General Education Assessment Report 2015

David Hubert and Emily Dibble
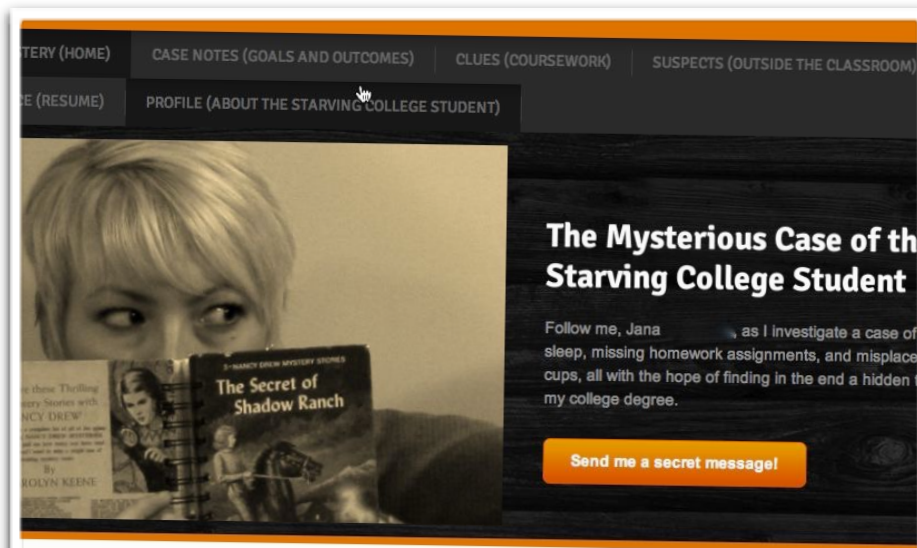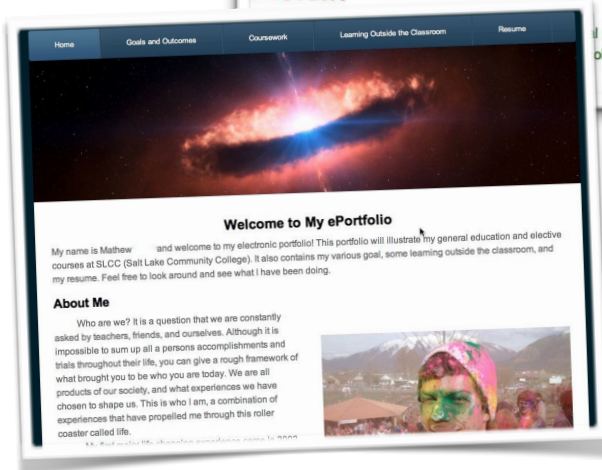
Images of SLCC student ePortfolios used with permission.

Contents

Assessment Methods

Electronic portfolios are increasingly being used to document student learning in higher education. For this assessment, 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 students understand our General Education learning outcomes.

Our Institutional Research Office pulled a sample of 160 students who graduated in May 2015, 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 nine 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.

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.*

We operationalize effective communication in a number of ways. The first thing that interested us is whether students are getting ample opportunities to write in multiple genres.[1] Figure 1 indicates that 26% of the students in the sample had "some" evidence of writing in multiple genres—that is, three or four artifacts representing different genres in the ePortfolio. An additional 25% had "considerable" evidence—five or more artifacts—of writing in multiple genres.

