

**Report on Assessment of Learning and Quality at John Tyler Community College
2018-2020**

July 2021

Name, title, and contact information of Report Preparer and SCHEV Liaison:

**Dr. Keri-Beth Pettengill
Director of Institutional Effectiveness
John Tyler Community College
800 Charter Colony Parkway, Midlothian VA 23114
kpettengill@jtcc.edu
804-594-1577**

Table of Contents

Outcomes Assessment, Reimagined.....	5
Civic Engagement	6
Indirect Assessment.....	12
Seeking Continuous Quality Improvement for the Civic Engagement Outcome	13
Critical Thinking.....	14
Indirect Assessment.....	19
Seeking Continuous Quality Improvement for the Critical Thinking Outcome	21
Professional Readiness.....	21
Seeking Continuous Quality Improvement for the Professional Readiness Outcome	26
Quantitative Literacy	26
Seeking Continuous Quality Improvement for the Quantitative Literacy Outcome	31
Scientific Literacy	31
Indirect Assessment.....	36
Seeking Continuous Quality Improvement for the Scientific Literacy Outcome	37
Written Communication.....	37
Seeking Continuous Quality Improvement for the Written Communication Outcome.....	41
Conclusion.....	42

Tables and Figures

Table 1. Target performance level by ethnicity and credits for program-placed students, AY 2018-19	8
Table 2. Target performance level by ethnicity and credits for program-placed students, AY 2019-20	10
Table 3. Target performance level by gender and credits for program-placed students, AY 2018-2019	11
Table 4. Target performance level by gender and credits for program-placed students, AY 2019-2020	11
Table 5. Target performance level by ethnicity and credits for program-placed students, AY 2018-2019	16
Table 6. Target performance level by ethnicity and credits for program-placed students, AY 2019-2020	17
Table 7. Target performance level by gender and credits for program-placed students, AY 2018-2019	18
Table 8. Target performance level by gender and credits for program-placed students, AY 2019-2020	19
Table 9. Target performance level by ethnicity and credits for program-placed students, AY 2018-2019	23
Table 10. Target performance level by ethnicity and credits for program-placed students, AY 2019-2020	24
Table 11. Target performance level by gender and credits for program-placed students, AY 2018-2019	25
Table 12. Target performance level by gender and credits for program-placed students, AY 2019-2020	25
Table 13. Target performance level by ethnicity and credits for program-placed students, AY 2018-2019	28
Table 14. Target performance level by ethnicity and credits for program-place students, AY 2019-2020	29
Table 15. Percent success by gender and credits for program-placed students, AY 2018-2019	30
Table 16. Percent success by gender and credits for program-placed students, AY 2019-2020	30
Table 17. Percent success by ethnicity and credits for program-placed students, AY 2018-2019	33
Table 18. Percent success by ethnicity and credits for program-placed students, AY 2019-2020	34
Table 19. Target performance level by gender and credits for program-placed students, AY 2018-2019	35
Table 20. Target performance level by gender and credits for program-placed students, AY 2019-2020	36
Table 21. Percent success by ethnicity and credits for program-placed students, AY 2018-2019	38
Table 22. Percent success by ethnicity and credits for program-placed students, AY 2019-2020	39
Table 23. Percent success by gender and credits earned for program-placed students, AY 2018-2019.....	40
Table 24. Percent success by gender and credits earned for program-placed students, AY 2019-2020.....	41

Figure 1. Percent success of civic engagement assessment scores by course and semester.....8

Figure 2. Percent success of critical thinking assessment scores by course and semester..... 15

Figure 3. Percent success of professional readiness assessment scores by course and semester22

Figure 4. Percent success rates of quantitative literacy assessment scores by course and semester 27

Figure 5. Percent success of scientific literacy outcome assessments by semester.....32

Figure 6. Percent success of professional readiness assessment scores by course and semester38

Report on Assessment of Learning and Quality at John Tyler Community College 2018-2020

This report outlines the shared governance process that shaped our college's plan for outcomes assessment, a discussion of the findings from our pilot, changes and improvements made, and a discussion of the findings from the second year.

Outcomes Assessment, Reimagined

The State Board of Higher Education in Virginia (SCHEV) initiated a statewide revision of outcomes in 2016. The following year, in July 2017, SCHEV codified and published a final policy with four statewide student learning outcomes (Civic Engagement, Critical Thinking, Quantitative Reasoning, and Written Communication). The policy requires that colleges assess the four State-adopted outcomes and select two additional outcomes for assessment, for a total of six general education outcomes.

SCHEV required institutions to submit an institutional assessment plan for measuring these outcomes. Virginia Community College System (VCCS) colleges were given an extended period to develop and submit their institutional plans because the VCCS opted to select the additional two outcomes through a system-wide taskforce with faculty, administration, and staff representation from all 23 community colleges.

A representative from John Tyler Community College (Tyler) participated on the VCCS taskforce and on the subcommittee formed to write the Systemwide policy for general education. Taskforce updates were communicated to the College through committees, meetings, and to the College advisory board, and feedback was solicited throughout the process. Two additional outcomes were selected, Scientific Literacy and Professional Readiness, and one of the outcomes was renamed to Quantitative Literacy (from Quantitative Reasoning).

In the 2018-2019 academic year, the college's General Education Committee met to develop an assessment plan. The initial plan included piloting outcomes assessment in 12 high-enrolled courses that in the General Studies AS degree and also cross-pollinated across other two-year programs. When possible, selected courses were to be offered in at least 15 two-year programs, and enrolled both freshmen and/or sophomores. Lead faculty volunteered to pilot assessments, selecting, in many cases, assessments that were already being administered in their courses. In most cases, adjustments to the initial pilot assessments were minimal. Direct assessments included a lab activity, projects, quizzes, and embedded questions in tests.

Graduate testing and a student perception survey were both administered in Spring 2018, in anticipation of the roll-out, pertaining to the outcome, Civic Engagement. In Spring 2019, graduate testing and a student perception survey were administered to assess the outcome, Critical Thinking. In Spring 2020; however, no graduate testing or student survey was administered in response to COVID-19. In-class assessments continued to be administered during the temporary transition to all online instruction.

In Spring 2019, Tyler submitted its first institutional assessment plan to SCHEV. Subsequently, the college has updated the plan twice – once after its pilot (Spring 2019), and once in response to the COVID-19 global pandemic. The differences between the two revisions and the initial plan include (1) the adoption of new courses formally assessed has slowed in response to a Systemwide change in the learning management system from BlackBoard and Canvas in Summer and Fall 2019, which impacted faculty knowledge and skills in using the platform and how data was captured and reported initially, (2) the original plan, which included annual graduate testing and indirect collegewide surveys, has been scaled back in response to the COVID-19 pandemic, and (3) the VCCS is working with four-year colleges to align courses through TransferVA which has been reordering course numbers and, in some cases, impacting course content. In lieu of graduate testing and a collegewide survey in Spring 2020, focus shifted to improving student access as learning shifted to an online modality, enhancing the collegewide information technology infrastructure to accommodate this change, and the Office of Institutional Effectiveness (OIE) collaborated with faculty to collect data from outcomes assessments and report findings.

Based on faculty feedback, OIE also initiated an end of the semester collection period called data week. During data week, OIE, an interim associate dean in the largest academic division at Tyler, and the Center for Teaching and Learning were available to assist faculty with additional support, if needed, in retrieving data from the Canvas Learning Management System (LMS) and inputting the data in Google Sheets for each course. Data collected in Google Sheets was then analyzed by OIE and feedback was communicated to lead faculty to disseminate. Overall findings were communicated to the General Education Committee in May. This report includes the findings of the pilot (Spring 2019) and the first-year administration (2019-2020) of outcomes assessment. In the discussion below, non-specified, unknown, and other student groups are not discussed but their results are presented in the tables.

Civic Engagement

Per SCHEV and VCCS Policy 5.0.2.1, civic engagement is defined as the knowledge, skills, and ability to contribute to the civic life and well-being of local, national, and global communities as both a social responsibility and a life-long learning process. VCCS expects that two-year degree graduates

will demonstrate the knowledge and civic values necessary to become informed and contributing participants in a democratic society.

The Tyler General Education Committee identified three courses for formal civic engagement outcomes assessment. Two direct assessments were piloted in Spring 2019 (HIS 121, United States History to 1877; SOC 200, Principles of Sociology). One indirect assessment was piloted in Spring 2020 (REL 230, Religions of the World). As of 2019-2020, HIS 121 was offered in 20 programs at the college, SOC 200 was offered in 25 programs, and REL 230 was offered in 15 programs. The two direct assessments included a civic knowledge quiz (HIS 121) and an activity (SOC 200). The indirect assessment in REL 230 comprised a perception survey about the level of agreement among students that a project enhanced their knowledge about civic engagement through the exploration of other religions and cultures.

Students were deemed to have met the target performance level of a direct assessment if their final score measured the equivalent of a 70 or higher. Assessment scores were normalized against a 100-point scale to control for differences in the assessments' point values or to attribute a point value to an assessment whose credit value was dependent upon whether it was completed.

The target performance level is 75% of the students completing the assessment will earn a score of 70 or higher. In the analysis of data, student scores were disaggregated by outcome, course, gender, ethnic group, and status (i.e., freshman or sophomore).

Figure 1 shows the percent success by course and by semester. Scores decreased as the assessment began roll-out to additional sections and instructors, but with consistent communication and minor pedagogical changes, scores began to improve. For example, in SOC 200, lead faculty found they taught an additional optional chapter before the assessment was administered to provide additional context to the civic engagement outcome. By adjusting content to require all SOC 200 faculty cover the additional chapter, overall percent success improved.

