

General Education Assessment Report

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Assessment Methods

Electronic portfolios are increasingly being used to document student learning in higher education. For this assessment cycle, we were primarily interested in examining the extent to which ePortfolios can be used to characterize whether graduating students are meeting Salt Lake Community College's (SLCC) General Education learning outcomes, whether the General Education program is offering students opportunities to progress towards those outcomes, and whether and to what extent that program provides students with an integrated General Education.

Our Institutional Research Office pulled a sample of 160 students who graduated in May 2014, and who did not transfer in any external credits for their A.A. or A.S. degrees. This ensured that we were looking at students who completed all of their General Education coursework at SLCC instead of at other institutions. From that pool of 160 students, we selected the first 100 students who had ePortfolios accessible in our Banner system. This collection of 100 ePortfolios from graduating A.A. and A.S. students became the sample for the assessment study.

We assessed General Education outcomes using a holistic ePortfolio rubric that is an amalgamation of our own internal measures and modified components of the AAC&U Valid Assessment of Learning in Undergraduate Education (VALUE) rubrics. Further information regarding the AAC&U's VALUE rubrics can be found here: <http://www.aacu.org/value/rubrics>.

We assembled the twelve 2-person assessment teams (see Acknowledgements for teams) to examine all 100 ePortfolios. Each assessment team came to a consensus rating for every ePortfolio on all of the rubric criteria for which they were responsible, before moving on to the next ePortfolio.

The report that follows lists each General Education learning outcome, including the language as passed by the Faculty Senate, as well as the data this assessment has gathered.

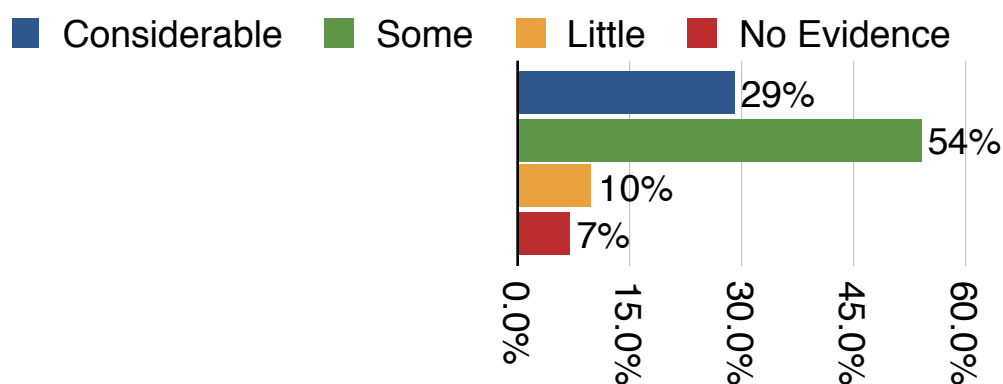
Effective Communication

Students communicate effectively. This includes developing critical literacies—reading, writing, speaking, listening, visual understanding—that they can apply in various contexts; Organizing and presenting ideas and information visually, orally, and in writing according to standard usage; Understanding and using the elements of effective communication in interpersonal, small group, and mass settings.

A key component of effective communication is the ability to write in multiple genres. Our assessment team counted the number of distinct written genres (e.g., reports, reviews, proposals, etc.) represented in each student ePortfolio. The results are presented in Figure 1.

Figure 1: Percentage of Portfolios with Various Levels of Evidence that Students Write in Multiple Genres.

Twenty-nine percent of the ePortfolios had “considerable” evidence that students write in



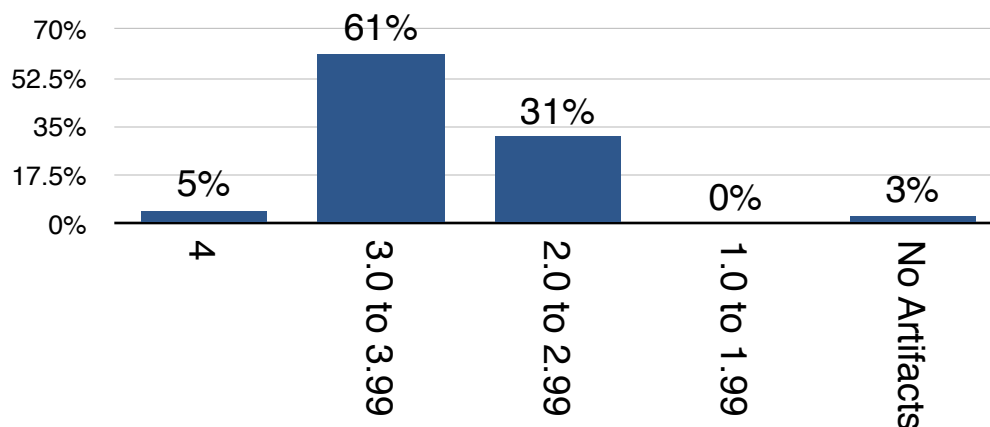
multiple genres, meaning that the ePortfolio contained five or more distinct written genres. An additional 54% of the ePortfolios had “some” evidence, meaning that the ePortfolio contained 3 or 4 distinct written genres. It is somewhat concerning that 7% of the ePortfolios had no evidence of students writing in multiple genres—typically these portfolios contained only one written artifact, be it a report or a memoir or other.

We extended our analysis by looking at students’ ability to not only write in multiple genres, but to effectively employ genre-specific conventions in doing so. For this part of the analysis, we employed a modified version of the Genre Conventions section of the AAC&U’s VALUE rubric for written communication. We modified it to create an average score for each student

that takes into account their scores on each written artifact—so a student who scores a 4 for use of genre conventions for their research report but a 2 on use of genre conventions for their memoir will have an average of 3 for proper use of genre conventions, assuming that the student’s portfolio only contained those two written artifacts.

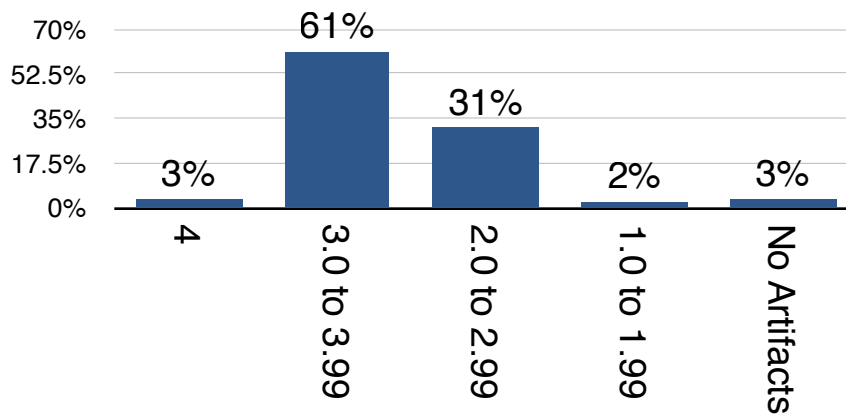
Figure 2 summarizes these results. The overall mean score was 3.09, with 61% of the student averages falling between 3.0 and 3.99. An additional 31% of the student averages fall between 2.0 and 2.99. No students scored between 1 and 1.99, and only 3% of the ePortfolios had no written artifacts at all.

