General Education

Learning Outcome Assessment

Communication Outcome

(Spring 2024)

Contents

Executive Summary

The General Education curriculum provides foundational knowledge in academic disciplines, exposing students to diverse learning perspectives and ways of knowing in Mathematics, Science, Social Sciences, and Arts and Humanities (University System of Georgia). Georgia Institute of Technology (Georgia Tech) General Education (Gen Ed) has six learning outcomes: (1) Communication, (2) Quantitative, (3) Computing, (4) Humanities, Fine Arts, and Ethics, (5) Natural Sciences, Math, and Technology, and (6) Social Sciences. They are assessed in accordance with our established timeline. Nurtured by the Subcommittee on Gen Ed and Policy, the 3-Year Georgia Tech Gen Ed Assessment Plan (2021-2024) sets the framework for good practice in course delivery and assessment, capitalizing on the good judgment of faculty members regarding students' levels of attainment of Gen Ed learning outcomes. Faculty develop signature assignments in their Gen Ed courses, and the assignments, along with student performance, are collected for review and analysis at the end of each semester. To better understand our students' performance, the Office of Academic Effectiveness (OAE) then partnered with faculty to develop a scale for scoring. The general scale is structured to assess each Gen Ed learning outcome on a continuum: 1-Developing, 2-Meets Expectations, 3-Exceeds Expectations.

This report summarizes the evidence of student learning (n = 50) and provides descriptive statistics for the **Communication** outcome to support conversations regarding Gen Ed learning and opportunities for improvement.

Highlights

- **100%** (n= 50) of students met the Communication outcome expectations, which means students demonstrated developing or better proficiency in the process of articulating and organizing rhetorical arguments in written, oral, visual, and nonverbal modes, using concrete support and conventional language. Students' performance on the Communication outcome met or exceeded Georgia Tech's acceptable target (80%).

- Comparing student demographics for the Communication outcome, the results indicated that all demographic groups met or exceeded the target of 80%.

Background

An integral part of the delivery of General Education (Gen Ed) at the Georgia Institute of Technology (Georgia Tech) includes the assessment of the learning outcomes. The learning outcomes were approved by the Georgia Tech Undergraduate Curriculum Committee and Faculty Senate, and then by the University System of Georgia's (USG) Council on General Education in April 2011:

➢ **Communication (Core Area A1)**
  Outcome: Student will demonstrate proficiency in the process of articulating and organizing rhetorical arguments in written, oral, visual, and nonverbal modes, using concrete support and conventional language.

➢ **Quantitative (Core Area A2)**
  Outcome: Student will demonstrate the ability to apply basic elements of differential and integral calculus to solve relevant problems.

➢ **Computing (Institutional Options B)**
  Outcome (2021 Fall): Student will be able to develop algorithms and implement them using an appropriate computer language and will understand algorithmic complexity and reasonable versus unreasonable algorithms. Based on the 2021 assessment results, the learning outcome was modified in Fall 2023:

  Provisional Outcome (2023 Fall): Students will be able to develop solutions to problems involving data and to implement these solutions using an appropriate computer language.

➢ **Humanities, Fine Arts, and Ethics (Core Area C)**
  Outcome: Student will be able to describe relationships among languages, philosophies, cultures, literature, ethics, or the arts.

➢ **Natural Sciences, Math, and Technology (Core Area D)**
  Outcome: Student will be able to demonstrate the ability to obtain, analyze, interpret, and criticize qualitative observations and quantitative measurements to explain natural phenomena and to test hypotheses.

➢ **Social Sciences (Core Area E)**
  Outcome: Student will demonstrate the ability to describe the social, political, and economic forces that influence social behavior.

The purpose of this report is to provide assessment results to support conversations regarding Gen Ed learning and opportunities for improvement.

Methods

In the context of Communication at Georgia Tech, most first-year students' initial experiences with the Writing and Communication Program (WCP) are in two of their core courses: ENGL 1101 English Composition I and ENGL 1102 English Composition II. Most Georgia Tech students take at least one of these courses in their first year, gaining a

foundation for the work they will do in their other courses and their careers. These courses introduce students to principles that, regardless of major or eventual career, provide a framework for successful communication by giving students opportunities to practice and hone their multimodal strategies in relation to issues and concerns in science and society. This assessment report reflects the results from the ENGL 1101 course due to the new improvement implementation. More details can be found in the Scoring and Data Analysis section. The Communication Outcome is:

Student will demonstrate proficiency in the process of articulating and organizing rhetorical arguments in written, oral, visual, and nonverbal modes, using concrete support and conventional language.