Figure 1. Percent success of civic engagement assessment scores by course and semester

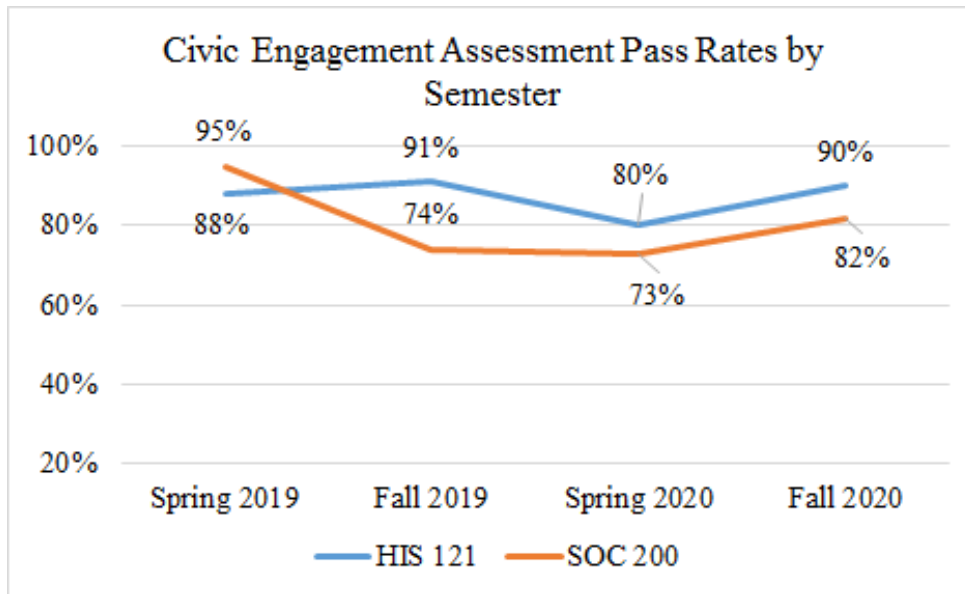


Table 1 shows target performance level met (success) or not met by ethnicity and credits completed in the 2018-2019 academic year. Table 2 shows success by ethnicity and credits earned for 2019-2020. As the assessment was rolled out to additional sections, there were increases in the rates of success among Black/African American students and decreases in success rates among Asian students in HIS 121. Hispanic/Latino student performance remained static. White/Caucasian student assessment success rates decreased over time yet remained above the threshold of acceptability of 75% or higher.

Table 1. Target performance level by ethnicity and credits for program-placed students, AY2018-19

Course	Ethnicity	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
HIS 121	Asian	Y	5	0	5	100%
		N	0	0	0	
	Black/African American	Y	13	1	14	78%
		N	3	1	4	
	Hispanic/Latino	Y	4	2	6	86%
		N	1	0	1	
	Non-specified	Y	0	0	0	0%
		N	1	0	1	
White/Caucasian	Y	39	16	55	92%	
	N	3	2	5		
SOC 200	Asian	Y	1	0	1	100%
		N	0	0	0	
		Y	2	1	3	100%

	Black/African American	N	0	0	0	
	Hispanic/Latino	Y	2	0	2	67%
		N	1	0	1	
	Non-specified	Y	1	0	1	100%
		N	0	0	0	
	Pacific Islander	Y	1	0	1	100%
		N	0	0	0	
	White/Caucasian	Y	15	14	29	97%
		N	0	1	1	

In SOC 200, success rates among Asian students remained static from one academic year to the next (Tables 1 and 2). Success rates among Black/African American students decreased, and success rates among Hispanic/Latino students increased. Pacific Islander success rates remained static, and Caucasian student success rates decreased, yet remained above the threshold of acceptability of 75% or higher.

Students were also more likely to enroll in HIS 121 and SOC 200 in their first 33 credits of enrollment. However, during AY 2019-2020, the exception to this was Hispanic/Latino students, who tended to enroll in the course after completing 33 credits or more. Of the Hispanic/Latino students who waited to enroll in HIS 121 until they earned 33 credits or more, all met the target performance level; approximately 2/3 of students who enrolled in their first 32 credits met the target performance level.

Tables 3 and 4 show success rates by gender and credits earned for program-placed students. In HIS 121, success rates remained similar, overall, for female students, and decreased for male students. Success rates were high in 2019-2020 for students with an unknown or unidentified gender and were not comparable to the year before. In SOC 200, success rates decreased for both female and male students. Students with an unknown or unidentified gender was 86% in 2019-2020; this rate is incomparable to the previous year due to lack of data.

Table 2. Target performance level by ethnicity and credits for program-placed students, AY2019-20

Course	Ethnicity	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success	
HIS 121	Asian	Y	7	5	12	86%	
		N	2	0	2		
	Black/African American	Y	42	7	49	84%	
		N	6	3	9		
	Hispanic/Latino	Y	20	40	60	86%	
		N	10	0	10		
	Non-specified	Y	13	0	13	87%	
		N	2	0	2		
	Other	Y	1	0	1	100%	
		N	1	0	1		
	White/Caucasian	Y	146	38	184	86%	
		N	20	9	29		
	SOC 200	American Indian/ Native American	Y	1	0	1	100%
			N	0	0	0	
Asian		Y	7	0	7	58%	
		N	4	1	5		
Black/African American		Y	28	6	34	67%	
		N	14	3	17		
Hispanic/Latino		Y	16	8	24	80%	
		N	5	1	6		
Non-specified		Y	4	1	5	83%	
		N	1	0	1		
White/Caucasian		Y	61	29	90	75%	
		N	27	3	30		
REL 230 (Indirect)		Asian	Y	2	0	2	100%
			N	0	0	0	
	Black/African American	Y	6	1	7	100%	
		N	0	0	0		
	Hispanic/Latino	Y	2	1	3	100%	
		N	0	0	0		
	Non-specified	Y	1	0	1	100%	
		N	0	0	0		
	Other	Y	0	2	2	100%	
		N	0	0	0		
	White/Caucasian	Y	11	3	14	100%	
		N	0	0	0		

Table 3. Target performance level by gender and credits for program-placed students, AY2018-2019

Course	Sex	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
HIS 121	Female	Y	36	8	44	83%
		N	7	2	9	
	Male	Y	25	11	36	95%
		N	1	1	2	
SOC 200	Female	Y	12	10	22	96%
		N	1	0	1	
	Male	Y	8	7	15	94%
		N	0	1	1	

Table 4. Target performance level by gender and credits for program-placed students, AY2019-2020

Course	Sex	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
HIS 121	Female	Y	137	41	178	82%
		N	30	8	38	
	Male	Y	83	13	96	87%
		N	10	4	14	
	Unknown	Y	9	0	9	90%
		N	1	0	1	
SOC 200	Female	Y	61	25	86	72%
		N	30	3	33	
	Male	Y	52	19	71	74%
		N	20	5	25	
	Unknown	Y	6	0	6	86%
		N	1	0	1	
REL 230 (Indirect)	Female	Y	15	8	23	100%
		N	0	0	0	
	Male	Y	5	0	5	100%
		N	0	0	0	
	Unknown	Y	1	0	1	100%
		N	0	0	0	

Percent success rates for the indirect assessment in REL 230 are presented in the tables in this section to show that students completed the survey, and the results are disaggregated by ethnicity, gender, and credits earned. A discussion of the results from the survey are presented in the proceeding section, Indirect Assessment, Course-Level Indirect Assessment: REL 230 Religions of the World.

Indirect Assessment

Collegewide Indirect Assessment

In 2018, our college administered a student perception survey related to the civic engagement competency. Student responses were used to determine if the College had provided experiences that supported development of the competency, and to help guide the selection of courses for assessment for the following year. Using the Indiana University-Purdue University at Indianapolis (IUPUI) Civic Minded Scale as the basis for its indirect assessment, we adjusted some questions to capture the two-year college experience, as opposed to a research university experience. The survey and presentation to the Tyler 21 college-wide committee are included in the supporting materials of this report.

When asked about the skills they gained through their experiences at the College, among non-dual enrollment students, the top five responses were the following:

- My experiences at Tyler have made me a better listener, even when others' opinions differ from my own.
- I believe I have a responsibility to use the knowledge I have gained at Tyler to serve others.
- Other students know me as a person that can discuss controversial issues with civility and respect.
- Based on my experiences at Tyler, I believe that my community is enriched by having some cultural or ethnic diversity.
- My experiences at Tyler have helped me develop my ability to respond to others with empathy, regardless of their background.

These responses matched the top five responses among our dual enrollment students, demonstrating congruency in the experiences of on-site and off-site students. After the data was analyzed, the results were shared with Tyler21, a college-wide committee, composed of teaching, administrative, and professional faculty. Of 1,047 useable responses, 625 (60%) responses were from non-dual college students, and 422 (40%) responses were from dual-enrollment off-campus students.

Focusing on the development of activities, experiences, and future direct assessments, the Tyler21 committee members targeted three dimensions of civic engagement to address: civic discourse, diversity in civic life, and civic responsibility. These areas were selected as a combination of areas where students may have scored reasonably high, but the committee felt could use further improvement (i.e., civic discourse, diversity in civic life), and areas where John Tyler students did not score as high (i.e., civic responsibility). During the 2018-2019 academic year, the General Education Committee focused on developing direct assessments in two high enrollment courses offered to on- and off-campus locations that captured at least two of these areas.