Figure 1: Percentage of Portfolios with Various Levels of Evidence that Students Write in Multiple Genres.
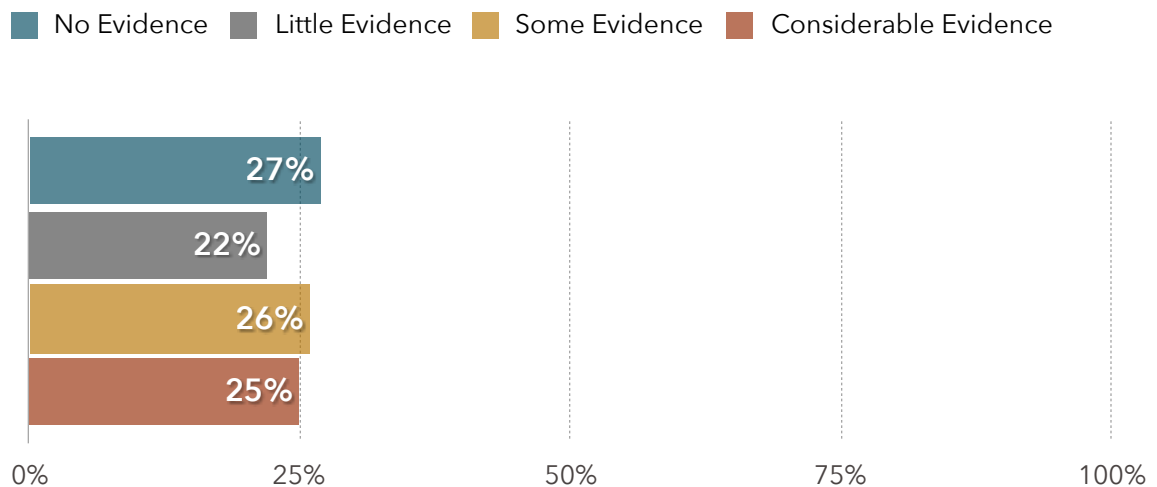
We are also interested in the quality of student writing. Using the AAC&U Value rubric for written communication, a team of reviewers examined all student writing from the courses used to satisfy sophomore level composition, Humanities, and the American Institutions requirements. This provided the reviewers with a good overview of student writing in several disciplines. The reviewers looked at whether students effectively employed the conventions of the genre in which they were writing. As

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[1] The rubric asked reviewers to look for the following genres, but not to exclude others as well: arguments, analyses, lab reports, critiques, business correspondence, reviews, memoirs, and proposals.

Table 1 depicts, 15% of the ePortfolios had no written assignments from those courses. For those students who did, the mean score for written work was 2.37, with a total of 29% of students meeting or exceeding expectations.

Table 1: Percentage of Students Whose Mean Scores for Effectively Employing Genre Conventions Fell into These Ranges. (Overall mean, excluding the "no evidence" students = 2.37)

0 No Evidence	1 Well Below Expectations	2 Below Expectations	3 Meets Expectations	4 Exceeds Expectations
15%	21%	35%	20%	9%
Student had no writing assignments in the portfolio from ENGL 2010, AI, and HU courses.	Attempts to use a consistent system for basic organization and presentation for a specific writing task.	Follows expectations appropriate to a specific writing task for basic organization, content, and presentation.	Demonstrates consistent use of important conventions particular to a specific writing task, including organization, content, presentation, and stylistic choices.	Demonstrates detailed attention to and successful execution of conventions particular to a specific writing task, including organization, content, presentation, formatting, and stylistic choices.

The reviewers also used a Value rubric and the same sample of courses to look at content development in student writing. Table 2 (next page) shows that overall students scored higher (mean of 2.45 versus 2.37) on content development than they did on employing genre conventions. Considerably fewer students scored "below expectations," while more students met expectations with respect to developing content in their writing. The same percentage of students—indeed, very nearly the same students—scored a 4 on genre conventions and content development in their writing.

Table 2: Percentage of Students Whose Mean Scores for Content Development Fell into These Ranges. (Overall mean, excluding the "no evidence" students = 2.45)

| 0 No Evidence	1 Well Below Expectations	2 Below Expectations	3 Meets Expectations	4 Exceeds Expectations
15%	16%	36%	24%	9%
Student had no writing assignments in the portfolio from ENGL 2010, AI, and HU courses.	Uses appropriate and relevant content to develop simple ideas in some parts of the work.	Uses appropriate and relevant content to develop and explore ideas through most of the work.	Uses appropriate, relevant, and compelling content to explore ideas within the context of the discipline and shape the whole work.	Uses appropriate, relevant, and compelling content to illustrate mastery of the subject, conveying the writer's understanding, and shaping the whole work.

Finally, the reviewers used a VALUE rubric and the same sample of courses to examine the syntax and mechanics of student writing. As Table 3 indicates, the overall mean was higher still (2.60), with fewer students falling into the "well below expectations" category and more who met expectations.