Scoring and Data Analysis

The Director of the WCP, the WCP Director of Assessment, and the WCP Assessment Committee refined a WCP Common Feedback rubric intended to assess the Communication outcome. To review the refined rubric's reliability and validity, an application of the rubric on student work took place in April, 2022. The WCP Assessment Committee concluded that the rubric was a clear and useful tool and was applied in the 2021-2022 Communication Outcome assessment activity.

In response to the assessment results from both the direct and indirect measures in AY 2021-2022, the Writing and Communication Program faculty members then implemented changes to strengthen students' performance on this outcome. Specifically, faculty members have revised and clarified key communication components within their course to include additional writing elements designed to strengthen student communication and learning. This change was piloted in five ENGL 1101 courses taught by five instructors. Because of the curricular enhancement, the rubric was also modified and focused more on writing. The revised rubric (see Appendix C for rubric change) includes the following six dimensions: 1) Reflects on Process, 2) Articulates an Argument, 3) Organizes around Argument, 4) Employs WOVEN modes, 5) Uses Concrete Support, and 6) Uses Conventions Persuasively. To help assess student performance on a continuum and help the raters identify problems in the "Basic" range, the rubric is structured as follows: 0-Beginning/Basic, 1-Developing, 2-Competent, 3-Mature/Exemplary.

Four raters in total who were experienced instructors of the ENGL courses gathered for a scoring day on February 2, 2024, and began with a calibration process led by the WCP Director of Assessment. After sufficient consensus was reached, the scoring process then started. Fifty portfolios were selected after a systematic sampling process from 142 portfolio submissions. Each de-identified portfolio was read and scored by two raters based on the revised rubric. If the score awarded by the two raters differed by more than two points, a third rater would read and score.

On average, 80% of students were expected to achieve the Developing level or better.

Sample

The following table indicates the representative nature of the sample by comparing the student demographic information of the sample and the undergraduate student population of the Institute.

Table 1 Sample Size by Student Demographics

Student Demographic	Sample N (%)	Institutional Population N (%)
Gender	(Total = 46)[1]	(Total = 19,510)
Male	34 (73.9%)	11,860 (60.8%)
Female	12 (26.1%)	7,650 (39.2%)
Race/Ethnicity		
White	8 (21.6%)	6,793 (34.8%)
Black or African or American	8 (21.6%)	1,523 (7.8%)
Asian	18 (48.6%)	5,936 (30.4%)
Hispanic or Latino	2 (5.4%)	1,536 (7.9%)
Two or More Races	1 (2.7%)	887(4.5%)
Unknown	0 (0.0%)	209 (1.1%)
First Generation College Student		
Continuing Generation	35 (94.6%)	15,592 (79.9%)
First Generation	2 (5.4%)	1,310 (6.7%)
Citizenship		
Domestic Student	37 (80.4%)	16,902 (86.6%)
International Student	9 (19.6%)	2,608 (13.4%)
Transfer Student Status		
Non-Transfer Student	46 (100.0%)	18,754 (96.1%)
Transfer Student	0 (0.0%)	756 (3.9%)
Class		
Freshman	39 (84.8%)	2,330 (11.9%)
Sophomore	4 (8.7%)	4,257 (21.8%)
Junior	2 (4.3%)	4,529 (23.2%)
Senior	0 (0.0%)	7,151 (36.7%)
GA Residence		
GA Residence	19 (41.3%)	12,062 (61.8%)
Out of State Residence	27 (58.7%)	7,102 (38.2%)

Note 1. The total scored artifacts are 50, but due to some missing demographic information from 4 portfolios, the total sample size for this disaggregation report is 46.

Findings

Based on faculty agreement on the score interpretation, the frequency and percentage of achievement were calculated. Overall, **100%** (n = 50) of students met or exceeded the Communication outcome expectations.

Table 2 Quantitative Outcome Overall Performance

Score Interpretation	% (n)	Target Achieved?
Beginning/Basic	0.0% (n=0)	Yes (100%)

Developing	52.0% (n=26)
Competent	48.0% (n=24)
Mature/Exemplary	0.0% (n=0)

To understand students' learning performance by key components of the rubric, the following table indicates the results by each rubric dimension.