Course-Level Indirect Assessment: REL 230 Religions of the World

In Spring 2020, REL 230, Religions of the World piloted a third indirect civic engagement assessment. The indirect assessment in REL 230 comprised a perception survey about the level of agreement among students that a project enhanced their knowledge about civic engagement through the exploration of other religions and cultures. Question-level findings include the following:

- On question 1, “REL 230 has raised my awareness of global religious activity and diversity,” 75% of students (62 of 83) strongly agreed and 20% (17 of 83) agreed with the statement. On question 2, “REL 230 has raised my awareness of local religious activity and diversity,” 51% (42 of 83) strongly agreed and 35% (29 of 83) students agreed with the statement.
- On question 3, “REL 230 has demonstrated the connection between religion and the community,” 66% (55 of 83) strongly agreed and approximately 27% (22 of 83) agreed with the statement.
- On question 4, “REL 230 has helped me recognize the importance of interaction with communities outside of my own,” 66% of students (55 of 83) strongly agreed and approximately 27% (22 of 83) students agreed with the statement.
- On question 5, “REL 230 has encouraged self-reflection and critical analysis of my personal beliefs,” 58% (48 of 83) strongly agreed and 23% (19 of 83) agreed with the statement; 13% (11 of 83) gave a neutral response.
- On question 6, “REL 230 demonstrated the advantage of collaborative, democratic decision process in a group environment with peers,” 47% (39 of 83) students strongly agreed and 33% (27 of 83) students agreed with the statement; 13% (11 of 83) gave a neutral response.

Questions 5 and 6 had the highest numbers of neutral responses at 11 (13%) each. Statements of disagreement were fewer than 10 each for all questions.

Seeking Continuous Quality Improvement for the Civic Engagement Outcome

Based on the evidence collected through analysis of outcomes assessment, the following changes and improvements were made with the intention of improving student learning:

- Expanded assessment administration to 50% or more of sections to collect a larger sample of data,
- Developed a strategy to expand assessment administration to 75% of all sections,
- Initiated faculty-peer training,
- Focused teaching on providing more student supports on those challenging concepts identified in the previous year of assessment,
- Faculty elected to add required course content in SOC 200 with the intention of improving student learning based on the results of trending data,

- Increased communication between lead and supporting faculty,
- Faculty met with the Office of Institutional Effectiveness (OIE) to review the assessment results, and
- Faculty and OIE collaborated to improve data collection techniques to a process where faculty would download reports from Canvas and cut and paste the results into a Google Sheet for OIE, to reduce the potential error of faculty typing in the wrong score.

Critical Thinking

Per SCHEV and VCCS Policy 5.0.2.1, critical thinking is defined as the ability to use information, ideas, and arguments from relevant perspectives to make sense of complex issues and solve problems. Degree graduates will locate, evaluate, interpret, and combine information to reach well-reasoned conclusions or solutions.

The Tyler General Education Committee identified three courses for formal critical thinking outcomes assessment. Two direct assessments were piloted in Spring 2019 (CST 100, Principles of Public Speaking, and PHI 101, Introduction to Philosophy I). One additional direct assessment was piloted in Spring 2020 (PSY 200, Principles of Psychology). As of the 2019-2020 academic year, CST 100 was offered in 23 programs at the college, PHI 101 was offered in 12 programs, and PSY 200 was offered in 21 programs.

The pilot direct assessments (AY 2018-2019) included a final project (CST 100), and a quiz (PHI 101). A third direct assessment, a quiz, was added in PSY 200 as an additional assessment in the following year (2019-2020).

Students were deemed to have met the target performance level of a direct assessment if their final score measured the equivalent of a 70 or higher. Assessment scores were normalized against a 100-point scale to control for differences in the assessments' point values or to attribute a point value to an assessment whose credit value was dependent upon whether it was completed. The target performance level is 75% of the students completing the assessment will earn a score of 70 or higher. In the analysis of data, student scores were disaggregated by outcome, course, gender, ethnic group, and status (i.e., freshman or sophomore).

Figure 2 shows percent success rates by assessment and semester. Success rates in CST 100 have remained high, dipping once in the first roll-out semester after the spring pilot. Success rates in PHI 101 have continued to decline over four semesters. The PSY 200 assessment has slightly increased over two semesters; however, students have not yet met the target performance level for the assessment.

Figure 2. Percent success of critical thinking assessment scores by course and semester

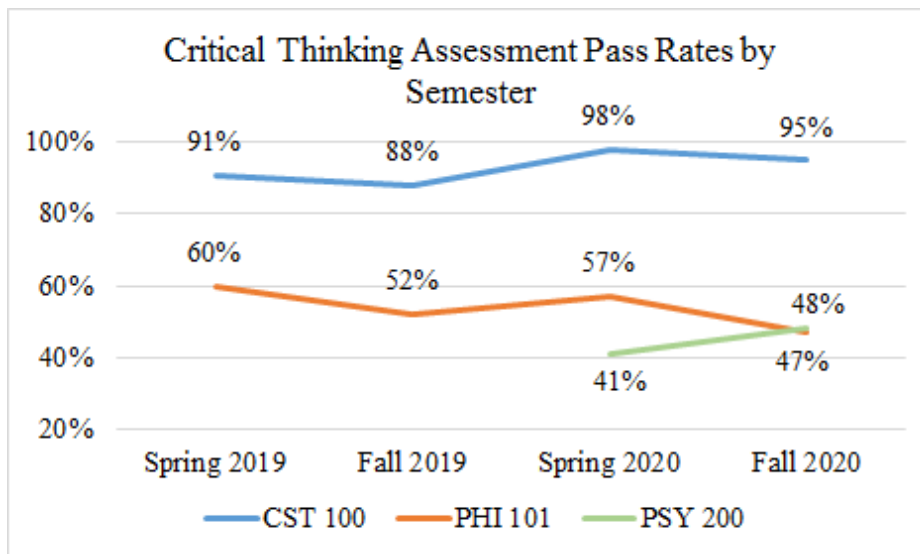


Table 5 shows assessment performance for the Spring 2019 pilot, where two courses administered critical thinking assessments. In CST 100, overall, success rates were high. For example, Hispanic/Latino (94% success) and Black/African American (87% success) students performed well on the assessment. The percentage of White/Caucasian students who met the target was 55%; so, the target performance level for this group was not met. White/Caucasian students who completed the assessment in their first 33 credits earned were also less likely to be successful on the assessment during the pilot. Also, overall, students were more likely to take the course and assessments in their first 33 credits earned.

Table 6 shows the percentage of success by course (assessment), credits earned, and by ethnicity. As CST 100 and PHI 101 assessments rolled out from the Spring 2019 pilot, more students completed the assessment; PSY 200 piloted their assessment in the 2019-2020 academic year. Performance increased among White/Caucasian students during the 2019-2020 academic year on the CST 100 assessment, from 55% to 94%. Performance increased slightly (3%) among Black/African American students on the CST 100 assessment over two years.

Performance dipped for Asian students (-7%) from 2018-2019 to 2019-2020, while numbers of students completing the assessment for this demographic group increased. For example, 3 Asian students completed the assessment in 2018-2019 and 13 completed it in 2019-2020. In 2018-2019, all Asian students met the target performance level (TPL) while in 2019-2020, only one student failed to meet the TPL. Among Hispanic/Latino students, results were comparable, based on the sample sizes: in AY 2018-2019, 16 students met the TPL on the CST 100 assessment and 1 student did not, and in AY 2019-2020, 32 students met the TPL on the CST 100 assessment and 2 did not.

Table 5. Target performance level by ethnicity and credits for program-placed students, AY2018-2019

Course	Ethnicity	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
CST 100	American Indian	Y	1	1	2	100%
		N	0	0	0	
	Asian	Y	2	1	3	100%
		N	0	0	0	
	Black/African American	Y	40	18	58	87%
		N	7	2	9	
	Hispanic/Latino	Y	14	2	16	94%
		N	1	0	1	
	Non-specified	Y	1	0	1	100%
		N	0	0	0	
	Other	Y	2	0	2	100%
		N	0	0	0	
	White/Caucasian	Y	96	42	138	55%
		N	112	3	115	
PHI 101	Asian	Y	3	0	3	75%
		N	1	0	1	
	Black/African American	Y	7	4	11	55%
		N	7	2	9	
	Hispanic/Latino	Y	1	1	2	33%
		N	2	2	4	
	Non-specified	Y	0	0	0	0%
		N	1	0	1	
	White/Caucasian	Y	32	16	48	80%
		N	9	3	12	

Comparing student performance on the PHI 101 assessment among Black/African American and Hispanic/Latino students over two academic years, 55% (11 of 20) Black/African American and 33% (2 of 6) Hispanic/Latino students met the TPL in AY 2018-2019. In 2019-2020, 33% (12 of 26) Black/African American and 69% (9 of 13) Hispanic/Latino students met the TPL. Decreased rates among Black/African American students were highest among students who completed the assessment within their first 33 credits (7 of 24). 80% of White/Caucasian (48 of 60) students met the TPL during the Spring 2019 pilot, and this decreased to a 58% success rate (47 of 81) in 2019-2020.

Table 6. Target performance level by ethnicity and credits for program-placed students, AY 2019-2020

Course	Ethnicity	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
CST 100	Asian	Y	11	2	13	93%
		N	1	0	1	
	Black/African American	Y	52	14	66	90%
		N	6	1	7	
	Hispanic/Latino	Y	32	6	38	95%
		N	2	0	2	
	Non-specified	Y	12	1	13	93%
		N	0	1	1	
	Other	Y	4	1	5	100%
		N	0	0	0	
	Pacific Islander	Y	2	0	2	67%
		N	1	0	1	
	White/Caucasian	Y	149	48	197	94%
		N	9	4	13	
PHI 101	Asian	Y	1	0	1	25%
		N	2	1	3	
	Black/African American	Y	7	5	12	33%
		N	17	7	24	
	Hispanic/Latino	Y	8	1	9	69%
		N	3	1	4	
	Non-specified	Y	1	1	2	50%
		N	2	0	2	
	Other	Y	1	0	1	100%
		N	0	0	0	
	Pacific Islander	Y	0	0	0	0%
		N	1	0	1	
	White/Caucasian	Y	35	12	47	58%
		N	24	10	34	
PSY 200	Asian	Y	2	0	2	100%
		N	0	0	0	
	Black/African American	Y	7	2	9	47%
		N	9	1	10	
	Hispanic/Latino	Y	5	0	5	63%
		N	3	0	3	
	Non-specified	Y	1	0	1	20%

		N	4	0	4	
Other		Y	0	0	0	0%
		N	1	1	2	
White/Caucasian		Y	21	8	29	100%
		N	0	0	0	

In 2019-2020, success rates on the PSY 200 assessment were lowest among Black/African American students (9 of 19) at 47% and Hispanic/Latino students (5 of 13) at 63%. Black/African American Students were more likely to enroll in the course in the first 33 credits (16 to 3) and Hispanic/Latino students exclusively enrolled in their first 33 credits. 100% of Caucasian students met the TPL; most enrolled in the course in their first 33 credits (21 to 8). Since the assessment was piloted in the 2019-2020 academic year, 2020-2021 data will be collected and analyzed to determine if similar trends exist as the assessment is rolled out.