Fig 2: Percentages of Students Whose Mean Scores for Effectively Employing Genre Conventions Fell into These Ranges. (Overall mean = 3.09 and s.d. = .44)



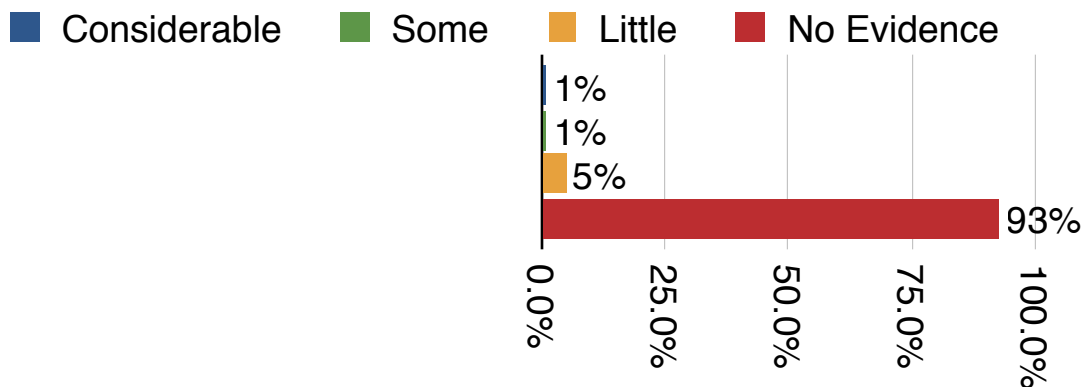
Our reviewers also used a modified VALUE rubric to examine whether student writing displayed a grasp of grammar and syntax. Figure 3 depicts the results, which are highly correlated with those from Figure 2. The correlation coefficient between Grammar/Syntax and Genre Conventions is .60, which is significant at the .0001 level.

Fig 3: Percentages of Students Whose Mean Scores for Grammar and Syntax Fell into These Ranges. (Overall mean = 3.00 and s.d. = .46)



What about oral communication? As seen in Figure 4, fully 93% of the sampled ePortfolios had no evidence that students make oral presentations. Five percent had “little” evidence, or one oral presentation. These results raise the question about how oral communication can better be represented in ePortfolios. Perhaps faculty who teach classes where oral communication is a foundation for the course could reconsider their signature assignments so that students are including evidence of oral communication in their ePortfolios.

Figure 4: Percentage of Portfolios with Various Levels of Evidence that Students Make Oral Presentations.

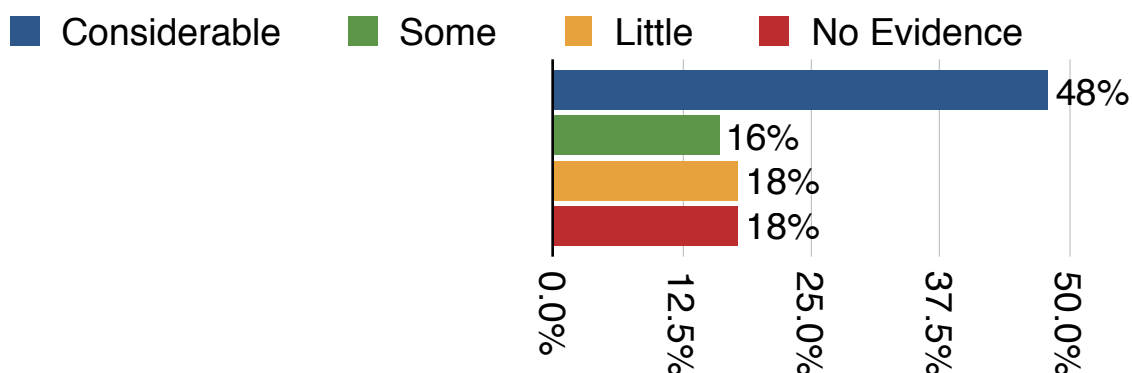


Quantitative Literacy

Students develop quantitative literacies necessary for their chosen field of study. This includes approaching practical problems by choosing and applying appropriate mathematical techniques; Using information represented as data, graphs, tables, and schematics in a variety of disciplines; Applying mathematical theory, concepts, and methods of inquiry appropriate to program-specific problems.

Most colleges and universities in the United States want their students to demonstrate quantitative literacy. In examining Quantitative Literacy in our General Education program, reviewers first looked at ePortfolios to see the extent to which each student “uses, interprets, or manipulates information represented as data, graphs, tables, or schematics.” Figure 5 illustrates the results of this analysis. Nearly half (48%) of the ePortfolios had “considerable” evidence (3 or more artifacts) of students using, interpreting or manipulating quantitative information in their assignments, and an additional 16% had “some” evidence,” meaning that they had 2 such artifacts. Eighteen percent of the ePortfolios had only one artifact—almost always from a Math course—in the ePortfolio in which the student had used, interpreted or manipulated quantitative information, and an additional 18% had no such artifacts.

Figure 5: Percentage of ePortfolios with Amount of Evidence that Students Use Information Represented as Data, Graphs, Tables, or Schematics.



To extend our analysis the assessment team for quantitative literacy examined the sampled ePortfolios with respect to three indices of quantitative literacy on the VALUE rubric, namely ability to:

- Explain information presented to the student in the form of equations, graphs, diagrams, tables, words, etc. (**Interpretation**)
- Convert relevant information from one form—such as equations, graphs, diagrams, tables, words—to another. (**Manipulation**)
- Express quantitative evidence in support of the argument or purpose of the work—in terms of what evidence is used and how it is formatted, presented, and contextualized. (**Communication**)

Figures 6 through 8 depict the data for student ability to interpret, manipulate and communicate. Note first that this pair of readers was different from the pair that produced the data in Figure 5, although both came to a similar conclusion with respect to the percentage of ePortfolios that had no QL artifacts in them. Note also that the mean was highest for Interpretation and lowest for manipulation of QL data.