Table 3 Communication Outcome Overall Performance

Dimensions N=50	Mean (SD)	Beginning/ Basic n(%)	Developing n(%)	Competent n(%)	Mature/ Exemplary n(%)	80% Target Achieved?
Reflects on Process	1.82 (0.77)	0 (0%)	20(40%)	19(38%)	11(22%)	Yes (100%)
Articulates an Argument	1.58 (0.54)	0 (0%)	22(44%)	27(54%)	1(2%)	Yes (100%)
Organizes around Argument	1.72 (0.61)	0 (0%)	18(36%)	28(56%)	4(8%)	Yes (100%)
Employs WOVEN modes	1.34 (0.75)	6 (12%)	23(46%)	19(38%)	2(4%)	Yes (88%)
Uses Concrete Support	1.78 (0.51)	0 (0%)	13(26%)	35(70%)	2(4%)	Yes (100%)
Uses Conventions Persuasively	1.62 (0.60)	0 (0%)	22(44%)	25(50%)	3(6%)	Yes (100%)

In addition, the following table shows students' performance data by different demographic populations. The results indicated that all demographic groups met or exceeded the target of 80%.

Table 4 Communication Outcome Overall Performance by Demographic

ENGL 1101 (n=46)	Beginning/ Basic n (%within subgroup)	Developing n (%within subgroup)	Competent n (% within subgroup)	Mature/ Exemplary n (% within subgroup)	Overall Score Mean (SD)	80% Target Achieved?
Gender						
Male (n=34)	0 (0.0%)	17 (50.0%)	17 (50.0%)	0 (0.0%)	1.50 (0.51)	Yes (100%)
Female (n=12)	0 (0.0%)	7 (58.3%)	5 (41.7%)	0 (0.0%)	1.42 (0.52)	Yes (100%)
Race/Ethnicity						
White (n=8)	0 (0.0%)	4 (50.0%)	4 (50.0%)	0 (0.0%)	1.50 (0.54)	Yes (100%)
Black or African American (n=8)	0 (0.0%)	4 (50.0%)	4 (50.0%)	0 (0.0%)	1.50 (0.54)	Yes (100%)
Asian (n=18)	0 (0.0%)	9 (50.0%)	9 (50.0%)	0 (0.0%)	1.50 (0.51)	Yes (100%)
Hispanic or Latino (n=2)	0 (0.0%)	2 (100%)	0 (0.0%)	0 (0.0%)	1.00 (0.00)	Yes (100%)
Two or More Races (n=1)	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)	2.00 (0.00)	Yes (100%)
First-Generation College Student						

Continuing Generation (n=35)	0 (0.0%)	18 (51.4%)	17 (48.6%)	0 (0.0%)	1.49 (0.51)	Yes (100%)
First Generation (n=2)	0 (0.0%)	1 (50.0%)	1 (50.0%)	0 (0.0%)	1.50 (0.71)	Yes (100%)
Citizenship						
Domestic Student (n= 37)	0 (0.0%)	19 (51.4%)	18 (48.6%)	0 (0.0%)	1.49 (0.51)	Yes (100%)
International student (n=9)	0 (0.0%)	5 (55.6%)	4 (44.4%)	0 (0.0%)	1.44 (0.53)	Yes (100%)
Class						
Freshman (n=39)	0 (0.0%)	20 (51.3%)	19 (48.7%)	0 (0.0%)	1.49 (0.51)	Yes (100%)
Sophomore (n=4)	0 (0.0%)	3 (75.0%)	1 (25.0%)	0 (0.0%)	1.25 (0.50)	Yes (100%)
Junior (n=2)	0 (0.0%)	1 (50.0%)	1 (50.0%)	0 (0.0%)	1.50 (0.71)	Yes (100%)
GA Residence						
GA Residence (n=19)	0 (0.0%)	11 (57.9%)	8 (42.1%)	0 (0.0%)	1.42 (0.51)	Yes (100%)
Out of State Residence (n=27)	0 (0.0%)	13 (48.1%)	14 (51.9%)	0 (0.0%)	1.52 (0.51)	Yes (100%)

