<u>Non-Existent</u>
	3	2	1	0
A) Evaluate relevant sources to address the research question, topic, or task.	Evaluates relevant sources which effectively answer the research question and which support the topical argument and supply sufficient data to complete the task.	Evaluates relevant sources which answer the research question and which support the topical argument or supply some data to complete the task.	Evaluates some relevant and some irrelevant sources, which do not effectively address the issues involved or supply some data to complete the task.	Evaluates sources that are not relevant. Information does not answer research question, support topical argument, or supply data to complete task.
B) Recognize point of view in or quality of material	Consistently recognizes point of view in or quality of material used.	Usually recognizes point of view in or quality of material used.	Incompletely recognizes point of view in or quality of material used.	Does not recognize point of view in or quality of material used.
C) Respond to point of view in or quality of material	Consistently responds	Usually responds appropriately to	Incompletely responds to point	Does not respond to point of view in

	appropriately to point of view in or quality of material used.	point of view in or quality of material used.	of view in or quality of material used.	or quality of material sources.
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4) Use information responsibly

<u>Desired Behavior</u>	<u>Highly Developed</u>	<u>Developed</u>	<u>Emerging</u>	<u>Non-Existent</u>
-	3	2	1	0
A) Identify all sources of information and ideas using a consistent citation system	Properly identifies all sources of information and ideas according to a consistent criteria style or system. Creates a fully functional bibliography and/or in-text citation with no noticeable mistakes.	Properly identifies sources of information and ideas using a consistent citation style or system. Creates a fully functional bibliography and/or in-text citations that may have minor mistakes in form or punctuation.	Inconsistently or incompletely identifies sources or ideas and/or creates citations inconsistently or creates a partly functional bibliography with significant mistakes or omissions in content.	Does not identify sources of information and ideas. Fails to use any consistent citation system or create a functional bibliography and/o in-text citations.
B) Distinguish between common knowledge and ideas requiring attribution	Distinguishes between common knowledge and ideas requiring attribution. Effectively incorporates information and ideas of others with own ideas, consistently giving proper attribution.	Distinguishes between common knowledge and ideas requiring attribution. Incorporates some information/ideas from others with own ideas. Whether quoting or paraphrasing, gives credit for most information and ideas used.	Sometimes confuses common knowledge and ideas requiring attribution. Fails to quote or paraphrases poorly; does not always cite when necessary.	Does not distinguish between common knowledg and ideas gleaned from source material.

Written Communication Outcome Rubric:

	3	2	1	0
Purpose for Writing	Demonstrates a superior understanding of context, audience, and purpose that is responsive to the assigned task(s) and focuses all elements of the work.	Demonstrates thorough understanding of context, audience, and purpose with a clear focus on the assigned task(s).	Demonstrates an adequate understanding of context, audience, purpose, and the assigned task(s).	Demonstrates no understanding of context, audience, purpose, or the assigned task(s).
Content Development	Superior use of appropriate, relevant, and compelling content to illustrate mastery of the subject and shape the whole work.	Thorough use of appropriate, relevant, and compelling content to explore ideas and shape the whole work.	Adequate use of appropriate and relevant content to develop and explore ideas in some parts of the work.	Does not use appropriate and relevant content to develop ideas.
Sources and Evidence	Demonstrates superior use of high-quality, credible, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing.	Demonstrates thorough use of sources to support ideas that are situated within the discipline and genre of the writing.	Demonstrates an adequate attempt to use sources to support ideas that are appropriate for the discipline and genre of the writing.	Demonstrates no attempt to use sources to support ideas in the writing.
Control of Syntax and Mechanics	Uses language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.	Uses language that conveys meaning to readers with clarity. The language has few errors.	Uses language that generally conveys meaning to readers, although writing may include many errors.	Uses language that significantly impedes meaning because of errors in usage.