Table 3: Percentage of Students Whose Mean Scores for Syntax and Mechanics Fell into These Ranges. (Overall mean, excluding the "no evidence" students = 2.60)

0 No Evidence	1 Well Below Expectations	2 Below Expectations	3 Meets Expectations	4 Exceeds Expectations
15%	6%	38%	31%	10%
Student had no writing assignments in the portfolio from ENGL 2010, AI, and HU courses.	Uses language that sometimes impedes meaning because of errors in usage.	Uses language that generally conveys meaning to readers with clarity, although writing may include some errors.	Uses straightforward language that generally conveys meaning to readers. The language in the portfolio has few errors.	Uses graceful language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.

Finally, we can examined the amount of evidence in this sample of ePortfolios pertaining to oral communication. Figure 2 shows that the vast majority (84%) of the ePortfolios had no evidence of oral communication. Eight percent of the ePortfolios contained one oral communication artifact, 4% had two such artifacts, and an additional 4% had three or more oral presentations. With so few ePortfolios containing evidence of oral communication, we did not spend time evaluating the quality of student oral presentations. If we want to do so in the future, we may create a separate sample of ePortfolios from students who took COMM 1020 Principles of Public Speaking.

Figure 2: Percentage of Portfolios with Various Levels of Evidence that Students Communicate Orally.
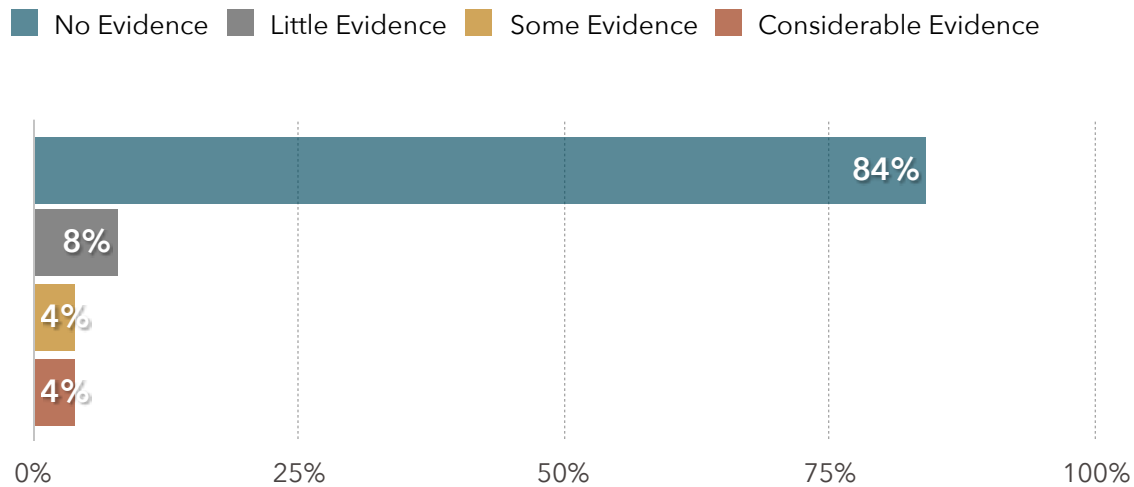
Quantitative Literacy

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.*

As with Effective Communication, we start our analysis looking at the amount of evidence in student ePortfolios indicating that they have been given sufficient opportunities in their assignments to use or interpret information represented as data, graphs, tables, and schematics in a variety of disciplines. Figure 3 shows that 11% of the ePortfolios in the sample had no such evidence, and that 24% had little evidence–meaning that they contained only one artifact in which students used or interpreted quantitative information. Nineteen percent of the ePortfolios had "some evidence," or two artifacts, and 46% contained "considerable evidence," meaning three or more artifacts.