Appendix A: Representative Courses List

Outcomes	Represented Courses	Total
Communication	ENGL 1101, ENGL 1102 (2021-2022 only)	2
Quantitative	MATH 1552, MATH 1712	2
Computing	CS 1301, CS 1315, CS 1371	3
Humanities, Fine Arts, and Ethics	Large Class: FREN 1002, SPAN 2001, ID 2202, ID 2241, PHIL 3109, ARCH 2111 Middle Class: LMC 3226, ML 2500 Small Class: LMC 2100, PHIL 4176	10
Natural Sciences, Math, and Technology	CHEM 1310, BIOS 1207DL, EAS 1600, PHYS 2212, MATH 1554, MATH 1711	6
Social Sciences	Large Class: ECON 2100, HIST 2111, HIST 2112, INTA 1200, 2030, POL 1101, PSYC 1101, PSYC 2210, PSYC 2230, SOC 1101 Small Class: ARCH 3135, CP 4020, POL 2101, PUBP 3000, PUBP 3315	15

Appendix B: Representative Courses Associated by College

Represented course associated college	Number of courses from the represented course list	Associated outcome
Ivan Allen College of Liberal Arts	19	Communication, Humanities, Fine Arts, and Ethics, Social Sciences
College of Sciences	11	Quantitative, Natural Sciences, Math, and Technology, Social Sciences
College of Design	5	Humanities, Fine Arts, and Ethics, Social Sciences
College of Computing	3	Computing

Appendix C: Rubric (2023-2024)

X=scale Y=criteria	0 Beginning/Basic	1 Developing	2 Competent	3 Mature/Exemplary
Reflects on Process How well does the essay reflect on how writing process contributes to growth as thoughtful communicator?	Little discussion of process in essay; no discussion of the significance of process	Conclusions about process are broad, not specific; some discussions of the significance of process	Names specific changes made in individual artifacts and discusses differences between drafts; clear discussion of significance of process	Explores process as a major feature; indicates revision went beyond peer or teacher suggestions; makes connections between process on different artifacts
Articulates an argument How well does the essay articulate an argument about growth as a thoughtful communicator?	Makes an overly general argument; significance is difficult to discern, or not appropriate to the rhetorical situation	Makes a simplistic or implicit argument, or multiple arguments that have no clear connection to one another; gestures towards significance, but does not fully develop it	Makes an explicit and straightforward argument that does not oversimplify the problem or question explores at least one question of the argument in depth	Makes a complex, unified argument that clearly articulates a position or stance; explores multiple implications of the argument in depth
Organizes around argument How is the essay organized around an argument about growth as a thoughtful communicator?	Does not organize essay around argument or attempt is insufficient; uses few effective connections to demonstrate organization; some logical moves necessary to prove the argument are absent	Organizes essay around some unifying claims but overall attempt to support argument is inconsistent; employs simplistic organization	Organizes essay around unifying claims that support the argument throughout; and employs an effective by mechanical scheme	Organizes essay around an argument that develops logically and progressively; adapts typical organizational schemes for the context; achieves substantive coherence
Employs WOVEN modes How well does the essay employ WOVEN modes to support argument about growth as a thoughtful communicator?	Does not include modes other than writing; no attempt to show how different modes and media are woven together in writing process and/or course artifacts	Evidence is mostly written; essay speaks at least minimally to different modes and media are woven together in writing process and/or course artifacts but most attempts are unclear or missing	Evidence is mostly written; essay describes to some extent how different modes and media are woven together in writing process and/or course artifacts but some attempts are unclear	Evidence is fully WOVEN; the essay shows how different modes and media are woven together in the writing process and/or course artifacts in depth or with unexpected insight
Uses concrete support How well does the essay employ evidence to support the argument about growth as a thoughtful communicator?	Little or no attempt to make use of evidence; or evidence used seems to support few or no assertions	Attempts to make use of multiple types of evidence in support of assertions but the attempt is incomplete; only some evidence supports some assertions; essay does not consider the most important evidence	Makes use of multiple types of evidence (paraphrase, quotation, etc.) and/or synthesizes evidence to support and complicate assertions but connection between assertions and evidence sometimes unclear	Makes use of best evidence and/or synthesizes multiple types of evidence (paraphrase, quotation, etc.) to support and complicate assertions throughout essay
Uses conventions persuasively How well does essay use grammar, mechanics, style, citation, etc. to support argument about growth as a communicator?	Omits some important features; pattern of inconsistencies that distract from the argument; uses features that do not support the argument	Uses features that support the argument, but some match imprecisely with content; includes minor errors or inconsistencies	Promotes engagement and supports the argument with features that efficiently use affordances suited to argument and reflection	Persuades with careful, seamless integration of features and content; innovative use of affordances

The "Reflects on WOVEN" dimension was removed as the program focuses on students' writing, which is a part of the action plans for seeking improvement in the Communication Outcome.