Table 7 shows assessment performance by gender and credits earned for program-placed students for the first two courses piloting critical thinking assessments in 2018-2019. Table 8 shows assessment performance by gender and credits earned for program-placed students for three courses administering critical thinking assessments in 2019-2020 (PSY 200 piloted the assessment during the 2019-2020 academic year). For the CST 100 critical thinking assessment, the percent success rates between females (92%) and males (89%) were similar with only a 3% difference. There was a slightly larger discrepancy in the percent success rate for the PHI 101 critical thinking assessment in Table 7; however, more females completed the assessment.

Table 7. Target performance level by gender and credits for program-placed students, AY 2018-2019

Course	Gender	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
CST 100	Female	Y	85	41	126	92%
		N	9	2	11	
	Male	Y	70	24	94	89%
		N	9	3	12	
PHI 101	Female	Y	22	17	39	59%
		N	18	9	27	
	Male	Y	7	6	13	65%
		N	3	4	7	

Females were more likely to enroll in both courses in their first 33 credits. Males were only slightly more likely to enroll in PHI 101 in their first 33 credits and were more likely to enroll in CST 100 in their first 33 credits.

Comparing Tables 7 and 8, as the assessment in CST 100 were administered to additional sections, the percent success rates remained the same for females and males, even though, comparably, more females and males were enrolled in the course in their first 33 credits. Success rates decreased for both females and males in AY 2019-2020 by 10% for females and 8% for males with a slight increase in the administration of the assessment.

In AY 2019-2020, females and males performed similarly on the PSY 200 assessment. Both were more likely to enroll in the course in their first 33 credits. More data will need to be collected to determine if this is a trend.

Table 8. Target performance level by gender and credits for program-placed students, AY 2019-2020

Course	Gender	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
CST 100	Female	Y	158	48	206	95%
		N	8	2	10	
	Male	Y	95	23	118	89%
		N	11	4	15	
	Unknown	Y	9	1	10	100%
		N	0	0	0	
PHI 101	Female	Y	36	11	47	49%
		N	36	12	48	
	Male	Y	18	7	25	57%
		N	12	7	19	
	Unknown	Y	0	0	0	0%
		N	0	1	1	
PSY 200	Female	Y	14	2	16	42%
		N	19	3	22	
	Male	Y	12	3	15	42%
		N	14	7	21	
	Unknown	Y	1	0	1	20%
		N	4	0	4	

Indirect Assessment

Collegewide Indirect Assessment

In addition to direct assessment, a student perception survey was administered in Spring 2019. The Critical Thinking Perception Survey, developed by Paradise Valley Community College and modified for our college, highlights the critical thinking outcome. One general education outcome per year in a cycle is indirectly assessed by a student perception survey and on-site graduate test. Graduate testing is only available to those students completing a two-year degree. Unlike graduate testing, indirect

student perception surveys are available to all students at our college, regardless of credits earned. The mean scores (1-5) with 5 = Strongly Agree and 1 = Strongly Disagree.

The results of this analysis were shared with faculty and in college-wide committees. The scores were used to determine where new learning experiences would be most appropriate within the curricula. These scores were used to help guide the General Education Committee to select an additional high-enrollment course to assess under this competency, PSY 200, General Psychology, for a second 2019-2020 cohort.

Table 3. Mean scores by variable on the critical thinking student survey

Variable	Mean
<i>On a scale from 1 to 5, with 1 = Strongly Disagree and 5 = Strongly Agree, please indicate the extent to which you agree with the following statements about your skills and abilities. I feel confident in my ability to...</i>	
Interpret information produced by someone else.	4.25
Identify the assumptions or beliefs underlying a point of view.	4.25
Evaluate an author's/speaker's backgrounds, motives, and attitudes.	4.14
Identify and evaluate an author's strategies, purpose, perspective, and argument.	4.25
Understand points of view that differ from my own.	4.42
Describe, explain, and analyze multiple perspectives on an issue.	4.28
Draw a conclusion using multiple sources of information.	4.36
<i>On a scale from 1 to 5, with 1 = Strongly Disagree and 5 = Strongly Agree, please indicate the extent to which you agree with the following statements about John Tyler Community College's contribution to your skills and abilities. My experience, so far, at Tyler (including courses, clubs, events, etc.) has contributed to my ability to....</i>	
Interpret information produced by someone else.	4.13
Identify the assumptions or beliefs underlying a point of view.	4.08
Evaluate an author's/speaker's backgrounds, motives, and attitudes.	4.08
Identify and evaluate an author's strategies, purpose, perspective, and argument.	4.13
Understand points of view that differ from my own.	4.21
Describe, explain, and analyze multiple perspectives on an issue.	4.10
Draw a conclusion using multiple sources of information.	4.09
<i>Please indicate the extent to which you agree with the following statements:</i>	
My experience taking one or more classes through Tyler has improved my ability to evaluate evidence, arguments, and its use.	4.19

My experience taking one or more classes through Tyler has improved my ability to demonstrate an understanding of the language of argumentation and recognize linguistic (or language) cues.	4.01
My experience taking one or more classes through Tyler has improved my ability to recognize between a valid and invalid argument.	4.02
My experience taking one or more classes through Tyler has improved my ability to demonstrate an understanding of implications (involvement) and consequences (results or outcomes).	3.98
My experience taking one or more classes through Tyler has improved my ability to develop arguments that are valid and sound.	4.03

Seeking Continuous Quality Improvement for the Critical Thinking Outcome

Based on the evidence collected through analysis of critical thinking outcomes assessment, the following quality improvements were made –

- Expanded assessment administration to 50% of sections to collect a larger sample of data,
- Developed a strategy to expand assessment administration to 75% of all sections,
- Initiated faculty peer training,
- Focused teaching on more challenging concepts,
- Increased communication between lead and supporting faculty,
- Faculty met with the Office of Institutional Effectiveness to review the assessment results,
- Broke the questions into smaller chunks and converted the assessment into a multiple-choice format to mitigate potential errors in faculty interpretation of open responses,
- Performed an analysis correlating student performance to assessment tool changes, and
- Improved data collection techniques to downloading reports from Canvas and cutting and pasting into a Google Sheet, to reduce the potential error of faculty typing in the wrong score.

Professional Readiness

Per SCHEV and VCCS Policy 5.0.2.1, professional readiness is defined as the ability to work well with others and display situationally and culturally appropriate demeanor and behavior. Degree graduates will demonstrate skills important for successful transition into the workplace and pursuit of further education.

The Tyler General Education Committee identified two courses for formal professional readiness outcomes assessment. Two direct assessments were piloted in Spring 2019 (BUS 100, Introduction to Business, and PHI 220, Ethics). As of the 2019-2020 academic year, BUS 100 was offered in 9 programs at the college, and PHI 220 was offered in 25 programs.

The pilot direct assessments (AY 2018-2019) included a final project (BUS 100), and a quiz (PHI 220). A third assessment was added in HLT 216 in 2019-2020 as part of a second cohort of

assessments, and it was determined that the project was not scalable to a collegewide assessment. A third pilot assessment was added in Spring 2021 in SPA 101, Beginning Spanish I; results will be published in the 2020-2021 report.

Students were deemed to have met the target performance level of a direct assessment if their final score measured the equivalent of a 70 or higher. Assessment scores were normalized against a 100-point scale to control for differences in the assessments' point values or to attribute a point value to an assessment whose credit value was dependent upon whether it was completed.

The target performance level is 75% of the students completing the assessment will earn a score of 70 or higher. In the analysis of data, student scores were disaggregated by outcome, course, gender, ethnic group, and status (i.e., freshman or sophomore).

Figure 3 shows percent success rates by assessment and semester. Success rates in BUS 100 increased dramatically after the pilot. Success rates dipped temporarily in PHI 220 after the initial roll-out preceding the pilot and have increased since then.