Figure 3: Percentage of Portfolios with Various Levels of Evidence that Students Use or Interpreted Information Represented as Data, Graphs, Tables, and Schematics.
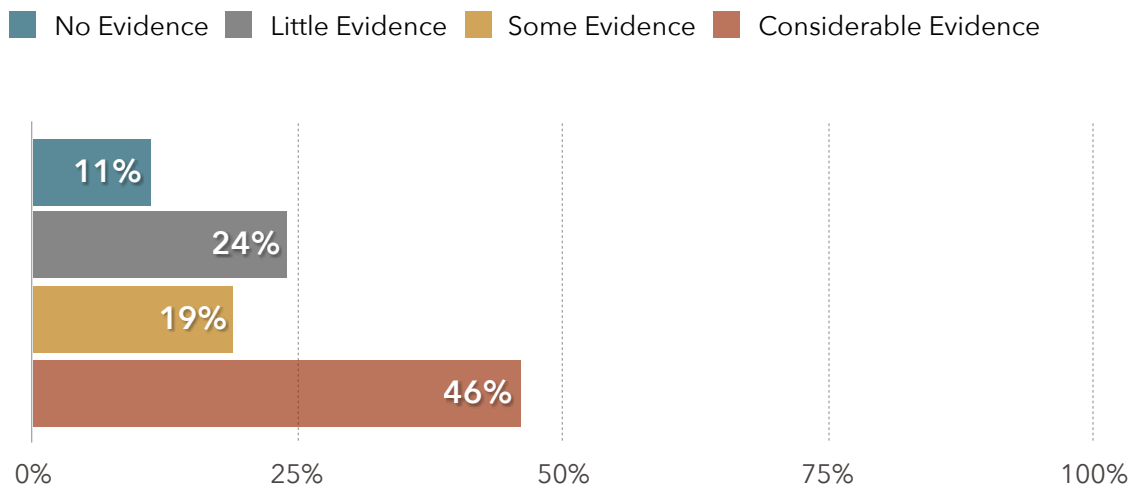
The reviewers then looked at students' ability to interpret quantitative information presented to them in various forms. Table 4 (next page) shows that 77% of students met or exceeded expectations, meaning that they correctly interpreted the information. Twelve percent of the students were "somewhat accurate" in their interpretations, but made mistakes related to computation or units of measure. None of the students scored "well below expectations" on this task.

Table 4: Percentage of Students Whose Mean Scores for the Interpretation of Quantitative Data Fell into These Ranges. (Overall mean, excluding the "no evidence" students = 3.16)

0 No Evidence	1 Well Below Expectations	2 Below Expectations	3 Meets Expectations	4 Exceeds Expectations
11%	0%	12%	66%	11%
ePortfolio had no assignments asking for the student to explain information presented as equations, graphs, diagrams, tables, etc.	Attempts to explain information presented in mathematical forms, but draws incorrect conclusions about what the information means.	Provides somewhat accurate explanation of information presented in mathematical forms, but occasionally makes minor errors related to computations or units.	Provides accurate explanations of information presented in mathematical forms.	Provides accurate explanations of information presented in mathematical forms. Makes appropriate inferences based on that information.

Another dimension of quantitative literacy is the ability to manipulate quantitative information from one form to another, such as converting a table of data to a graph or chart. Table 5 (next page) indicates that for 12% of the students, no such assignment existed in their ePortfolio. None of the students performed well below expectations, but 13% did score below expectations, meaning that their manipulation or conversion of information was only partial accurate or appropriate. Exactly two-thirds of the students met expectations and 9% exceeded expectations on this task.

The VALUE rubric for quantitative literacy also has a dimension assessing students' ability to communicate quantitative evidence in support of an argument or purpose of their work. Table 6 on the following page shows that 83% of students met or exceeded expectations for effectively communicating quantitative information. Fourteen percent performed below expectations and none were well below expectations. Three percent of the student ePortfolios had no assignments asking for the student to express quantitative evidence in support of their argument or purpose of their work.

We note finally that for interpretation of quantitative data, there were a total of 89 assignments in the 100 ePortfolios; for manipulation there were 88 assignments; and

for communication there were 97 assignments: In all cases, an average of less than one assignment per ePortfolio.

Table 5: Percentage of Students Whose Mean Scores for the Manipulation of Quantitative Data Fell into These Ranges. (Overall mean, excluding the "no evidence" students = 3.12)

0 No Evidence	1 Well Below Expectations	2 Below Expectations	3 Meets Expectations	4 Exceeds Expectations
12%	0%	13%	66%	9%
ePortfolio had no assignments asking for the student to convert relevant information from one form—such as equations, graphs, diagrams, tables, words—to another.	Completes conversion of information but resulting mathematical portrayal is inappropriate or inaccurate.	Completes conversion of information but resulting mathematical portrayal is only partially appropriate or accurate.	Competently converts relevant information into an appropriate and desired mathematical portrayal.	Skillfully converts relevant information into an insightful mathematical portrayal in a way that contributes to a further or deeper understanding.