Appendix 2: 2016 assessment rubrics

WRITTEN COMMUNICATION

	3	2	1	0
A. Purpose for Writing	Demonstrates a superior understanding of context, audience, and purpose that is responsive to the assigned task(s) and focuses all elements of the work.	Demonstrates thorough understanding of context, audience, and purpose with a clear focus on the assigned task(s).	Demonstrates an adequate understanding of context, audience, purpose, and the assigned task(s).	Demonstrates no understanding of context, audience, purpose, or the assigned task(s).
B. Content Development	Superior use of appropriate, relevant, and compelling content to illustrate mastery of the subject and shape the whole work.	Thorough use of appropriate, relevant, and compelling content to explore ideas and shape the whole work.	Adequate use of appropriate and relevant content to develop and explore ideas in some parts of the work.	Does not use appropriate and relevant content to develop ideas.
C. Sources and Evidence	Demonstrates superior use of high-quality, credible, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing.	Demonstrates thorough use of sources to support ideas that are situated within the discipline and genre of the writing.	Demonstrates an adequate attempt to use sources to support ideas that are appropriate for the discipline and genre of the writing.	Demonstrates no attempt to use sources to support ideas in the writing.
D. Control of Syntax and Mechanics	Uses language that skillfully communicates meaning to readers with	Uses language that conveys meaning to readers with clarity. The	Uses language that generally conveys meaning to readers,	Uses language that significantly impedes meaning

	clarity and fluency, and is virtually error-free.	language has few errors.	although writing may include many errors.	because of errors in usage.
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RESEARCH FLUENCY

Student...	3 Highly-Developed Stage	2 Developed Stage	1 Emerging Stage	0 Non-Existent
A. Ability to access info to satisfy specific need: define scope of research and effectively use appropriate tools	Defines scope more than adequately. Uses discipline-standard and/or subject-specific tools and databases in addition to other library licensed, academic search tools and/or general, publicly accessible search tools, as appropriate to the task.	Defines scope adequately. Uses both general, publicly accessible search tools and library licensed, academic search tools appropriate to the task.	Scope is defined incompletely (too broad to be answerable; too narrow to research in time available). Uses mostly general, publicly accessible search tools such as Google, Bing, or Yahoo; not all appropriate for the task.	Research question, thesis, or information need is undefined. Does not use appropriate tools for the task.
B. Demonstrates understanding of sources used and information found. Selects materials appropriate to the task.	Selects material of a wide variety of types appropriate for task. Consistently uses physical and/or digital sources as needed for best content.	Selects material of appropriate types, but may only select one or two of many appropriate types. Uses physical and/or digital sources.	Selects material with little regard for the appropriateness of type for the task.	Selects materials or sources not appropriate for task.
C. Evaluate relevant sources to address the research question, topic, or task. Recognize	Evaluates relevant sources which effectively answer the research question and which support the topical argument and supply	Evaluates relevant sources which answer the research question and which support the topical argument or supply some data to complete the	Evaluates some relevant and some irrelevant sources, which do not effectively address the issues involved or supply some data to complete the task. Incompletely	Evaluates sources which are not relevant. Information does not answer the research question,

Student...	3 Highly-Developed Stage	2 Developed Stage	1 Emerging Stage	0 Non-Existent
point of view in and/or quality of material.	sufficient data to complete the task. Consistently recognizes point of view in and/or quality of material used.	task. Usually recognizes point of view in and/or quality of material used.	recognizes point of view in and/or quality of material used.	support topical argument, or supply data to complete the task. Does not recognize point of view in and/or quality of material
D. Use information responsibly	Properly identifies all sources of information and ideas according to a consistent criteria style or system. Creates a fully functional bibliography and/or in-text citation with no noticeable mistakes. Distinguishes between common knowledge and ideas requiring attribution. Effectively incorporates information and ideas of others with own ideas, consistently giving proper attribution.	Properly identifies sources of information and ideas using a consistent citation style or system. Creates a fully functional bibliography and/or in-text citations that may have minor mistakes in form or punctuation. Distinguishes between common knowledge and ideas requiring attribution. Incorporates some information/ideas from others with own ideas. Whether quoting or paraphrasing, gives credit for most information and ideas used.	Inconsistently or incompletely identifies sources or ideas and/or creates citations inconsistently or creates a partly functional bibliography with significant mistakes or omissions in content. Sometimes confuses common knowledge and ideas requiring attribution. Fails to quote or paraphrases poorly; does not always cite when necessary.	Does not identify sources of information and ideas. Fails to use any consistent citation system or create a functional bibliography and/or in-text citations. Does not distinguish between common knowledge and ideas gleaned from source material.