Fig 6: Percentages of Students Whose Mean Scores for QL Interpretation Fall Into These Ranges. (Overall mean = 2.44 and s.d. = .67)

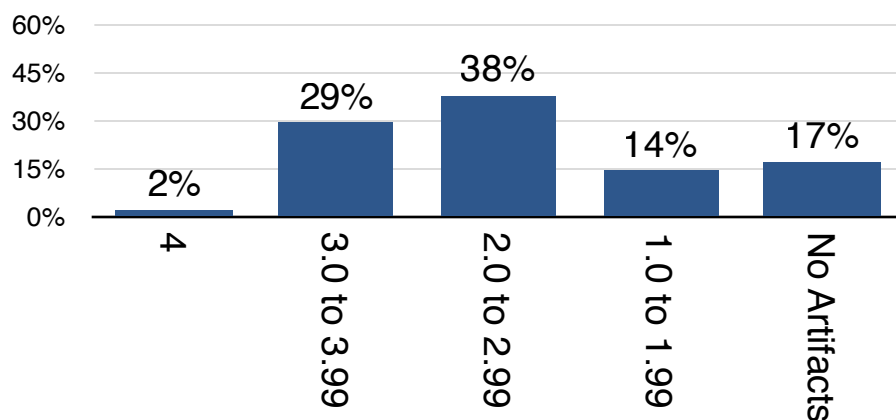


Fig 7: Percentages of Students Whose Mean Scores for QL Manipulation Fall Into These Ranges. (Overall mean = 2.20 and s.d. = .65)

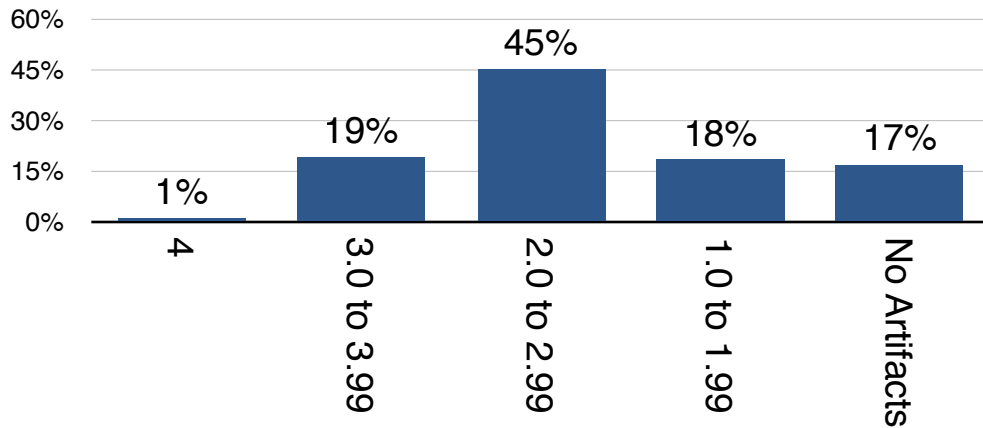
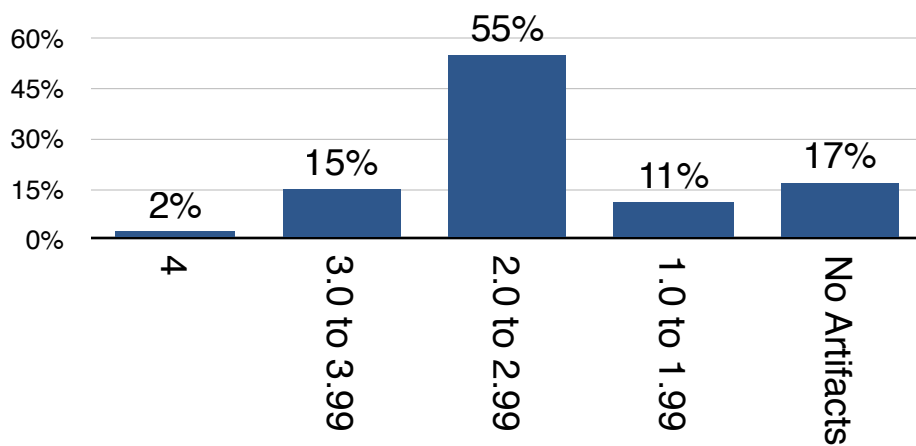


Fig 8: Percentages of Students Whose Mean Scores for QL Communication Fall Into These Ranges. (Overall mean = 2.29 and s.d. = .63)

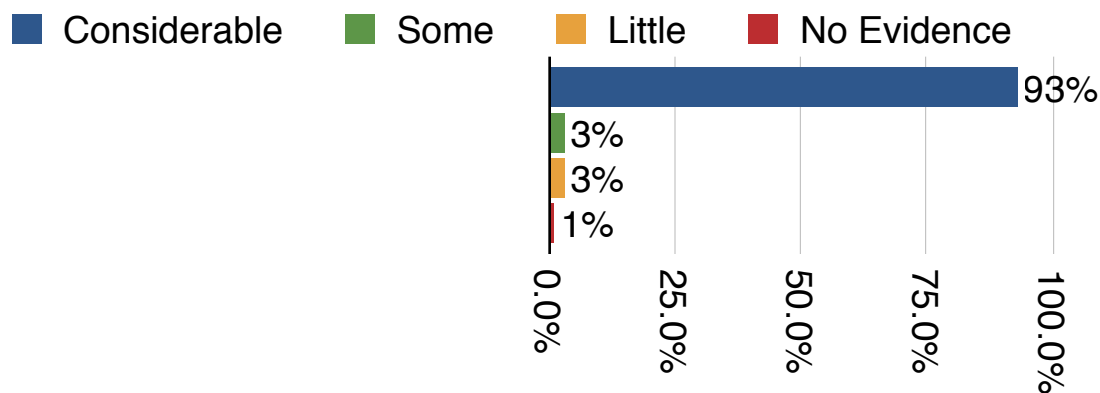


Critical Thinking

Students think critically and creatively. This includes reasoning effectively from available evidence; demonstrating effective problem solving; engaging in creative thinking, expression, and application; Engaging in reflective thinking and expression; Demonstrating higher-order skills such as analysis, synthesis, and evaluation; Making connections across disciplines; Applying scientific methods to the inquiry process.