Table 6: Percentage of Students Whose Mean Scores for the Communication of Quantitative Data Fell into These Ranges. (Overall mean, excluding the "no evidence" students = 3.09)

0 No Evidence	1 Well Below Expectations	2 Below Expectations	3 Meets Expectations	4 Exceeds Expectations
3%	0%	14%	74%	9%
ePortfolio had no assignments asking for the student to express quantitative evidence in support of the argument or purpose of the work.	Presents an argument for which quantitative evidence is pertinent, but does not provide adequate explicit numerical support.	Uses quantitative information, but does not effectively connect it to the argument or purpose of the work.	Uses quantitative information in connection with the argument or purpose of the work, though data may be presented in a lecithin completely effective format or some parts of the explication may be uneven.	Uses quantitative information in connection with the argument or purpose of the work, presets it in an effective format, and explicates it with consistently high quality.

Critical Thinking

Students think critically. *This includes reasoning effectively from available evidence; demonstrating effective problem solving; 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.*

We started our examination of critical thinking among SLCC's AS/AA graduates by using two modified dimensions of the VALUE rubric for critical thinking. Table 7 shows our analysis of student use of evidence from outside sources. A slight majority of students (51%) scored below or well below expectations in use of evidence in their work, meaning that students are not sufficiently interpreting or evaluating those sources to develop a coherent analysis or synthesis. Forty-one percent of students in the sample met or exceeded expectations.

Table 7: Percentage of Students Whose Mean Scores for Use of Evidence Fell into These Ranges. (Overall mean, excluding the "no evidence" students = 2.71)

| 0 No Evidence	1 Well Below Expectations	2 Below Expectations	3 Meets Expectations	4 Exceeds Expectations
8%	2%	49%	39%	2%
ePortfolio had no assignments that used outside sources. (i.e., sources of information beyond the text)	Information is taken from source(s) without any interpretation/ evaluation.	Information is taken from source(s) with some interpretation/ evaluation, but not enough to develop a coherent analysis or synthesis.	Information is taken from source(s) with enough interpretation/ evaluation to develop a coherent analysis or synthesis.	Information is taken from source(s) with enough interpretation/ evaluation to develop a comprehensive analysis or synthesis.

The second dimension from the VALUE critical thinking rubric our reviewers examined is concerned with students' ability to take a position. We are struck by the results in Table 8 on the next page, which indicate that 15% of students in the sample had no assignments in which they made an argument, and an additional 28% of students scored well below expectations on position taking. Nearly half (48%) scored below expectations, and only 9% met expectations.

Table 8: Percentage of Students Whose Mean Scores for Taking a Position Fell into These Ranges. (Overall mean, excluding the "no evidence" students = 2.09)

0 No Evidence	1 Well Below Expectations	2 Below Expectations	3 Meets Expectations	4 Exceeds Expectations
15%	28%	48%	9%	0%
ePortfolio had no assignments in which the student made an argument or otherwise took a position.	Specific position (perspective, thesis/hypothesis) is stated, but is simplistic and obvious.	Specific position (perspective, thesis/hypothesis) acknowledges different sides of an issue.	Specific position (perspective, thesis/hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position are acknowledged. Others' points of view are synthesized within position.

A second aspect of critical thinking that the ePortfolio can help us understand among SLCC students is whether they are getting sufficient practice dealing with unstructured problems. One team of reviewers counted signature assignments that were open-ended and did not have just one correct answer. We can see from Figure 4 that 41% of the ePortfolios had considerable evidence, meaning that they contained three or more unstructured problems, and an additional 23% of the ePortfolios contained two unstructured problems as assignments, or "some" evidence.

Figure 4: Percentage of Portfolios with Various Levels of Evidence that Students Deal with Unstructured Problems.