Figure 3. Percent success of professional readiness assessment scores by course and semester

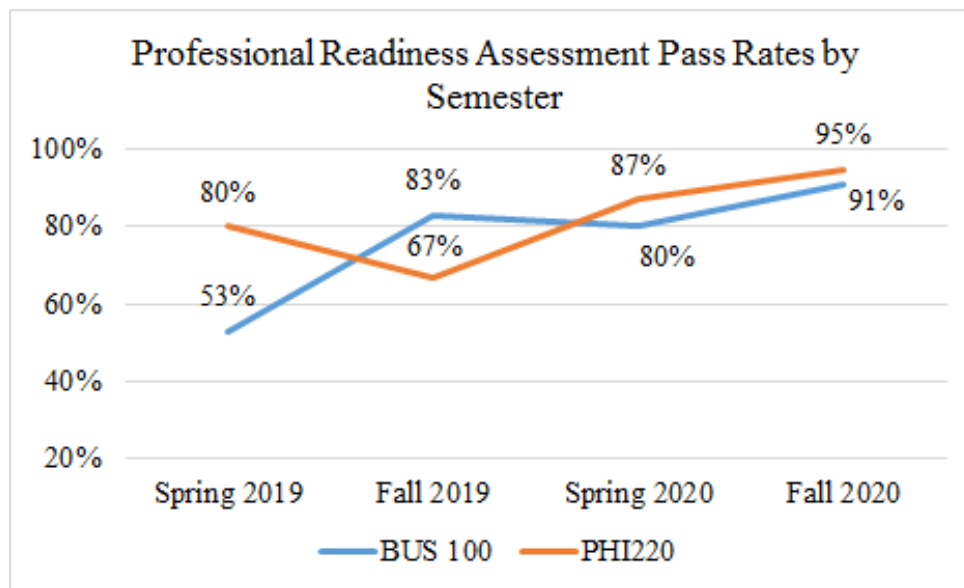


Table 9 shows the percentage of success by course (assessment), credits earned, and by ethnicity in the Spring 2019 pilot of the first cohort. Although there were small numbers of Black/African American and Hispanic/Latino students completing the pilot BUS 100 assessment, they were also the lowest performing groups. These students were also more likely to enroll in the course in their first 33 credits, as opposed to White/Caucasian students.

For the PHI 220 assessment, Hispanic/Latino students met the target performance level, while Black/African American students did not; both groups had small numbers of students completing the assessment, comparatively. These students were more likely to enroll in the course in their first 33 credits, while enrollment among White/Caucasian students was split.

Table 9. Target performance level by ethnicity and credits for program-placed students, AY2018-2019

Course	Ethnicity	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
BUS 100	Asian	Y	2	0	2	100%
		N	0	0	0	
	Black/African American	Y	8	1	9	43%
		N	11	1	12	
	Hispanic/Latino	Y	1	0	1	25%
		N	3	0	3	
	Non-specified	Y	1	0	1	100%
		N	0	0	0	
	White/Caucasian	Y	65	155	220	91%
		N	18	5	23	
PHI 220	Asian	Y	1	0	1	50%
		N	0	1	1	
	Black/African American	Y	7	2	9	69%
		N	3	1	4	
	Hispanic/Latino	Y	3	1	4	80%
		N	1	0	1	
	Non-specified	Y	1	0	1	100%
		N	0	0	0	
	White/Caucasian	Y	20	13	33	85%
		N	5	1	6	

Table 10 shows the percentage of success by course (assessment), credits earned, and by ethnicity in the second full year of the first cohort, AY 2019-2020. Overall, success rates have markedly increased in BUS 100 per group although Black/African American students are performing just below the target of 70%. Increased numbers of White/Caucasian students are completing the assessment in the first 33 credits with only a 2% decrease in performance. In 2019-2020, the success rates increased among Asian, Hispanic/Latino, and White/Caucasian students. Success rates among Black/African American students fell about 8% as the number of students taking the assessment approximately tripled.

Table 10. Target performance level by ethnicity and credits for program-placed students, AY 2019-2020

Course	Ethnicity	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
BUS 100	American Indian	Y	0	0	0	0%
		N	1	0	1	
	Asian	Y	13	2	15	79%
		N	4	0	4	
	Black/African American	Y	63	7	70	68%
		N	29	4	33	
	Hispanic/Latino	Y	24	2	26	76%
		N	8	0	8	
	Non-specified	Y	15	1	16	84%
		N	3	0	3	
	Other	Y	4	0	4	80%
		N	1	0	1	
	White/Caucasian	Y	167	46	213	89%
		N	20	5	25	
PHI 220	American Indian	Y	1	0	1	50%
		N	1	0	1	
	Asian	Y	8	2	10	91%
		N	0	1	1	
	Black/African American	Y	16	11	27	61%
		N	13	4	17	
	Hispanic/Latino	Y	8	5	13	72%
		N	4	1	5	
	Non-specified	Y	7	3	10	91%
		N	1	0	1	
	Other	Y	0	0	0	0%
		N	0	1	1	
	Pacific Islander	Y	1	0	1	100%
		N	0	0	0	
White/Caucasian	Y	67	24	91	75%	
	N	19	11	30		

Table 11 shows assessment performance as a function of gender and credits earned for the Spring 2019 pilot. In BUS 100, while neither females nor males met the target performance level of 75%, female success rates were almost twice that as males even though more males completed the assessment. Most students enrolled in the course and completed the assessment in their first 33 credits. In PHI 220, female students surpassed the target performance level of 75%. Most students enrolled in the course and completed the assessment in their first 33 credits.

Table 11. Target performance level by gender and credits for program-placed students, AY 2018-2019

Course	Gender	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
BUS 100	Female	Y	10	2	12	71%
		N	5	0	5	
	Male	Y	10	2	12	43%
		N	14	2	16	
PHI 220	Female	Y	23	14	37	86%
		N	6	2	8	
	Male	Y	9	2	11	73%
		N	3	1	4	

Table 12 examines assessment performance as a function of gender and credits earned for students in 2019-2020. Only female students completing the PHI 220 assessment did not meet the target performance level of 75% of students will earn a 70% or higher. Most students enrolled in these courses and completed the assessment in their first 33 credits, although the gap in the number of students in BUS 100 who were enrolled in their first 33 credits is greater than in PHI 220.

Table 12. Target performance level by gender and credits for program-placed students, AY 2019-2020

Course	Gender	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
BUS 100	Female	Y	111	32	143	81%
		N	26	7	33	
	Male	Y	166	25	191	82%
		N	39	2	41	
	Unknown	Y	9	1	10	91%
		N	1	0	1	
PHI 220	Female	Y	62	27	89	69%
		N	26	14	40	
	Male	Y	41	18	59	80%
		N	11	4	15	
	Unknown	Y	5	0	5	83%
		N	1	0	1	

Seeking Continuous Quality Improvement for the Professional Readiness Outcome

Based on the evidence collected through analysis of outcomes assessment of P-SLO 4, the following changes and improvements were made with the intention of improving student learning:

- Expanded assessment administration to 50% of sections to collect a larger sample of data,
- Developed a strategy to expand assessment administration to 75% of all sections,
- Initiated faculty peer training,
- Added a rubric to the assessment so students could see how their performance on the assessment would be measured,
- Focused teaching on more challenging concepts,
- Increased communication between lead and supporting faculty,
- Faculty met with the Office of Institutional Effectiveness to review the assessment results, and
- Improved data collection techniques to downloading reports from Canvas and cutting and pasting into a Google Sheet, to reduce the potential error of faculty typing in the wrong score.

Quantitative Literacy

Per SCHEV and VCCS Policy 5.0.2.1, quantitative literacy is defined as the ability to perform accurate calculations, interpret quantitative information, apply and analyze relevant numerical data, and use results to support conclusions. Degree graduates will calculate, interpret, and use numerical and quantitative information in a variety of settings.

The Tyler General Education Committee identified two initial courses for formal outcomes assessment in the first pilot academic year. Two direct assessments were piloted in Spring 2019 (MTH 154, Quantitative Reasoning and MTH 161, Precalculus I. In the 2019-2020, MTH 245, Statistics I was added. As of the 2019-2020 academic year, MTH 154 was offered in 24 programs at the college, MTH 161 was offered in 11 programs, and MTH 245 was offered in 11 programs.

The direct assessments (AY 2018-2019) included a series of questions selected from multiple tests (MTH 154) and select questions from a final comprehensive test (MTH 161). The third course, MTH 245, includes a final test as the assessment tool.

Students were deemed to have met the target performance level of a direct assessment if their final score measured the equivalent of a 70 or higher. Assessment scores were normalized against a 100-point scale to control for differences in the assessments' point values or to attribute a point value to an assessment whose credit value was dependent upon whether it was completed.

The target performance level is 70% of the students completing the assessment will earn a score of 70 or higher, a lower rate of success (5%) than the other outcomes. In the analysis of data, student scores

were disaggregated by outcome, course, gender, ethnic group, and status (i.e., freshman or sophomore).

Figure 4 shows the comparison of average assessment scores by course and semester for the outcome. Assessment success rates remain low for MTH 245 over three semesters. Success rates for MTH 154 dipped after the initial roll-out in Fall 2019 and again in Fall 2020. Success rates in MTH 161 increased markedly over four semesters as faculty made improvements to the assessment, communications with supporting faculty, mentoring, and adjustments to pedagogical practices.

Figure 4. Percent success rates of quantitative literacy assessment scores by course and semester

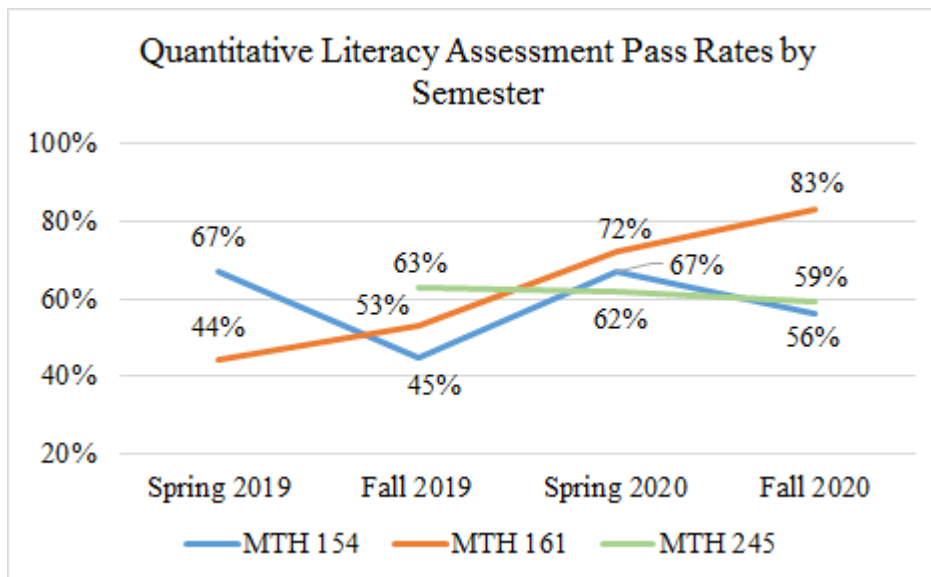


Table 13 shows student success rates by ethnicity and credits earned for program-placed students in the Spring 2019 pilot. While numbers of Asian student completing the MTH 154 assessment are low (n=8), there was a low success rate of 25%. There were larger numbers of Black/African American students completing the assessment in the pilot (n=74); however, the success rate was only twice the rate at 50%. Success rates were highest among Hispanic/Latino (n=23), Pacific Islander (n=1), and White/Caucasian (n=217). Most White/Caucasian, Black/African American, and Hispanic/Latino students enrolled in MTH 154 in their first 33 credits. In MTH 161, success rates in the pilot semester were low regardless of ethnicity; no group met the target performance level.