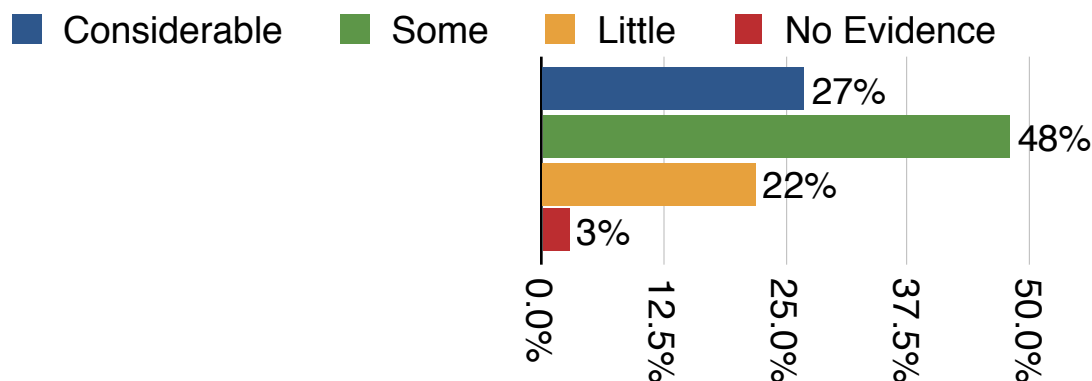
Using the sampled ePortfolios, we can look at some aspects of critical thinking and creative expression. An important way to improve student problem solving abilities is to have them engage with unstructured problems across the General Education program. Figure 9 indicates that General Education at SLCC does indeed offer students these opportunities. In 93% of the sampled ePortfolios, students had “considerable” evidence, meaning that they contained three or more artifacts representing unstructured problems.

Figure 9: Percentage of ePortfolios with Amount of Evidence that Students Engage With Unstructured Problems.



We are very interested that our students engage in reflective thinking and expression. One of our review teams counted the reflections (written or otherwise) throughout each ePortfolio, and the results are depicted in Figure 10. Since the purpose of the ePortfolio is to promote a reflective approach to education, the standards for this measure are fairly rigorous. Twenty-seven percent of the ePortfolios had “considerable” evidence of reflection, meaning that they contained 13 or more reflections. An additional 48% of the ePortfolios had “some” evidence of reflection, with 6-12 reflections. Only 3% of the ePortfolios had no reflection at all.

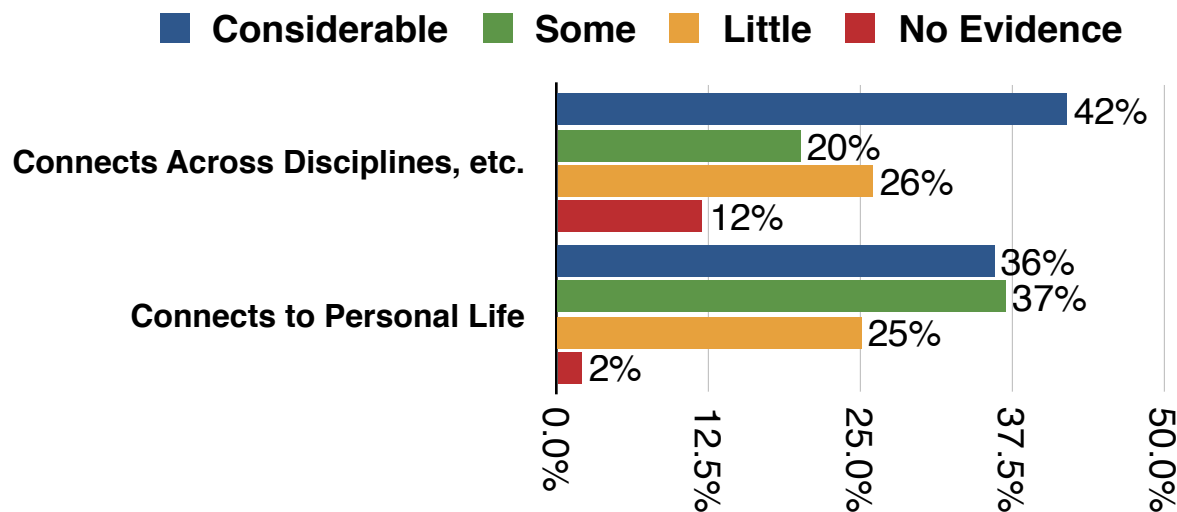
Figure 10: Percentage of ePortfolios with Amount of Evidence that Students Reflect.



Of course, faculty can ask students to reflect deeply—to think about their thinking and the applications of that thinking in other contexts—on any number of things pertaining to the course or the signature assignments in the ePortfolio. And it is essential that they do so. As Darren Cambridge put it in *EPortfolios for Lifelong Learning and Assessment (2010)*, “Almost without exception, scholars agree that the process of reflection that goes into composing an eportfolio is central to its impact on learning” (103). We are especially concerned that students be sufficiently prompted to make explicit connections between academic disciplines and between their academic work and their personal lives.

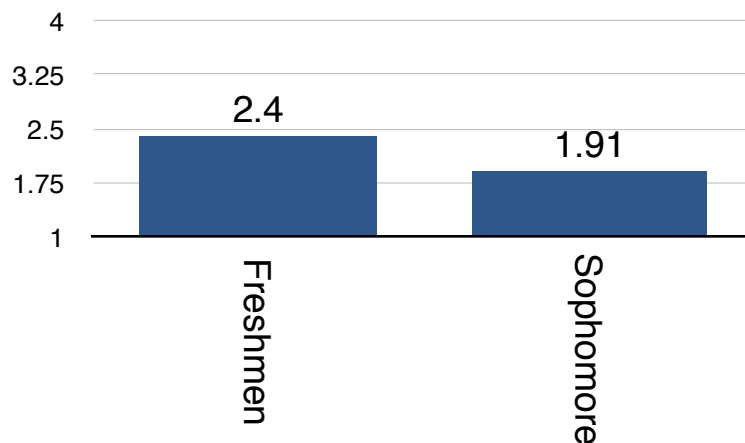
Figure 11 illustrates the results when we asked our reviewers to ascertain whether students were making cross-disciplinary and personal-life connections in their reflections. Forty-two percent of the students had “considerable” evidence—5 or more reflections—of making connections across disciplines, courses, or assignments. An additional 20% had “some” evidence, or 3-4 such reflections. As for connections to personal life, 36% of the students had “considerable” evidence of that in their reflections, and 37% had “some” evidence of that kind of reflection.

Figure 11: Percentage of ePortfolios with Evidence That Students Make Academic and Personal Connections.