■ No Evidence ■ Little Evidence ■ Some Evidence ■ Considerable Evidence
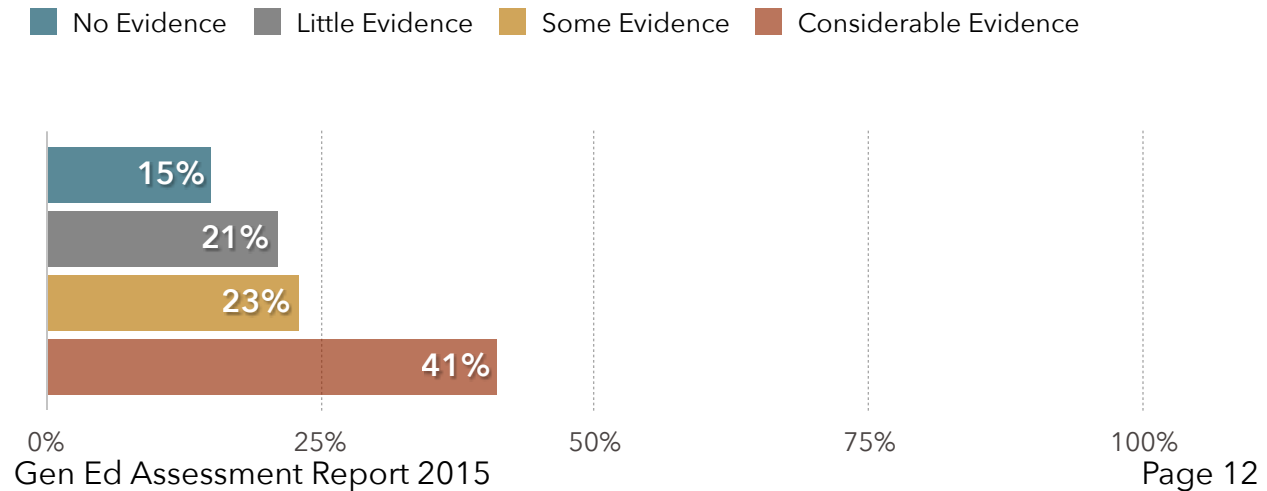
A third aspect of critical thinking that we can capture in ePortfolios is student reflective thinking and expression. Each General Education course should ask students to reflect on their learning. This may take many specific forms, but should generally ask students to place their work and learning–or themselves as learners–in broader intellectual or life contexts.

Figure 5: Percentage of Portfolios with Various Levels of Evidence that Students Engage in Reflection.
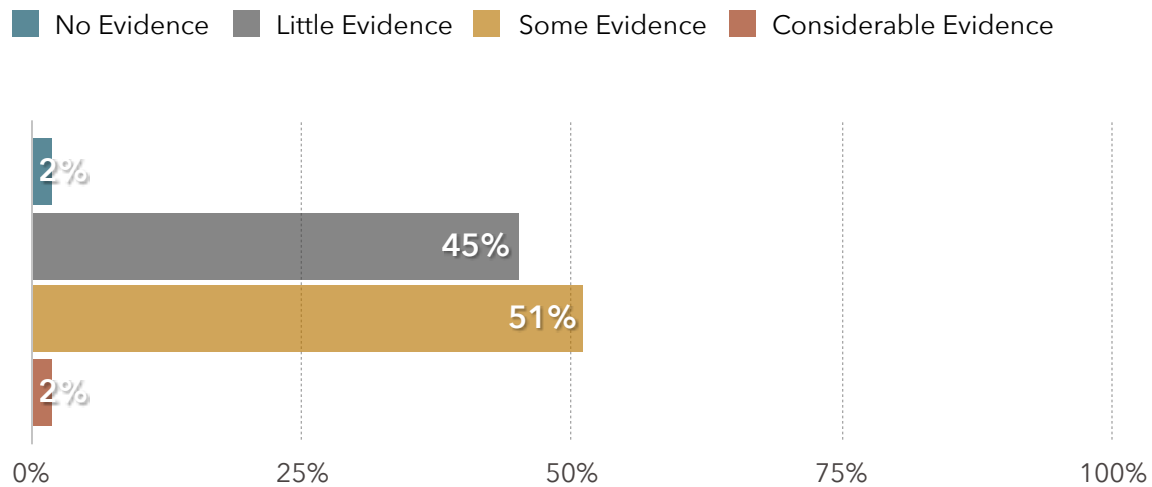