CRITICAL AND CREATIVE THINKING

Student...	3 Highly-Developed Stage	2 Developed Stage	1 Emerging Stage	0 Non-Existent
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Student...	3 Highly-Developed Stage	2 Developed Stage	1 Emerging Stage	0 Non-Existent
A. Formulates a Significant Question, Problem or Issue	The question, problem or issue to be considered critically, in addition to being answerable or addressable, and in the scope of the assignment, is interesting, significant and complex.	The question, problem or issue to be considered critically is answerable or addressable, is appropriate for the scope of the assignment, and is one which is interesting but has limited significance or complexity.	The question, problem or issue to be considered critically is answerable or addressable, but is inappropriate for the scope of the assignment, or is relatively basic, uninteresting or insignificant.	The question, problem or issue to be considered critically is absent, a truism, or unanswerable.
B. Demonstrates Understanding of the Problem, Question or Issue	Issue/problem to be considered critically is stated clearly and described thoroughly, delivering all relevant information necessary for full understanding.	Issue/problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue/problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	Issue/problem to be considered critically is stated without clarification or description.
C. Considers Underlying Assumptions	Assumptions of self or others are considered thoroughly.	Assumptions of self or others are subject to questioning.	Assumptions of self or others are identified, but with little or no questioning.	Assumptions of self or others are not considered.
D. Articulates Own Perspective, Hypothesis or Position	Position presented is clear and sophisticated, addressing the complexity of the issue.	Position is clear and adequate but lacks complexity.	Position is simplistic, unclear, obvious or just repeats another's position.	Perspective, hypothesis or position is missing.

Student...	3 Highly-Developed Stage	2 Developed Stage	1 Emerging Stage	0 Non-Existent
E. Provides Reasons for Position	Reasons provided are logical, relevant and thorough.	Reasons provided are logical and relevant, but not thorough.	Reasons are provided but only occasionally, or are not logical or sufficiently relevant.	No reasons are provided.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Paper #	written A	written B	written C	written D	research A	research B	research C	research D	critical A	critical B	critical C	critical D	critical E	total