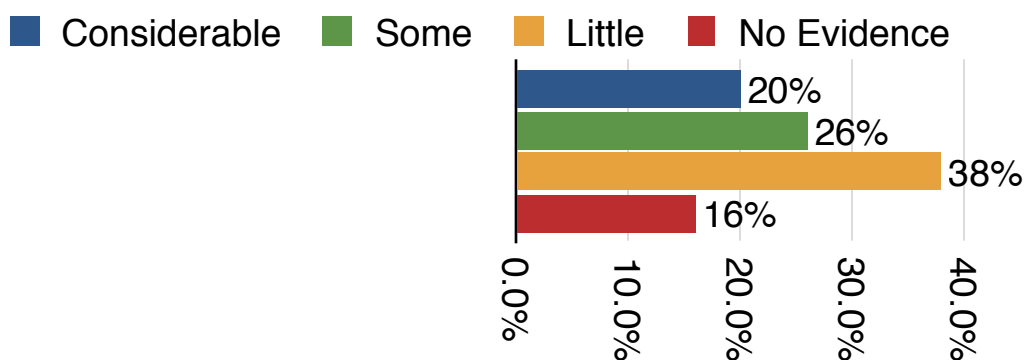
Next we turn to the quality of student reflection, and here the story is less positive. One review team used a rubric to score the first three reflections in the ePortfolio—students should organize the Coursework section of their ePortfolio by listing the courses they are taking by semester—and a different review team used the same rubric to score the last three reflections in the ePortfolio. Contrary to expectations, it’s clear that the mean for the quality of freshmen reflections is higher than for sophomore reflections. We label these “Freshmen” and “Sophomore” reflections in Figure 12.

Figure 12: Mean Scores for Quality of Reflection for Freshmen vs. Sophomore Reflections.



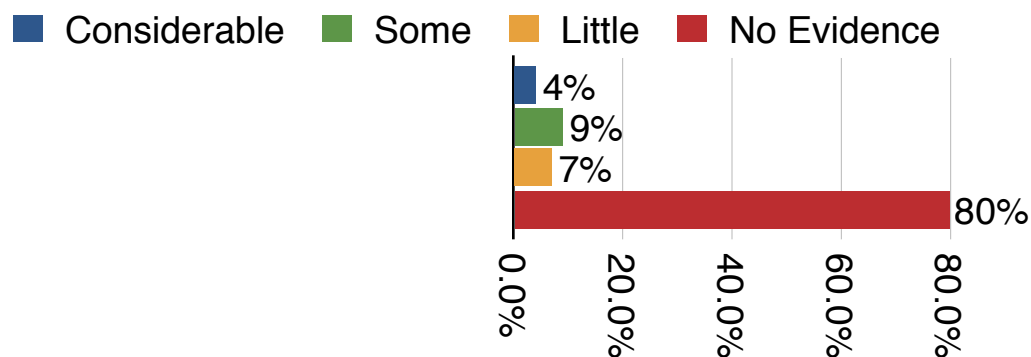
Creative thinking and expression is an important component of critical thinking, so we had one review team look for creative expression. These might be artifacts such as fiction, creative non-fiction, poetry, movies, songs, photography, and art works, or the reviewers might have selected the ePortfolio itself if it went beyond the template that students use to structure their ePortfolio. As Figure 13 illustrates, 20% of the students had “considerable” evidence of creativity, meaning 3 or more creative works in the portfolio or a portfolio that was itself highly creative. An additional 26% had 2 such artifacts (“some” evidence), and 38% had “little” evidence, or one artifact. Sixteen percent of the ePortfolios were judged to contain/demonstrate no creative content/expression at all.

Figure 13: Percentage of ePortfolios with Evidence That Students Demonstrate Creative Expression.



The final component of critical thinking that we assessed is student engagement with the scientific method. Reviewers looked for signature assignments and reflection in which the student demonstrated use and/or understanding of the scientific method. As Figure 14 depicts on the following page, only 4% of students had “considerable” evidence of that, meaning that they had 3 or more artifacts demonstrating understanding or use of the scientific method. Nine percent had 2 such artifacts, or “some” evidence that they understood the scientific method, while 7% had one artifact addressing the scientific method. Fully 80% of the ePortfolios had no artifacts in which the student demonstrated understanding of the scientific method, even though they are required to take one Biological Sciences and one Physical Sciences course. It may well be that the signature assignments in those courses are addressing other learning outcomes—like written communication—instead of scientific method.

Figure 14: Percentage of ePortfolios with Evidence That Students Demonstrate Understanding of the Scientific Method.



Community and Civic Engagement

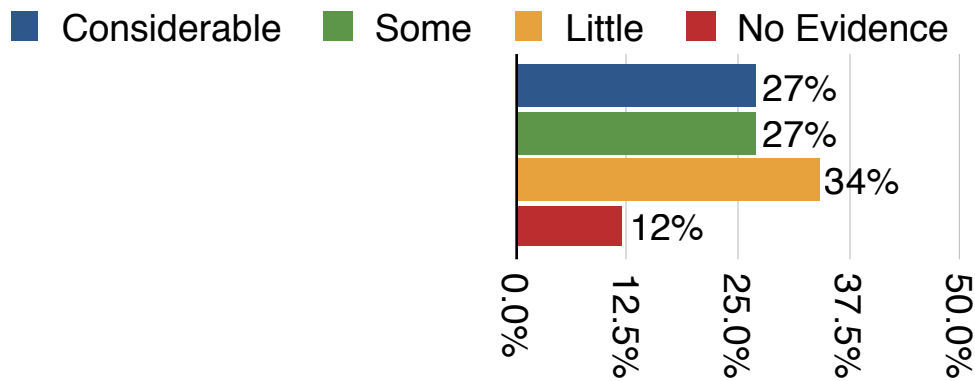
Students develop the knowledge and skills to be community engaged learners and scholars.

This includes understanding the natural, political, historical, social, and economic underpinnings of the local, national, and global communities to which they belong; Integrating classroom and community-based experiential learning; Identifying and articulating the assets, needs, and complexities of social issues faced by local, national, and global communities; Evaluating personal strengths, challenges, and responsibility for effecting positive social change in local, national, and global communities; Drawing upon classroom and community-based learning to develop professional skills and socially responsible civic behaviors; Engaging in service-learning for community building and an enhanced academic experience.

With Community and Civic Engagement, we work from the assumption that students should understand the U.S. and global communities in which they might engage, and then show evidence that they have, in fact engaged outside of purely academic contexts. Our reviewers examined signature assignments and looked for evidence that the student demonstrates “knowledge of the politics, economics, and/or historical development of the United States.” As illustrated in Figure 15, 27% of the ePortfolios show “considerable” evidence of U.S. knowledge, or 3 or more artifacts, and an additional 27% showed “some” evidence of U.S. knowledge, or 2 artifacts. The plurality (34%) of the ePortfolios had only one artifact where the student demonstrated knowledge of the politics, economics, or historical development of the United States. Twelve percent had no such artifacts. Remember that all students should take

