Technology Literacy Assessment
Spring 2021

Method

Technology Literacy was assessed by course instructors through the completion of rubrics on a sampling of their students' work. Fourteen courses were selected for the assessment using a stratified random sampling method to ensure that courses from each of the academic departments were represented (see Table 1). These courses were included in the sampling process based upon programs' course mapping to the Technology Literacy General Education Goal. The 14 courses comprised 57 individual classes. Four students from each class of the selected courses were randomly chosen for assessment, for a total of 228 students.

Instructors were initially notified of their class's inclusion in the assessment with an email sent within the first month of the semester. This notice informed the instructors of the goal that was to be assessed, and that they would be asked to assess a sample of student work that demonstrated the skills represented in that goal. They were further asked to await specific instructions in an additional, forthcoming email notice.

The second notice was sent three weeks after the first notice from the Qualtrics online survey system. This email contained full assessment instructions and a link to an online survey. Also included in the email was a link to an informational video clip describing the general education assessment process and the names of the students whom had been randomly selected from their class section.

 Reminder emails that contained the survey link were sent to faculty members whom had not yet responded approximately two weeks before the due date for submission, and again the week before the due date. The second reminder email was sent directly from the assessment@hacc.edu email account instead of through Qualtrics in an effort to avoid survey emails being diverted to spam email boxes. Submissions were due after final exams, on the same day that final grades

were to be submitted. At the close of the assessment, results were downloaded from the survey software for analysis.

The survey was developed in Qualtrics survey software. Upon clicking on the link in the email notices, instructors were taken into the online survey and presented first with an instruction page containing the text of the general education outcome and the details of the selected class section. The survey was then separated into four parts; one for each of the randomly selected students. Each section listed the name of the selected student and began with an item to indicate whether work from the student was available, with selection options to indicate why the work may be unavailable for assessment.

If student work was available for assessment, the survey continued on to the assessment rubric. The analytic rubric assessed students on three criteria; demonstrate knowledge of appropriate technology terminology, application of appropriate technology, and selection of appropriate technology. These criteria were rated on a four-point scale, ranging from 0, entry, to 3, advanced. The survey also included an option to mark any criterion as not applicable if the student work did not contain any elements that could be assessed for that criterion. After the completion of the rubric, instructors were asked to indicate if the assignment used for the assessment required critical thinking. This question was included in order to facilitate the separate analysis of the general education critical thinking goal. Finally, instructors were asked to describe the assignment that they had used to assess their students' technology literacy. This question was included in order to assist instructors in selecting appropriate assignments for the assessment of technology literacy in the future.

Course	Number of Classes
ART 205	1
BIOL 101	7
CHEM 203	2
CISE 200	2
CJ 108	3

COMM 110	2
COMM 203	10
CPS 121	4
HUMS 100	4
IA 213	2
NURS 142	15
PHYS 211	1
PLGL 101	1
PSYC 241	3

Table 1. Courses selected for assessment of technology literacy

Results

Technology Literacy

Completed rubrics were submitted for 126 students (55.26%). Surveys could not be completed for 24 (10.53%) of the selected students because the students either dropped the course or did not turn in the assignment that was chosen for assessment. The instructors of 39 students (17.11%) reported that artifacts could not be submitted because their course did not teach or assess technology literacy. The remaining incomplete surveys (39 (17.11%)) could not be accounted for or were not submitted for other reasons. Rubric scores for the assessed students are shown in Table 2.

Table 2. Frequency table of rubric scores for all assessed students

Criteria	3- Advanced	2-Established	1- Developing	0- Entry	Mean (SD)
Knowledge of technology terminology	39(33.05%)	74(62.71%)	5(4.24%)	0	2.29(.54)
Application of appropriate technology	31(25.62%)	82(67.77%)	8(6.61%)	0	2.19(.54)
Selection of appropriate technology	31(25.62%)	81(66.94%)	8(6.61%)	1(0.83%)	2.17(.57)

All three of the criteria for Technology Literacy reached proficiency. Mean scores between the criteria showed little variability, with the mean for the "knowledge of technology terminology" criterion being the highest with a mean of 2.29 (0.54), and the mean for the "selection of appropriate technology" criterion being the lowest, with a mean of 2.17 (0.57).

Critical Thinking

In order to assess critical thinking within the Technology Literacy goal, all student scores that were indicated to have been assessed using an assignment that required critical thinking were pulled from the sample and assessed separately. Only the "application of appropriate technology' Technology Literacy rubric criterion was determined to require critical thinking at the 2 (established) and 3 (advanced) levels. Thus, frequencies of rubric scores for submitted assignments were evaluated at these levels. The criteria for successfully achieving the Critical Thinking goal was set at 70% of samples scoring at level 2 or 3. Instructors for 124 of the sampled students (54.39%) indicated that the assignment they used for the assessment required critical

thinking. Artifacts were scored on the "application of appropriate technology" criterion from 96 of these students. Rubric scores from these artifacts are shown below in Table 3.

Table 3. Rubric scores for assignments requiring critical thinking

Criteria	3- Advanced	2-Established	1- Developing	0- Entry	Mean (SD)
Application of appropriate technology	29(30.21%)	63(65.63%)	4(4.17%)	0	2.26(0.53)

The Technology Literacy criterion determined to require critical thinking reached over 70% of samples scoring at levels 2 or 3, thus achieving proficiency for the Critical Thinking goal.