2	M101	3	3	4	5	5	5	4	2	3	2	2	2	4	44
3	M102	4	5	5	5	6	6	4	4	4	4	5	6	4	62
4	M104	5	6	6	6	6	6	6	4	4	4	3	3	4	63
5	M109	4	4	5	4	4	4	4	5	5	4	4	4	6	57
6	M112	3	4	3	5	4	5	4	2	2	2	2	4	2	42
7	M115	4	4	2	4	0	0	0	0	1	3	1	2	2	23
8	M116	4	4	4	4	4	4	4	3	2	4	1	4	2	44
9	M117	5	5	3	2	3	4	3	4	3	4	4	4	3	47
10	M123	6	6	5	6	6	6	5	5	6	5	4	4	4	68
11	M126	4	4	4	4	2	4	2	3	3	2	1	3	3	39
12	M130	6	5	5	6	2	3	2	2	3	3	3	4	4	48
13	M131	6	6	6	4	6	6	6	6	4	5	5	6	5	71
14	M136	5	5	4	4	4	4	4	3	1	1	2	2	2	41
15	M141	5	3	1	4	3	3	3	3	4	3	3	4	3	42
16	M mean	4.57	4.57	4.07	4.5	3.93	4.29	3.64	3.28	3.21	3.29	2.86	3.71	3.43	49.36
17	O101	6	6	5	6	4	5	3	2	6	6	4	6	4	63
18	O102	4	3	3	6	5	5	4	4	5	5	5	5	5	59
19	O105	2	2	1	1	2	4	1	2	5	5	4	3	5	37
20	O106	6	6	6	6	4	4	0	2	5	5	4	4	3	55
21	O107	4	4	4	5	3	4	4	2	2	2	2	3	2	41
22	O115	3	3	3	3	2	1	1	1	4	2	2	3	2	30
23	O118	6	6	6	5	6	6	6	6	5	5	5	6	5	73
24	O120	4	4	3	5	6	4	4	5	6	4	4	6	5	60
25	O121	3	4	4	5	4	3	3	2	5	3	2	4	4	44
26	O124	5	4	3	4	1	4	3	3	0	6	2	0	2	37
27	O125	4	4	2	6	4	4	4	4	4	3	2	3	4	48
28	O127	4	4	4	4	4	4	4	4	3	1	0	2	1	39
29	O128	6	5	3	5	3	3	3	3	5	4	4	4	4	52
30	O129	6	6	6	6	6	6	6	6	6	6	5	6	6	77
31	O132	1	1	2	2	2	3	3	3	3	3	1	2	3	29
32	O133	5	5	4	5	not assess	not assess	not assess	not assess	0	6	6	6	6	43 [of 54]
33	O138	6	4	4	5	4	6	0	0	0	3	2	6	2	42
34	O154	4	4	4	4	6	6	6	6	3	3	3	5	3	57
35	O mean	4.39	4.17	3.72	4.61	3.88	4.24	3.24	3.24	3.72	4	3.17	4.11	3.67	49.65
36	P101	6	6	6	6	0	0	0	2	1	1	0	0	1	29
37	P103	4	5	4	5	0	0	0	0	4	4	3	5	6	40
38	P105	4	4	4	4	0	0	0	0	2	2	2	2	2	26
39	P106	5	5	5	5	3	4	3	1	4	4	2	2	4	47
40	P110	6	4	4	4	6	6	6	4	6	4	3	3	3	59
41	P112	6	4	5	6	2	6	0	2	5	2	3	3	4	48
42	P114	6	6	6	6	3	4	3	2	6	4	4	5	5	60
43	P115	4	5	6	6	6	6	6	6	2	6	4	2	6	65
44	P116	6	5	6	5	6	6	5	4	5	4	3	5	4	64
45	P126	5	6	6	5	0	4	2	4	1	1	1	2	1	38
46	P129	5	4	6	6	4	6	5	2	6	4	5	4	3	60
47	P132	3	4	3	3	2	2	2	2	4	2	2	2	4	35
48	P133	4	4	5	3	4	5	4	3	4	3	1	1	3	44
49	P136	4	4	3	4	2	4	3	2	3	4	2	3	4	42
50	P138	3	3	2	4	4	4	2	0	1	4	2	2	3	34
51	P139	4	4	4	3	3	4	2	2	4	2	2	2	4	40
52	P141	4	4	4	2	4	4	2	2	2	2	2	2	2	34
53	P148	3	2	2	4	2	2	2	1	3	2	1	3	2	29
54	P151	6	6	5	6	4	5	5	6	6	5	5	6	6	71
55	P156	4	4	3	5	6	4	6	6	4	4	4	4	4	58
56	P162	6	5	4	4	3	3	3	5	2	0	0	2	0	37
57	P164	5	5	4	4	4	4	4	4	2	2	2	4	4	48
58	P170	6	5	4	4	4	4	4	4	2	2	1	2	2	44
59	P172	4	2	2	3	3	2	2	1	1	1	1	2	0	24
60	P173	3	2	3	5	2	4	4	6	4	3	2	2	2	42
61	P175	6	5	5	4	2	0	0	2	2	0	0	0	0	26
62	P180	4	3	0	5	not assess	not assess	not assess	not assess	4	4	4	5	5	34 [of 54]
63	P mean	4.67	4.3	4.11	4.48	2.96	3.58	2.88	2.81	3.33	2.81	2.26	2.78	3.11	44
64															
65															
66	full group	4.56	4.32	3.98	4.53	3.47	3.95	3.18	3.05	3.42	3.29	2.68	3.41	3.36	47