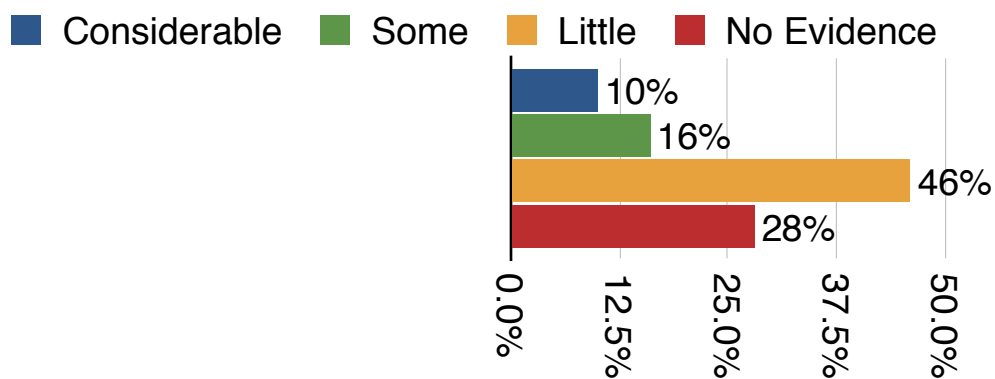
one American Institutions course (ECON, POLS, or HIST) and one course focused on Diversity in the U.S. context, and we might ask ourselves if faculty in those courses are creating signature assignments to help students with this learning outcome.

Figure 15: Percentage of ePortfolios with Evidence That Students Demonstrate Understanding of U.S. politics, economics, or historical development.



Our reviewers also looked for artifacts in which students demonstrated knowledge of “global politics, economics, historical development, and/or geography.” It’s fair to say that Figure 16 on the next page shows that students are generally less able (or are less frequently asked) to demonstrate knowledge of the global context. Only 10% of students demonstrated “considerable” understanding—3 or more artifacts—the global context, and 16% “some” understanding, or 2 artifacts. Nearly half (46%) of the ePortfolios only had one artifact illustrating global knowledge and 28% of the ePortfolios had no such artifacts.

Figure 16: Percentage of ePortfolios with Evidence That Students Demonstrate Understanding of global politics, economics, historical development, or geography.



The reviewers also used a modified VALUE rubric to understand the actual civic and community engagement of the typical SLCC graduate. The rubric has the following three dimensions, and scores range from 1.0 to 4.0:

Diversity of Communities & Cultures—Student provides evidence of adjustment in own attitudes and beliefs due to working within and learning from diversity of communities and cultures. Promotes others' engagement with diversity.

Analysis of Knowledge—Student’s coursework and/or reflections connect and extend knowledge (facts, theories, etc.) from their own academic field to engagement and to one's own participation in civic life, politics, and government.

Civic Identity, Contexts, and Reflection—Student reflections provide evidence of experience in engagement activities, describes what they have learned about themselves in connection with a reinforced and clarified sense of civic identity and continued commitment to public action through collaboration to achieve a civic aim.

Figure 17: Mean Scores for Three Dimensions of Civic and Community Engagement. (Note: the mean is calculated only for those ePortfolios that had relevant artifacts and reflection. Note also the s.d. for Diversity is .75, the s.d. for Analysis is .82, and the s.d. for Civic Identity is .90.)

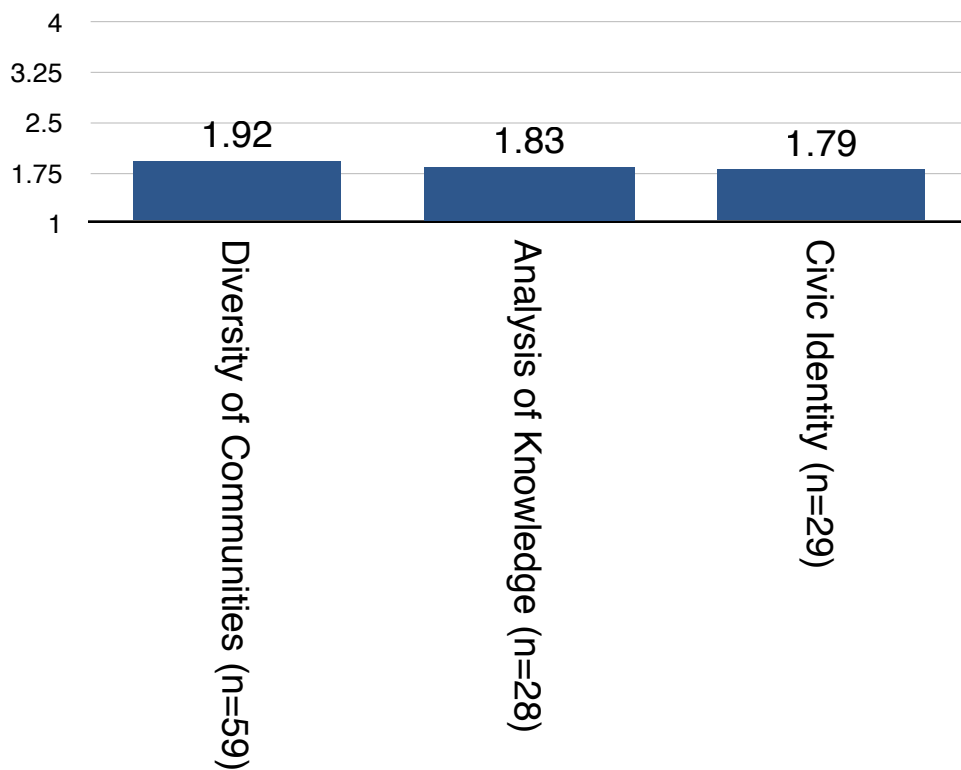


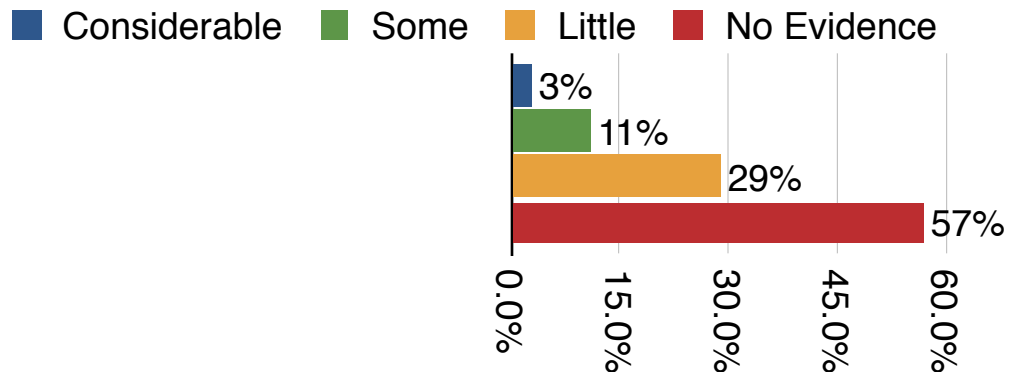
Figure 17 depicts the results of the assessment. Two conclusions come directly from this assessment of Civic and Community Engagement. The first is that many student ePortfolios do not have evidence (signature assignments or reflection) that address the three dimensions that are measured by the rubric. For Diversity of Communities and Cultures, 41% of the ePortfolios had no evidence; for Analysis of Knowledge, 72% had no evidence; for Civic Identity, Contexts and Reflection, 71% had no evidence. The second conclusion is that we need to be able to put the mean scores in Figure 17 into a comparative context: If these scores represent the typical SLCC graduate, what amount of evidence and quality of work is characteristic of students who engage in multiple service-learning courses or community engaged learning opportunities? What (greater) impact might such learning opportunities have if they were more central in the curriculum and thus experienced more often by more students?