Table 13. Target performance level by ethnicity and credits for program-placed students, AY 2018-2019

Course	Ethnicity	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
MTH 154	American Indian	Y	1	1	2	100%
		N	0	0	0	
	Asian	Y	2	0	2	25%
		N	6	0	6	
	Black/African American	Y	29	8	37	50%
		N	25	12	37	
	Hispanic/Latino	Y	14	3	17	74%
		N	6	0	6	
	Non-specified	Y	4	1	5	100%
		N	0	0	0	
	Other	Y	1	0	1	50%
		N	1	0	1	
	Pacific Islander	Y	1	0	1	100%
		N	0	0	0	
White/Caucasian	Y	112	39	151	73%	
	N	45	11	56		
MTH 161	American Indian	Y	0	0	0	0%
		N	1	0	1	
	Asian	Y	5	2	7	58%
		N	4	1	5	
	Black/African American	Y	9	2	11	31%
		N	16	9	25	
	Hispanic/Latino	Y	6	0	6	38%
		N	9	1	10	
	Non-specified	Y	0	1	1	50%
		N	1	0	1	
White/Caucasian	Y	49	12	61	47%	
	N	44	24	68		

Table 14 examines assessment performance as a function of ethnicity and credits earned for students in 2019-2020. In MTH 154, no students met the target performance level. In MTH 161, two students who self-identified as American Indian met the target performance level; no others met the TPL. The same results were found for the MTH 245 assessment.

Table 14. Target performance level by ethnicity and credits for program-place students, AY2019-2020

Course	Ethnicity	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
MTH 154	American Indian	Y	1	0	1	50%
		N	1	0	1	
	Asian	Y	4	0	4	40%
		N	5	1	6	
	Black/African American	Y	44	7	51	35%
		N	76	17	93	
	Hispanic/Latino	Y	25	1	26	43%
		N	31	3	34	
	Non-specified	Y	29	6	35	64%
		N	16	4	20	
	Other	Y	2	2	4	40%
		N	6	0	6	
	Pacific Islander	Y	1	0	1	20%
		N	3	1	4	
	White/Caucasian	Y	130	25	155	47%
		N	154	22	176	
MTH 161	American Indian	Y	2	0	2	100%
		N	0	0	0	
	Asian	Y	13	2	15	63%
		N	8	1	9	
	Black/African American	Y	21	4	25	27%
		N	55	12	67	
	Hispanic/Latino	Y	16	1	17	44%
		N	21	1	22	
	Non-specified	Y	295	0	295	65%
		N	156	2	158	
	Other	Y	1	0	1	20%
		N	4	0	4	
	Pacific Islander	Y	0	0	0	0%
		N	3	0	3	
	White/Caucasian	Y	123	21	144	45%
		N	148	27	175	
MTH 245	American Indian	Y	1	0	1	100%
		N	0	0	0	
	Asian	Y	4	3	7	54%
		N	5	1	6	
	Black/African American	Y	12	9	21	62%
		N	3	10	13	
Hispanic/Latino	Y	6	8	14	64%	

		N	2	6	8	
	Non-specified	Y	9	4	13	65%
		N	3	4	7	
	Other	Y	0	1	1	50%
		N	1	0	1	
	Pacific Islander	Y	0	0	0	0%
		N	1	0	1	
	White/Caucasian	Y	46	54	100	65%

Table 15 shows assessment performance as a function of gender and credits for AY 2018-2019. While no students met the target performance level for either assessment, males in MTH 154 were closest to reaching the TPL of 70%.

Table 15. Percent success by gender and credits for program-placed students, AY 2018-2019

Course	Gender	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
MTH 154	Female	Y	113	36	149	66%
		N	60	16	76	
	Male	Y	51	16	67	69%
		N	23	7	30	
MTH 161	Female	Y	24	6	30	36%
		N	31	23	54	
	Male	Y	45	11	56	50%
		N	41	15	56	

Table 16 shows assessment performance as a function of gender and credits for AY 2019-2020. While percentage rates increased, no students met the target performance level (TPL). Females in MTH 245 came closest to the TPL of 70%.

Table 16. Percent success by gender and credits for program-placed students, AY 2019-2020

Course	Gender	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
MTH 154	Female	Y	142	24	166	43%
		N	189	27	216	
	Male	Y	69	14	83	43%
		N	90	18	108	
	Unknown	Y	25	3	28	64%
		N	13	3	16	
MTH 161	Female	Y	74	9	83	42%
		N	96	21	117	

	Male	Y	105	19	124	43%
		N	143	21	164	
	Unknown	Y	292	0	292	65%
		N	156	1	157	
MTH 245	Female	Y	46	41	87	67%
		N	17	25	42	
	Male	Y	31	28	59	58%
		N	12	31	43	
	Unknown	Y	7	4	11	65%
		N	4	2	6	

Seeking Continuous Quality Improvement for the Quantitative Literacy Outcome

Based on the evidence collected through analysis of outcomes assessment of P-SLO 4, the following changes and improvements were made with the intention of improving student learning –

- Expanded assessment administration to 50% of sections to collect a larger sample of data,
- Developed a strategy to expand assessment administration to 75% of all sections,
- Initiated faculty peer training,
- Added a rubric to the assessment so students could see how their performance on the assessment would be measured,
- Focused teaching on more challenging concepts,
- Increased communication between lead and supporting faculty,
- Faculty met with the Office of Institutional Effectiveness to review the assessment results, and
- Improved data collection techniques to downloading reports from Canvas and cutting and pasting into a Google Sheet, to reduce the potential error of faculty typing in the wrong score.

Scientific Literacy

Per SCHEV and VCCS Policy 5.0.2.1, scientific literacy is the ability to apply the scientific method and related concepts and principles to make informed decisions and engage with issues related to the natural, physical, and social world. Degree graduates will recognize and know how to use the scientific method, and to evaluate empirical information.

The Tyler General Education Committee identified two courses for formal scientific literacy outcomes assessment. Two direct assessments were piloted in Spring 2019 (BIO 101, General Biology I, and ENV 121, General Environmental Science I). As of the 2019-2020 academic year (AY), BIO 101 was offered in 23 programs at the college, and ENV 121 was offered in 12 programs. The pilot direct assessments (AY 2018-2019) included a quiz (BIO 101), and a laboratory activity (ENV 121). A third

assessment was added in PHY 101, Introduction to Physics I, in 2019-2020 as part of a second cohort of assessments. PHY 101 was offered in 13 programs as of AY 2019-2020.

Students were deemed to have met the target performance level of a direct assessment if their final score measured the equivalent of a 70 or higher. Assessment scores were normalized against a 100-point scale to control for differences in the assessments' point values or to attribute a point value to an assessment whose credit value was dependent upon whether it was completed.

The target performance level is 75% of the students completing the assessment will earn a score of 70 or higher. In the analysis of data, student scores were disaggregated by outcome, course, gender, ethnic group, and status (i.e., freshman or sophomore).

Figure 5. Percent success of scientific literacy outcome assessments by semester

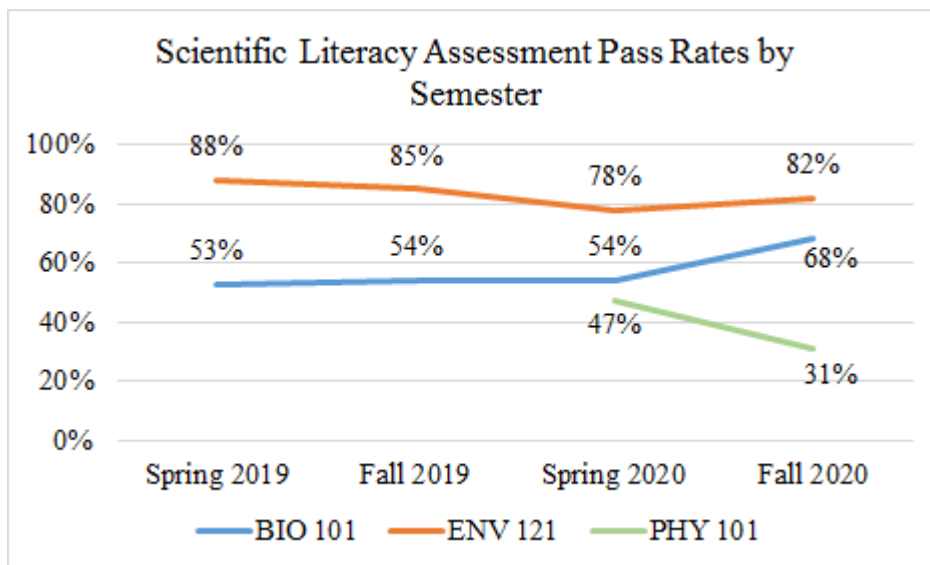


Figure 5 shows the percent success rates of the direct scientific literacy outcome assessments from Spring 2019 through Fall 2020. Target performance levels (TPLs) were met for ENV 121 over four semesters, even though it dipped as the assessment rolled out across all sections. While success rates improved over four semesters, the TPL in BIO 101 was not met. The TPL for PHY 101 has decreased over two semesters; it has not yet been met.