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Paper #	written A	written B	written C	written D	research A	research B	research C	research D	critical A	critical B	critical C	critical D	critical E	total
2	M101	3	3	4	5	5	5	4	2	3	2	2	2	4	44
3	M102	4	5	5	5	6	6	4	4	4	4	5	6	4	62
4	M104	5	6	6	6	6	6	6	4	4	4	3	3	4	63
5	M109	4	4	5	4	4	4	4	5	5	4	4	4	6	57
6	M112	3	4	3	5	4	5	4	2	2	2	2	4	2	42
7	M115	4	4	2	4	0	0	0	0	1	3	1	2	2	23
8	M116	4	4	4	4	4	4	4	3	2	4	1	4	2	44
9	M117	5	5	3	2	3	4	3	4	3	4	4	4	3	47
10	M123	6	6	5	6	6	6	5	5	6	5	4	4	4	68
11	M126	4	4	4	4	2	4	2	3	3	2	1	3	3	39
12	M130	6	5	5	6	2	3	2	2	3	3	3	4	4	48
13	M131	6	6	6	4	6	6	6	6	4	5	5	6	5	71
14	M136	5	5	4	4	4	4	4	3	1	1	2	2	2	41
15	M141	5	3	1	4	3	3	3	3	4	3	3	4	3	42
16	M median	4.5	4.5	4	4	4	4	4	3	3	3.5	3	4	3.5	45.5
17	O101	6	6	5	6	4	5	3	2	6	6	4	6	4	63
18	O102	4	3	3	6	5	5	4	4	5	5	5	5	5	59
19	O105	2	2	1	1	2	4	1	2	5	5	4	3	5	38
20	O106	6	6	6	6	4	4	0	2	5	5	4	4	3	55
21	O107	4	4	4	5	3	4	4	2	2	2	2	3	2	41
22	O115	3	3	3	3	2	1	1	1	4	2	2	3	2	30
23	O118	6	6	6	5	6	6	6	6	5	5	5	6	5	73
24	O120	4	4	3	5	6	4	4	5	6	4	4	6	5	60
25	O121	3	4	4	5	4	3	3	2	5	3	2	4	4	44
26	O124	5	4	3	4	1	4	3	3	0	6	2	0	2	37
27	O125	4	4	2	6	4	4	4	4	4	3	2	3	4	48
28	O127	4	4	4	4	4	4	4	4	3	1	0	2	1	39
29	O128	6	5	3	5	3	3	3	3	5	4	4	4	4	52
30	O129	6	6	6	6	6	6	6	6	6	6	5	6	6	77
31	O132	1	1	2	2	2	3	3	3	3	3	1	2	3	29
32	O133	5	5	4	5	not assess	not assess	not assess	not assess	0	6	6	6	6	43 [of 54]
33	O138	6	4	4	5	4	6	0	0	0	3	2	6	2	42
34	O154	4	4	4	4	6	6	6	6	3	3	3	5	3	57
35	O median	4	4	4	5	4	4	3	3	4.5	4	3.5	4	4	48
36	P101	6	6	6	6	0	0	0	2	1	1	0	0	1	29
37	P103	4	5	4	5	0	0	0	0	4	4	3	5	6	40
38	P105	4	4	4	4	0	0	0	0	2	2	2	2	2	26
39	P106	5	5	5	5	3	4	3	1	4	4	2	2	4	47
40	P110	6	4	4	4	6	6	6	4	6	4	3	3	3	59
41	P112	6	4	5	6	2	6	0	2	5	2	3	3	4	48
42	P114	6	6	6	6	3	4	3	2	6	4	4	5	5	60
43	P115	4	5	6	6	6	6	6	6	2	6	4	2	6	65
44	P116	6	5	6	5	6	6	5	4	5	4	3	5	4	64
45	P126	5	6	6	5	0	4	2	4	1	1	1	2	1	38
46	P129	5	4	6	6	4	6	5	2	6	4	5	4	3	60
47	P132	3	4	3	3	2	2	2	2	4	2	2	2	4	35
48	P133	4	4	5	3	4	5	4	3	4	3	1	1	3	44
49	P136	4	4	3	4	2	4	3	2	3	4	2	3	4	42
50	P138	3	3	2	4	4	4	2	0	1	4	2	2	3	34
51	P139	4	4	4	3	3	4	2	2	4	2	2	2	4	40
52	P141	4	4	4	2	4	4	2	2	2	2	2	2	2	34
53	P148	3	2	2	4	2	2	2	1	3	2	1	3	2	29
54	P151	6	6	5	6	4	5	5	6	6	5	5	6	6	71
55	P156	4	4	3	5	6	4	6	6	4	4	4	4	4	58
56	P162	6	5	4	4	3	3	3	5	2	0	0	2	0	37
57	P164	5	5	4	4	4	4	4	4	2	2	2	4	4	48
58	P170	6	5	4	4	4	4	4	4	2	2	1	2	2	44
59	P172	4	2	2	3	3	2	2	1	1	1	1	2	0	24
60	P173	3	2	3	5	2	4	4	6	4	3	2	2	2	42
61	P175	6	5	5	4	2	0	0	2	2	0	0	0	0	26
62	P180	4	3	0	5	not assess	not assess	not assess	not assess	4	4	4	5	5	34 [of 54]
63	P median	4	4	4	4	3	4	3	2	4	3	2	2	3	42
64															
65	total	4	4	4	5	4	4	3	3	4	3	2	3	4	44