Figure 5 shows that only 2% of the ePortfolios in the sample had no reflection. Forty-five percent of the ePortfolios had a little evidence–meaning up to five reflections–and 51% had some evidence, or 6-12 reflections. Only 2% had 13 or more instances of reflection. It appears, then, that reflective practice is beginning to be established as a cultural norm in General Education at SLCC. We can now look at the kinds of reflection that students are doing. We know from this sample of ePortfolios that students are reflecting primarily on personal connections rather than making cross-disciplinary connections. For example, only 20% of ePortfolios in the sample had any kind of reflection involving connection-making across disciplines, courses, or assignments. Contrast this with the fact that 93% of the ePortfolios contained reflections in which the student made connections from schoolwork to their personal lives.

We know from experience that the quality of student reflection varies widely depending on how well reflection is integrated into course pedagogy and on the quality of the reflection prompts faculty give students. To assess the quality of student reflection in this report, we had the ePortfolio Director and Coordinator quickly pick

what they impressionistically thought were the three strongest student reflections per ePortfolio, and then had a team assess those reflections. Table 9 shows that over half (56%) of the students met expectations, with an additional one student who exceeded expectations for reflection. A total of 42% of the students performed below or well below expectations. The overall mean for student reflective writing this year was 2.77, which compares favorably with the 1.91 mean last year when we simply assessed the three most recent reflections entered into the ePortfolio. This indicates to us that *students can rise toward higher expectations for quality reflection*. When we sample what appear to be three strong reflections instead of three random reflections, we speculate that we are also sampling reflections that came out of courses where reflective pedagogy was well integrated, or where students were given clear expectations and prompts for their reflection.

Table 9: Percentage of Students Whose Mean Scores for Reflection Quality Fell into These Ranges. (Overall mean, excluding the "no evidence" students = 2.77)

| 0 No Evidence	1 Well Below Expectations	2 Below Expectations	3 Meets Expectations	4 Exceeds Expectations
1%	6%	36%	56%	1%
ePortfolio had no student reflection.	The writer fails to address the reflection prompt given by the instructor. The reflection piece contains no elaboration and is too short.	The writer partially addresses the reflection prompt, and fails to sufficiently elaborate his/her points, makes few connections, offers few insights and perspectives.	The writer addresses the reflection prompt, and does a fairly good job with elaboration, making connections, offering new insights and perspectives, and/or uses techniques such as questioning, comparing, interpreting and analyzing.	The writer directly addresses the reflection prompt, elaborates points, makes strong intellectual or personal connections, highlights new insights and perspectives, and/or uses techniques such as questioning, comparing, interpreting and analyzing.

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…*

Community and civic engagement is a rather large learning outcome that encompasses several different dimensions. We have only put one dimension of it here, because we think that this ePortfolio assessment is only able to shed light on that piece of it—namely, whether students are engaging with signature assignments that ask them to demonstrate understanding of either the U.S. or the world outside of the United States. Figure 6 indicates that 26% of sampled students had no evidence in their ePortfolios that they have knowledge of the politics, economics, historical development, or geography of the United States. Twenty-five percent had one artifact that fit these parameters, 23% had two artifacts, and 26% had three or more artifacts. With respect to global understanding, Figure 7 on the next page suggests the situation is even worse. Fully 58% of the ePortfolios had no artifacts indicating that students understand global politics, economics, historical development, or geography. Twenty-nine percent had one artifact, 11% had two artifacts, and only 2% had three or more artifacts.