Table 17 shows the percent success rates by assessment, ethnicity, and credits earned during the pilot in Spring 2019. In BIO 101, while sample sizes for some groups were notably smaller, in comparison, Pacific Islander (n=1) had the highest percent success rate, followed by Other (67%, n=3), White/Caucasian (59%, n=244) and Asian (56%, n=9). The majority of BIO 101 students enrolled in the course in their first 33 credits. In ENV 121, all groups met the target performance level (TPL)

except Asian students (67%, n=3). There was a split in students enrolling in ENV 121 in their first 33 credits (n=61) or more than 33 credits earned (n=66).

Table 17. Percent success by ethnicity and credits for program-placed students, AY 2018-2019

Course	Ethnicity	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
BIO 101	Asian	Y	4	1	5	56%
		N	3	1	4	
	Black/African American	Y	14	5	19	32%
		N	24	17	41	
	Hispanic/Latino	Y	8	5	13	46%
		N	11	4	15	
	Non-specified	Y	1	0	1	34%
		N	0	2	2	
	Other	Y	2	0	2	67%
		N	1	0	1	
	Pacific Islander	Y	0	1	1	100%
		N	0	0	0	
White/Caucasian	Y	81	52	133	59%	
	N	58	33	91		
ENV 121	American Indian	Y	0	2	2	100%
		N	0	0	0	
	Asian	Y	2	0	2	67%
		N	0	1	1	
	Black/African American	Y	11	10	21	81%
		N	2	3	5	
	Hispanic/Latino	Y	1	3	4	80%
		N	1	0	1	
	Non-specified	Y	0	1	1	100%
		N	0	0	0	
	White/Caucasian	Y	41	39	80	91%
		N	1	7	8	

Table 18 shows the percent success rates by assessment, ethnicity, and credits earned during AY 2019-2020. PHY 101, Introduction to Physics I, was added as a third pilot that year, so there were three courses directly assessing the scientific literacy outcome in AY 2019-2020.

As the assessment rolled out to larger numbers of BIO 101 students in its second year, no groups met the target performance level (TPL). The highest percent success was among Non-specified (62%, n=86), White/Caucasian (59%, n=538), and Asian (56%, n=39). In BIO 101, while sample sizes for some groups were notably smaller, in comparison, Pacific Islander (n=1) had the highest percent success rate, followed by Other (67%, n=3), White/Caucasian (59%, n=244) and Asian (56%, n=9). Lowest percent success rates were among American Indian (34%, n=3), Black/African American (37%, n=155), and Hispanic/Latino (44%, n=87). In the prior year, Black/African American students

had the lowest percent success at 32% (n=60), so there was a small increase in AY 2019-2020. (Table 17). Students were more likely to enroll in BIO 101 in their first 33 credits in a ratio of 1:3.

In ENV 121, the highest rates of success were among Hispanic/Latino (100%), White/Caucasian (84%), and Asian (80%) students. All groups performed at the target performance level of at least 75% of students will earn a 70% or higher. Black/African American students performed below the target performance level (50%). Proportionally, more Black/African American students enrolled in the course in their first 33 credits than in the other student groups. White/ Caucasian students tended to enroll in the course after earning their first 33 credits.

In PHY 101, Asian students (n=2) had 100% success. Other student groups did not perform at the TPL. All students tended to enroll in the course within their first 33 credits earned.

Table 18. Percent success by ethnicity and credits for program-placed students, AY 2019-2020

Course	Ethnicity	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
BIO 101	American Indian	Y	1	0	1	34%
		N	1	1	2	
	Asian	Y	16	6	22	56%
		N	13	4	17	
	Black/African American	Y	41	16	57	37%
		N	67	31	98	
	Hispanic/Latino	Y	30	8	38	44%
		N	39	10	49	
	Non-specified	Y	50	3	53	62%
		N	29	4	33	
	Other	Y	2	1	3	50%
		N	3	0	3	
	Pacific Islander	Y	3	0	3	50%
		N	3	0	3	
White/Caucasian	Y	238	81	319	59%	
	N	163	56	219		
ENV 121	Asian	Y	2	2	4	80%
		N	0	1	1	
	Black/African American	Y	14	7	21	50%
		N	13	8	21	
	Hispanic/Latino	Y	4	4	8	100%
		N	0	0	0	
Non-specified	Y	11	0	11	100%	
	N	0	0	0		

	Other	Y	1	0	1	100%
		N	0	0	0	
	White/Caucasian	Y	45	88	283	84%
		N	12	6	53	
PHY 101	Asian	Y	2	0	2	100%
		N	0	0	0	
	Black/African American	Y	0	0	0	0%
		N	3	1	4	
	Hispanic/Latino	Y	2	1	3	43%
		N	2	2	4	
	Non-specified	Y	0	1	1	100%
		N	0	0	0	
	White/Caucasian	Y	27	5	32	41%
		N	37	10	47	

Table 19 examines assessment performance as a function of gender and credits earned for students in AY 2018-2019. In BIO 101, males had a higher percent success rate than females, although neither group met the target performance level (TPL). In ENV 121, both females and males had similar rates of success and met the TPL.

Table 19. Target performance level by gender and credits for program-placed students, AY 2018-2019

Course	Gender	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
BIO 101	Female	Y	60	34	94	48%
		N	61	41	102	
	Male	Y	50	30	80	61%
		N	34	18	52	
ENV 121	Female	Y	31	26	57	89%
		N	2	5	7	
	Male	Y	24	29	53	87%
		N	3	5	8	

Table 20 examines assessment performance as a function of gender and credits earned for students in AY 2019-2020. In BIO 101, females and males had similar rates of success, and both groups performed below the target performance level (TPL) of 75%. In ENV 121, males (83%) scored slightly higher than females (79%), although both groups met the target performance level. In PHY 101, females (50%) had slightly higher rates of success than males (43%), although neither group met the TPL.

Table 20. Target performance level by gender and credits for program-placed students, AY 2019-2020

Course	Gender	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
BIO 101	Female	Y	198	64	262	51%
		N	181	68	249	
	Male	Y	137	49	186	56%
		N	113	36	149	
	Unknown	Y	46	2	48	65%
		N	24	2	26	
ENV 121	Female	Y	51	32	83	79%
		N	17	5	22	
	Male	Y	59	26	85	83%
		N	8	10	18	
	Unknown	Y	10	0	10	100%
		N	0	0	0	
PHY 101	Female	Y	7	1	8	50%
		N	6	2	8	
	Male	Y	4	2	6	43%
		N	6	2	8	

Indirect Assessment

Collegewide Indirect Assessment

Analysis from an exploratory scientific literacy assessment (i.e. Lawson Test of Scientific Reasoning), administered in 2016-2017 as the general education competencies were being selected, in BIO 101 and BIO 102, resulted in faculty opting to choose BIO 101 as one of the courses to assess later for the scientific literacy competency, since there were students from multiple programs, student populations, with different numbers of credits earned (i.e., first or second year), locations (on- and off-site, and course modalities (face-to-face, hybrid, and online). Students completing the initial indirect scientific literacy assessment in the General Studies AS/General Education Certificate scored lower, on average, than all program-placed college, and dual enrollment students, so their success and improvement became a focus of assessment.

The Lawson Classroom Test of Scientific Reasoning (LCTSR) was used as the basis for the test, with minimal modifications. This test is a popular assessment instrument for scientific reasoning and has good overall reliability. This assessment was administered to help the college determine student performance and to select courses for improvement and assessment. The mean score for the General Studies Associate of Science degree and the General Education Certificate was 10.32, the mean course grade for both programs was 2.13, and the mean GPA for both programs was 2.69. The comparison

mean score among all programs sampled; however, was 12.23. This sample included technical and science-related degrees; these are degree programs in which students tend to score higher.

Seeking Continuous Quality Improvement for the Scientific Literacy Outcome

Based on the evidence collected through analysis of outcomes assessment of P-SLO 6, the following changes and improvements were made with the intention of improving student learning:

- Expanded assessment administration to 50% of ENV 121 sections (with plans to expand further in the following year) and 100% of BIO 101 sections to collect larger samples of data,
- Included a rubric in the ENV 121 lab activity so that students could see how they would be assessed,
- Initiated faculty peer training,
- Focused teaching on more challenging concepts,
- Plan to solicit student feedback,
- Increased communication between lead and supporting faculty,
- Faculty met with the Office of Institutional Effectiveness to review the assessment results, and
- Improved data collection techniques to downloading reports from Canvas and cutting and pasting into a Google Sheet, to reduce the potential error of faculty typing in the wrong score.

Written Communication

Per SCHEV and VCCS Policy 5.0.2.1, written communication is defined as “the ability to develop, convey, and exchange ideas in writing, as appropriate to a given context and audience. Degree graduates will express themselves effectively in a variety of written forms.”

The General Education Committee identified three courses for assessment: ENG 112, English Composition II; HIS 122, United States History from 1877; and ENG 241, Survey of American Literature. ENG 112 and HIS 122 were piloted in AY 2018-2019, and ENG 241 was piloted in the following academic year. ENG 112 was offered in 28 programs, HIS 122 was offered in 20 programs, and ENG 241 was offered in 16 programs during the academic years administered.