Rubric (2021-2022)

X=scale Y=criteria	1 Beginning/Basic	2 Developing	3 Competent	4 Mature/Exemplary
Reflects on Process How well does the essay reflect on how writing process contributes to growth as thoughtful communicator?	Little discussion of process in essay; no discussion of the significance of process	Conclusions about process are broad, not specific; some discussions of the significance of process	Names specific changes made in individual artifacts and discusses differences between drafts; clear discussion of significance of process	Explores process as a major feature; indicates revision went beyond peer or teacher suggestions; makes connections between process on different artifacts
Reflects on WOVEN How well does the essay reflect on how WOVEN contributes to growth as thoughtful communicator?	Little discussion of WOVEN; no discussion of the significance of multimodality	Conclusions about WOVEN are broad, not specific; some discussions of the significance of multimodality	Names specific changes in modes in individual artifacts and discusses differences between modes; clear discussion of significance of process	Explores WOVEN as a major feature; indicates multimodal choices went beyond peer or teacher suggestions; makes connections about multimodality across different artifacts
Articulates an argument How well does the essay articulate an argument about growth as a thoughtful communicator?	Makes an overly general argument; significance is difficult to discern, or not appropriate to the rhetorical situation	Makes a simplistic or implicit argument, or multiple arguments that have no clear connection to one another; gestures towards significance, but does not fully develop it	Makes an explicit and straightforward argument that does not oversimplify the problem or question explores at least one question of the argument in depth	Makes a complex, unified argument that clearly articulates a position or stance; explores multiple implications of the argument in depth
Organizes around argument How is the essay organized around an argument about growth as a thoughtful communicator?	Does not organize essay around argument or attempt is insufficient; uses few effective connections to demonstrate organization; some logical moves necessary to prove the argument are absent	Organizes essay around some unifying claims but overall attempt to support argument is inconsistent; employs simplistic organization	Organizes essay around unifying claims that support the argument throughout; and employs an effective by mechanical scheme	Organizes essay around an argument that develops logically and progressively; adapts typical organizational schemes for the context; achieves substantive coherence
Employs WOVEN modes How well does the essay employ WOVEN modes to support argument about growth as a thoughtful communicator?	Does not include modes other than writing; no attempt to show how different modes and media are woven together in writing process and/or course artifacts	Evidence is mostly written; essay attempts to show how different modes and media are woven together in writing process and/or course artifacts but most attempts are unclear or missing	Evidence is mostly WOVEN; essay mostly shows how different modes and media are woven together in writing process and/or course artifacts but some attempts are unclear	Evidence is fully WOVEN; the essay shows how different modes and media are woven together in the writing process and/or course artifacts in depth or with unexpected insight
Uses concrete support How well does the essay employ evidence to support the argument about growth as a thoughtful communicator?	Little or no attempt to make use of evidence; or evidence used seems to support few or no assertions	Attempts to make use of multiple types of evidence in support of assertions but the attempt is incomplete; only some evidence supports some assertions; essay does not consider the most important evidence	Makes use of multiple types of evidence (paraphrase, quotation, etc.) and/or synthesizes evidence to support and complicate assertions but connection between assertions and evidence sometimes unclear	Makes use of best evidence and/or synthesizes multiple types of evidence (paraphrase, quotation, etc.) to support and complicate assertions throughout essay
Uses conventions persuasively How well does essay use grammar, mechanics, style, citation, etc. to support argument about growth as a communicator?	Omits some important features; pattern of inconsistencies that distract from the argument; uses features that do not support the argument	Uses features that support the argument, but some match imprecisely with content; includes minor errors or inconsistencies	Promotes engagement and supports the argument with features that efficiently use affordances suited to argument and reflection	Persuades with careful, seamless integration of features and content; innovative use of affordances