Working With Others

Students develop the knowledge and skills to work with others in a professional and constructive manner. This includes engaging with a diverse set of others to produce professional work; Interacting competently across cultures; understanding and appreciating human differences; Understanding and acting on standards of professionalism and civility, including the SLCC Student Code of Conduct.

Our reviewers examined signature assignments to ascertain whether students worked with classmates to complete assignments. As Figure 18 illustrates, only 3% of the ePortfolios had 3 or more artifacts (“considerable” evidence) of this kind of collaborative work, and 11% had 2 group work artifacts. Twenty-nine percent had one artifact of collaborative work, and 57% had no evidence. These results might be explained in part by faculty reluctance to make collaborative signature assignments, under the false assumption that they need to be individual assignments.

Figure 18:
Percentage of ePortfolios with Evidence That Students Worked with Others to Complete Assignments.

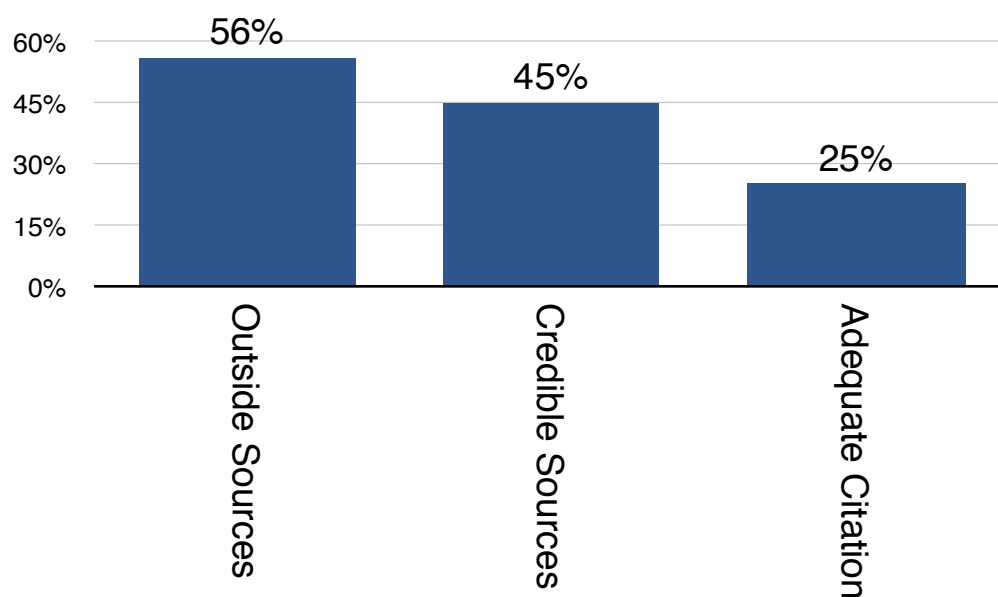


Information Literacy

Students develop computer and information literacy. This includes using contemporary computer hardware and software to effectively complete college-level assignments; Gathering and analyzing information using technology, library resources, and other modalities; Understanding and acting upon ethical and security principles with respect to computer technology and to information acquisition and distribution; distinguishing between credible and non-credible sources of information, and using the former in their work in an appropriately documented fashion.

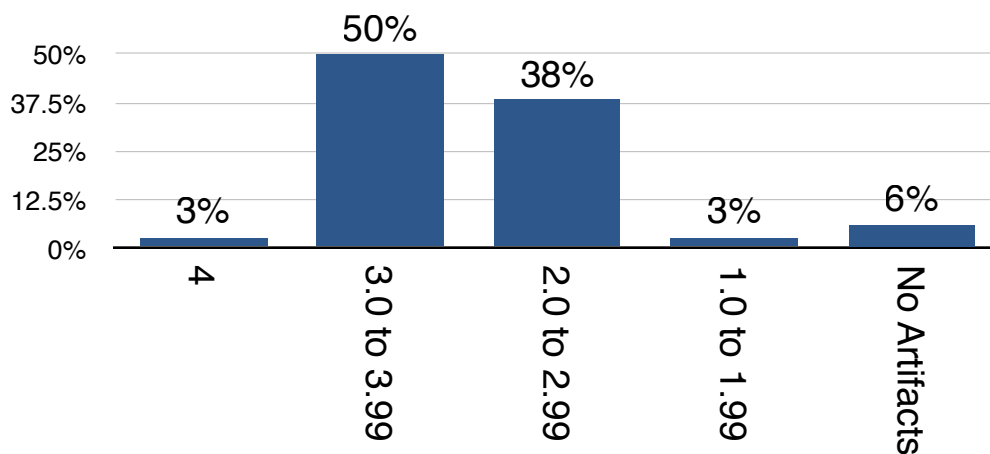
For Information Literacy, the reviewers looked at how often the student used outside of classroom information sources to complete an assignment, whether those outside of classroom resources were credible, and whether the student adequately cited his or her sources. Figure 19 depicts only the percentage of ePortfolios with “considerable” evidence of each task, and it has a story to tell. In this instance, “considerable” means 4 or more artifacts of outside sources, 4 or more artifacts in which those sources were credible, and 4 or more artifacts in which those sources were adequately cited. That is not a particularly high threshold, and the SLCC faculty need to decide whether student performance on these dimensions of Information Literacy is sufficient.

Figure 19: Percent of ePortfolios That Had Considerable Evidence of Three Important Dimensions of Information Literacy.



The reviewers also employed a modified VALUE rubric to examine the ability of students to use outside “information effectively to accomplish a specific purpose.” Most students had multiple artifacts to assess, and Figure 20 depicts the categories where the mean scores for each student clustered.

Figure 20: Percentages of Students Whose Mean Scores for Using Outside “Information Effectively to Accomplish a Specific Purpose” Fall Into These Ranges. (Overall mean = 2.79, and s.d. = .52)



Computer Literacy

Students develop computer and information literacy. This includes using contemporary computer hardware and software to effectively complete college-level assignments; Gathering and analyzing information using technology, library resources, and other modalities; Understanding and acting upon ethical and security principles with respect to computer technology and to information acquisition and distribution; distinguishing between credible and non-credible sources of information, and using the former in their work in an appropriately documented fashion.