Figure 6 shows the percent success rates of written communication assessments by course and semester. All assessments were a writing assignment, evaluated by a rubric. The target performance level (TPL) was met in HIS 122 and ENG 241 from the pilot semester to the subsequent semester; however, the percent success rate was not met in HIS 122 in Fall 2020 (This will be discussed in more detail in the next report.). As of AY 2019-2020, the TPL has not been met in ENG 112.

Figure 6. Percent success of professional readiness assessment scores by course and semester

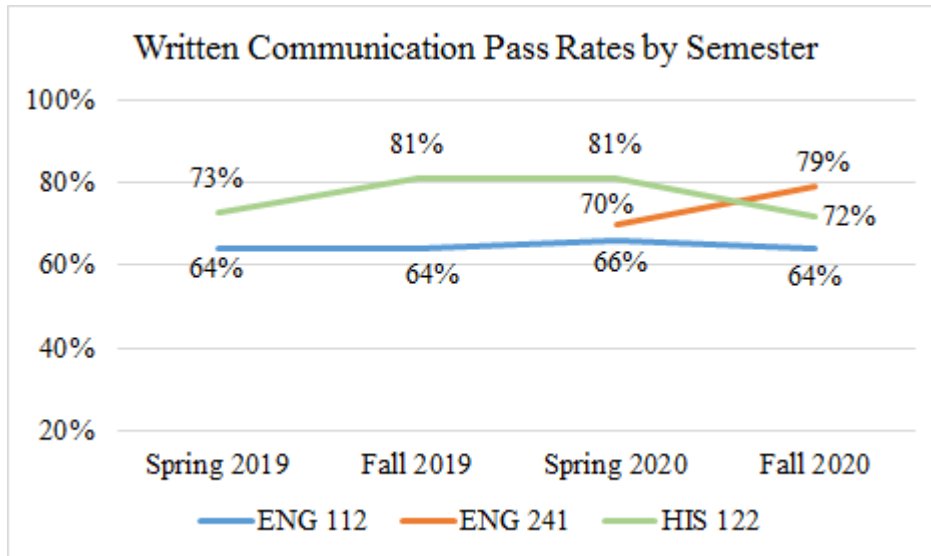


Table 21 shows the percent success rates by assessment, ethnicity, and credits earned during the pilot in Spring 2019. In the pilot year, all student groups except one (i.e., Asian students; n=3) in ENG 112 met the target performance level of 75%. 60 students who took the assessment were enrolled in ENG 112 in their first 33 credits, and 65 students had earned 33 or more credits.

In HIS 122, Black/African American students (89%) met the target performance level (TPL) of 75% while the other student groups did not. White/Caucasian students were close to the TPL at 73%. 39 students completed the course within their first 33 credits, and 20 students assessed had earned 33 credits or more.

Table 21. Percent success by ethnicity and credits for program-placed students, AY 2018-2019

Course	Ethnicity	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
ENG 112	American Indian	Y	0	2	2	100%
		N	0	0	0	
	Asian	Y	2	0	2	67%
		N	1	0	1	
	Black/African American	Y	11	10	21	81%
		N	2	3	5	
	Hispanic/Latino	Y	1	3	4	80%
		N	1	0	1	
	Non-specified	Y	0	1	1	100%
		N	0	0	0	
White/Caucasian	Y	41	39	80	91%	

HIS 122	Asian	N	1	7	8	50%
		Y	1	0	1	
	Black/African American	N	1	0	1	89%
		Y	3	5	8	
	Hispanic/Latino	N	1	0	1	67%
		Y	1	1	2	
	Pacific Islander	N	1	0	1	0%
		Y	0	0	0	
	White/Caucasian	N	0	1	1	73%
		Y	21	11	32	
	N	10	2	12		

Table 22 shows the percent success by ethnicity and credits earned for program-placed students during AY 2019-2020. There were three assessments administered. In ENG 112, American Indian (n=2) and Asian (n=20) student groups met the target performance level (TPL) of 75%. Latino students (n=53) almost met the TPL at 72%.

Table 22. Percent success by ethnicity and credits for program-placed students, AY 2019-2020

Course	Ethnicity	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
ENG 112	American Indian	Y	2	0	2	100%
		N	0	0	0	
	Asian	Y	13	4	17	85%
		N	2	1	3	
	Black/African American	Y	56	11	67	52%
		N	57	6	63	
	Hispanic/Latino	Y	33	5	38	72%
		N	15	0	15	
	Non-specified	Y	41	0	41	66%
		N	19	2	21	
	Other	Y	5	0	5	63%
		N	3	0	3	
	Pacific Islander	Y	1	0	1	50%
		N	1	0	1	
White/Caucasian	Y	232	26	258	68%	
	N	102	19	121		
ENG 241	Asian	Y	0	0	0	0%
		N	1	0	1	
	Black/African American	Y	6	7	13	62%
		N	3	5	8	
	Hispanic/Latino	Y	5	2	7	88%
		N	1	0	1	
	Non-specified	Y	2	0	2	100%
		N	0	0	0	
	Other	Y	0	1	1	100%
		N	0	0	0	

	White/Caucasian	Y	30	20	50	56%
		N	25	15	40	
HIS 122	Asian	Y	3	0	3	75%
		N	1	0	1	
	Black/African American	Y	11	5	16	70%
		N	4	3	7	
	Hispanic/Latino	Y	11	2	13	81%
		N	3	0	3	
	Non-specified	Y	4	0	4	100%
		N	0	0	0	
	White/Caucasian	Y	43	17	60	85%
		N	7	4	11	

In ENG 241, Hispanic/Latino (n=88) students met the TPL at 88%. Most of these students completing the assessment enrolled in ENG 241 in their first 33 credits. One Asian student completed the assessment unsuccessfully, and Caucasian students (n=90) had the second lowest performance at 56%.

In HIS 122, Asian (75%), Hispanic/Latino (81%), and White/Caucasian (85%) met the TPL. Black/African American students scored 5% under the TPL, an almost 20% decrease from the previous year. While numbers of students completing the assessment increased from the previous year, as the assessment rolled out to additional sections, Black/African American students were almost evenly split in 2018-2019 between having completed less than 33 credits, or 33 credits or more. In 2019-2020; however, these students were twice as likely to have completed the assessment having completed less than 33 credits.

Table 23 examines assessment performance as a function of gender and credits earned for students in AY 2018-2019. Student performance was similar by gender for ENG 112, with females at 64% and males at 65%. In HIS 122, males (95%) performed higher on the assessment compared to females (83%), although both student groups met the TPL.

Table 23. Percent success by gender and credits earned for program-placed students, AY 2018-2019

Course	Sex	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
ENG 112	Female	Y	115	9	124	64%
		N	70	1	71	
	Male	Y	70	12	82	65%
		N	42	2	44	
HIS 122	Female	Y	36	8	44	83%
		N	7	2	9	
	Male	Y	25	11	36	95%
		N	1	1	2	

Table 24 examines assessment performance as a function of gender and credits earned for students in AY 2019-2020. In ENG 112, student performance was comparable and no student groups met the TPL. Students tended to enroll in the course and complete the assessment in their first 33 credits, similarly to 2018-2019. In ENG 241, males (72%) performed slightly higher than females (68%), although neither student group met the TPL. In HIS 122, females (85%) performed higher than males (74%); females met the TPL. This is a flip from the previous year, where males performed higher.

Table 24. Percent success by gender and credits earned for program-placed students, AY 2019-2020

Course	Sex	Met Target Performance Level	Less than 33 credits earned	33 or more credits earned	Total	% Success
ENG 112	Female	Y	199	22	221	63%
		N	111	17	128	
	Male	Y	144	24	168	67%
		N	71	11	82	
	Unknown	Y	40	0	40	70%
		N	17	0	17	
ENG 241	Female	Y	28	20	48	68%
		N	9	14	23	
	Male	Y	13	10	23	72%
		N	4	5	9	
	Unknown	Y	2	0	2	100%
		N	0	0	0	
HIS 122	Female	Y	46	14	60	85%
		N	7	4	11	
	Male	Y	22	10	32	74%
		N	8	3	11	
	Unknown	Y	4	0	4	100%
		N	0	0	0	

Seeking Continuous Quality Improvement for the Written Communication Outcome

Based on the evidence collected through analysis of outcomes assessment, our faculty made the following changes with the intention of improving student learning:

- Expanded assessment administration from 50% to 100% of sections to collect a larger sample of data to evaluate,
- Faculty initiated faculty-peer training,
- Faculty revised the rubrics for two courses to better capture the expectations of the assignment and outcome,

- Faculty focused teaching on providing more student supports for challenging concepts uncovered in the analysis of previous assessments,
- Increased communication between lead and supporting faculty,
- Faculty met with the Office of Institutional Effectiveness to review the assessment results, and
- Faculty and OIE collaborated to improve data collection techniques to a process where faculty would download reports from Canvas and cut and paste the results into a Google Sheet for OIE, to reduce the potential error of faculty typing in the wrong score.

Conclusion

Per the State Council of Higher Education for Virginia (SCHEV) Policy on Student Learning Assessment and Quality in Undergraduate Education, the Virginia Community College System (VCCS) Policy 5.0.2 General Education, and the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Principles of Accreditation 8.2a, our college assesses, documents, and makes data-informed changes and improvements tied to academic assessment of the general education competencies. We performed exploratory indirect assessments for scientific literacy (2016-2017), civic engagement (2017-2018), and critical thinking (2018-2019) to help select appropriate courses for direct assessment. Faculty administer assessments, collect data, and share results with the Office of Institutional Effectiveness (OIE) for analysis. Once the analysis is complete, OIE shares its findings with faculty, who determine what changes and improvements should be made to promote student learning.

Assessment results are communicated within the academic departments, and amongst college-wide committees. Results are reported to SACSCOC, the VCCS, and SCHEV. Results may also be reported in annual academic assessment reports and in five-year comprehensive program reviews, as appropriate.