AI66



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ
1	Written	Purpose								Context								Sources								Syntax																										
2		G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0																							
3	New GE	3	4	3	3	0	0	0	3	4	3	2	0	0	0	3	4	3	2	1	1	0	3	3	3	0	1	0	0																							
4	Old GE	6	3	6	7	1	1	0	4	2	8	2	1	1	0	3	1	6	5	2	1	0	5	3	3	1	1	1	0																							
5	transfers	9	4	10	4	0	0	0	4	2	10	2	7	0	0	6	5	8	4	3	0	1	6	7	9	4	1	0	0																							
6		Scope								Materials								Evaluata								Responsible use																										
7		G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0																							
8	New GE	4	1	4	2	2	0	1	4	2	5	2	0	0	1	2	1	6	2	2	0	1	1	2	3	4	3	0	1																							
9	Old GE	8	1	6	2	3	1	0	4	2	7	3	0	1	0	3	0	5	5	0	2	2	1	1	3	1	0	1	1																							
10	transfers	0	0	6	5	7	0	4	5	2	11	1	3	0	4	3	3	4	4	7	0	5	4	1	5	1	0	1	3																							
11		Form Question								Understanding								Assumptions								Own Perspective								Reasons																		
12		G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0																
13	New GE	1	1	4	4	2	2	0	0	2	5	3	3	1	0	0	2	3	3	3	3	0	2	0	7	2	3	0	0	1	1	5	3	4	0	0																
14	Old GE	1	6	2	3	1	0	1	4	4	2	0	2	1	0	1	3	0	1	6	1	1	6	2	3	4	2	0	1	2	4	4	3	4	1	0																
15	transfers	4	2	8	2	7	4	0	1	1	10	2	8	3	2	0	2	4	4	9	5	3	1	4	3	4	12	1	2	3	2	8	4	0	2	3																
16		Purpose								Context								Sources								Syntax																										
17		G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0																							
18	New GE	25%	28%	35%	14%	0%	0%	0%	25%	28%	35%	14%	0%	0%	0%	14%	23%	28%	14%	7%	7%	0%	25%	25%	20%	0%	7%	0%	0%																							
19	Old GE	37%	15%	33%	13%	0%	0%	1%	22%	11%	44%	17%	0%	0%	0%	17%	0%	33%	28%	11%	0%	0%	28%	30%	17%	0%	0%	0%	0%																							
20	transfers	33%	45%	37%	15%	0%	0%	0%	15%	30%	37%	7%	11%	0%	0%	22%	13%	30%	15%	13%	0%	4%	25%	26%	33%	15%	4%	0%	0%																							
21		Scope								Materials								Evaluata								Responsible use																										
22		G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0																							
23	New GE	25%	7%	23%	14%	14%	0%	7%	22%	14%	35%	14%	0%	0%	7%	14%	7%	43%	14%	14%	0%	7%	7%	14%	21%	23%	21%	0%	7%																							
24	Old GE	24%	6%	35%	42%	18%	0%	0%	24%	12%	42%	18%	0%	0%	0%	18%	0%	23%	23%	0%	42%	12%	18%	6%	18%	18%	23%	6%	0%																							
25	transfers	15%	0%	23%	33%	27%	0%	15%	19%	0%	42%	4%	12%	0%	15%	12%	12%	15%	15%	27%	0%	19%	15%	4%	19%	4%	35%	12%	12%																							
26		Form Question								Understanding								Assumptions								Own Perspective								Reasons																		
27		G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0																
28	New GE	7%	7%	23%	14%	14%	0%	0%	0%	14%	35%	14%	0%	0%	0%	0%	14%	21%	21%	21%	0%	0%	14%	0%	20%	14%	21%	0%	0%	7%	7%	35%	21%	29%	0%	0%																
29	Old GE	17%	33%	11%	17%	0%	0%	17%	22%	22%	11%	28%	11%	0%	0%	0%	17%	28%	6%	33%	6%	6%	33%	11%	17%	22%	11%	0%	0%	11%	22%	22%	17%	22%	6%	0%																
30	transfers	15%	7%	30%	7%	25%	15%	0%	4%	4%	37%	7%	30%	11%	7%	0%	7%	15%	15%	33%	13%	11%	4%	15%	11%	15%	44%	4%	7%	11%	7%	30%	15%	19%	7%	11%																
31		Purpose								Context								Sources								Syntax																										
32		G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0																							
33	New GE	85	14						85	14					75	28						90	7																													
34	Old GE	77	23						80	18					56	45						82	18																													
35	transfers	85	15						80	18					70	30						85	15																													
36		Scope								Materials								Evaluata								Responsible use																										
37		G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0																							
38	New GE	65	35						76	31					64	35						42	57																													
39	Old GE	65	38						77	24					47	53						42	58																													
40	transfers	38	61						68	31					39	61						38	61																													
41		Form Question								Understanding								Assumptions								Own Perspective								Reasons																		
42		G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0	G	S	4	3	2	1	0																
43	New GE	61	40						63	44					51	51						64	35						59	45																						
44	Old GE	61	40						55	45					55	51						61	38						55	45																						
45	transfers	52	48						45	55					22	78						39	70						48	52																						