SLCC eliminated its Computer Literacy course requirement several years ago, replacing it with Computer Literacy as a learning outcome within General Education. The thinking behind this change was that with an electronic portfolio, students would be creating a variety of digital artifacts that would demonstrate how they can use computer hardware and software to create professional work.

One of the review teams examined the kinds of hardware and software students used to create their ePortfolios. Note that this team did not count computers and website builders themselves, as they were required anyway. Table 1 shows the percentage of ePortfolios that used specific hardware and software.

Table 1: Percentage of ePortfolios that used Specific Computer Hardware and Software.

Hardware

Scanner	41%
Digital Camera	38%
Video Camera	4%
Audio Recording Equip	3%

Software

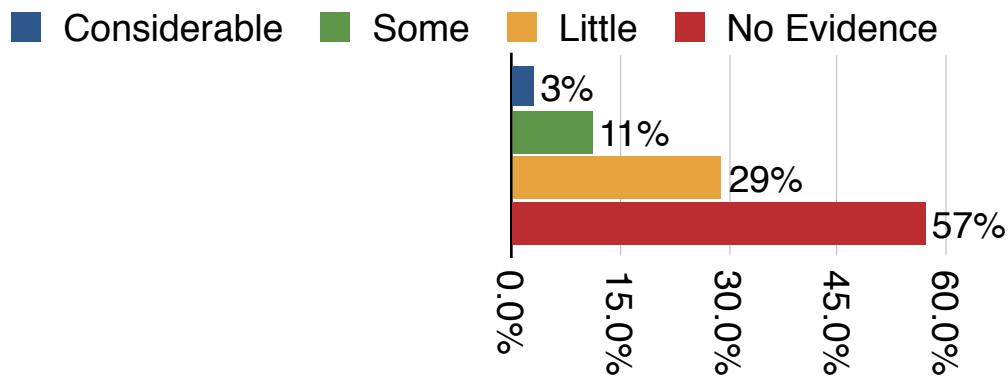
Word Processing	97%
Presentations	38%
Spreadsheets	29%
WP Manipulation	11%
Image Manipulation	9%
Blogging	6%
Google Earth	6%
Video Editing	5%
YouTube	3%
National Weather Service	3%
Social Media	2%
Separate Website	2%
Podcast	1%
Uploaded Audio File	1%

Lifetime Wellness

Students develop the attitudes and skills for lifelong wellness. This includes understanding the importance of physical activity and its connection to lifelong wellness; learning how participation in a fitness, sport or leisure activity results in daily benefits including stress reduction, endorphin release, and a sense of well-being.

Each SLCC student is required to take a Lifetime Wellness (LW) course to receive an Associate’s degree. Our reviewers examined reflections and artifacts in all LW courses in each portfolio, and applied an in-house rubric for how well the student understood the importance and personal utility of lifetime activity and wellness. When multiple such assignments or reflections were present—when students took more than one LW course—the scores for all artifacts were averaged. Figure 21 reports the results, which indicate that 43% of the student ePortfolios had at least one artifact that addressed Lifelong Wellness, but that 57% did not have any such evidence.

Figure 21: Percentage of ePortfolios with Evidence That Students Understood the Importance of Lifetime Wellness.



Advice to Faculty from the Reviewers

When assessment teams were finished examining all 100 ePortfolios using their assigned portion of the rubric, Kati Lewis asked them to reflect on their assessment experiences using a series of reflective prompts. Those reflections are located here: <http://slccprofdev.weebly.com/assessment-reflections.html>.

We offer a few selections from these reviewer reflections.

- *It appears that students who take personal ownership of their ePortfolio tend to get the most out of [it]. They may use the technology tool to reflect their personalities and views of the world. This should be embraced by faculty to allow students to express themselves through their education.*
- *Faculty should . . . consider making signature assignments that allow students to be more expressive, creative, and engaging, while demonstrating content mastery of the course.*
- *After viewing 100 eportfolios, it was easy to see which students felt their eportfolio was important and which ones did not. I believe this has a lot to do with the faculty these students interacted with, and their own feelings about the importance of eportfolios. It was apparent that many students were required to put assignments in their eportfolio, but it seemed that few students actually gave the context of their project, along with a meaningful reflection.*
- *Most students tended to complete every assignment as an analysis paper. The overall result of this is an ePortfolio that collects about a dozen or more very similar examples of work. It is quite apparent that for most students, the analysis paper is a comfortable format. It certainly is a suitable format for nearly any college assignment. However, ePortfolios that demonstrated a wide variety of formats (argument papers, critique papers, posters, brochures/flyers, public service announcements, maps/charts/graphs, powerpoints, etc.) are much stronger and better demonstrate a student's entire capability. EPortfolio assignments could easily be changed to drive student output toward a format other than an analysis paper.*
- *The signature assignment/reflection needs to be something that will benefit the student when they move on to a four-year school or go into the work force. A lot of the assignments looked like they were just put on the ePortfolio because it was required and not because it would benefit them in any way.*

Acknowledgements

The data in this assessment report was entirely collected by SLCC full-time and adjunct faculty who examined each of the 100 ePortfolios in the sample. We extend our most sincere gratitude to their efforts to help SLCC better understand how its General Education program is actually experienced by students.

Team Members and Assignments

1. Clark Timmins (Business) and Brooke Phillips (Education): Genre/Use of Quantitative Data
2. Suzy Santos (Education) and Greg Larson (Business): Reflection/Academic and Personal Connections
3. Val Sederholm (History) and LaShawn Williams (Education): Oral Comm/Collaborative Work/U.S.Knowledge/Global Knowledge
4. Rebecca Sperry (Biology) and Kristen Taylor (Biology): Information Literacy
5. Jen Seltzer Stitt (Community Partners Council) and Lucy Smith (Thayne Center for Service and Learning): Campus and Community Engagement
6. R. M. (Education) and Adam Dastrup (GeoSciences): Computer Literacy/Lifelong Wellness
7. Emily Dibble (Humanities) and Jessica Berryman (Biology): Critical Thinking–[Freshman Reflections](#)
8. Kristen Cartwright (Math) and Adam Dastrup (GeoSciences): Quantitative Literacy
9. Ted Moore (History) and Melissa Schaefer (Anthropology): Critical Thinking–Sophomore Reflections
10. Jessica Berryman (Biology) and Emily Dibble (Humanities): Scientific Method
11. Steve Harrison (English) and Melodee Lambert (Business): Written Comm/Information Literacy
12. Debbie Francis (Humanities) and Linda Jemmett (Biology): Learning Outcomes Balance–which appears in a separate report.