Figure 6. Percentage of Portfolios with Various Levels of Evidence that Students Demonstrate Knowledge of the Politics, Economics, Historical Development, and/or Geography of the United States.
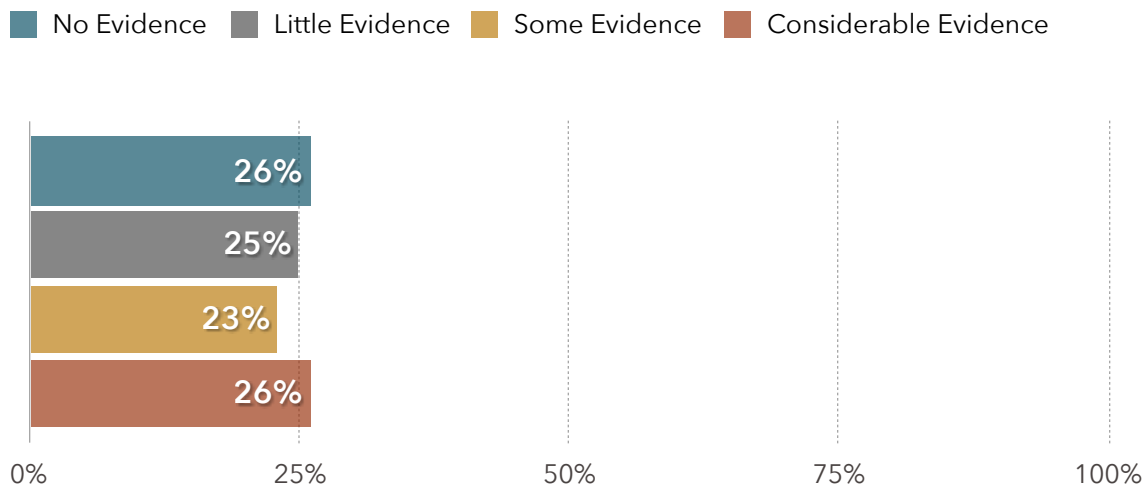
Figure 7. Percentage of Portfolios with Various Levels of Evidence that Students Demonstrate Knowledge of Global Politics, Economics, Historical Development, and/or Geography.
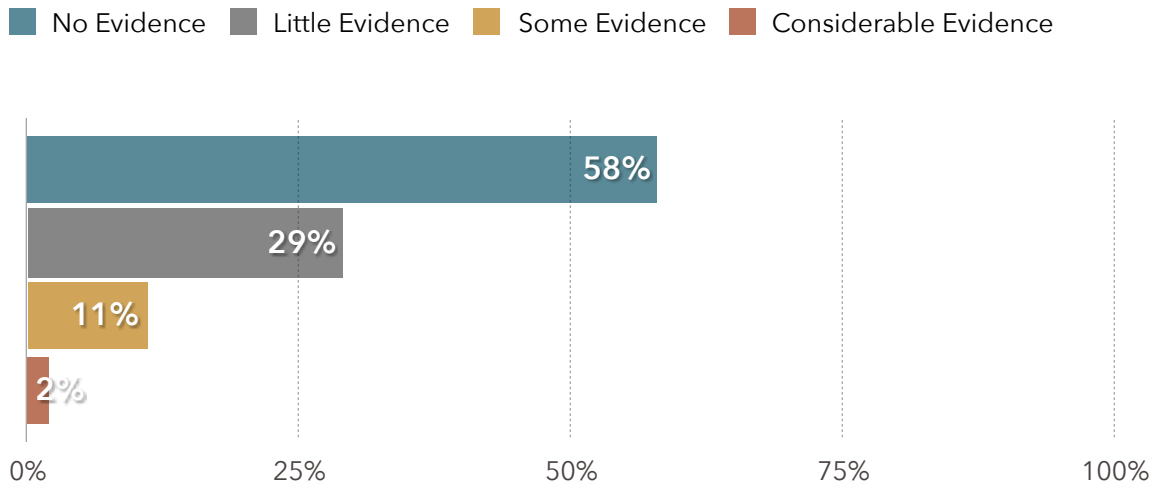
Working With Others

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 8 illustrates, only 4% of the ePortfolios had three or more artifacts ("considerable" evidence) of collaborative work, and 28% had two group work artifacts. Fifteen percent had one artifact of collaborative work, and 53% 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. Or they may reserve collaborative work for in-class, lower stakes assignments or projects that don't show up in the ePortfolio. If this is the case, then ePortfolio might not be the best tool to determine whether SLCC students are getting sufficient experience collaborating with others.

Figure 8. Percentage of Portfolios with Various Levels of Evidence that Students Work with Others to Complete a Project or Assignment.
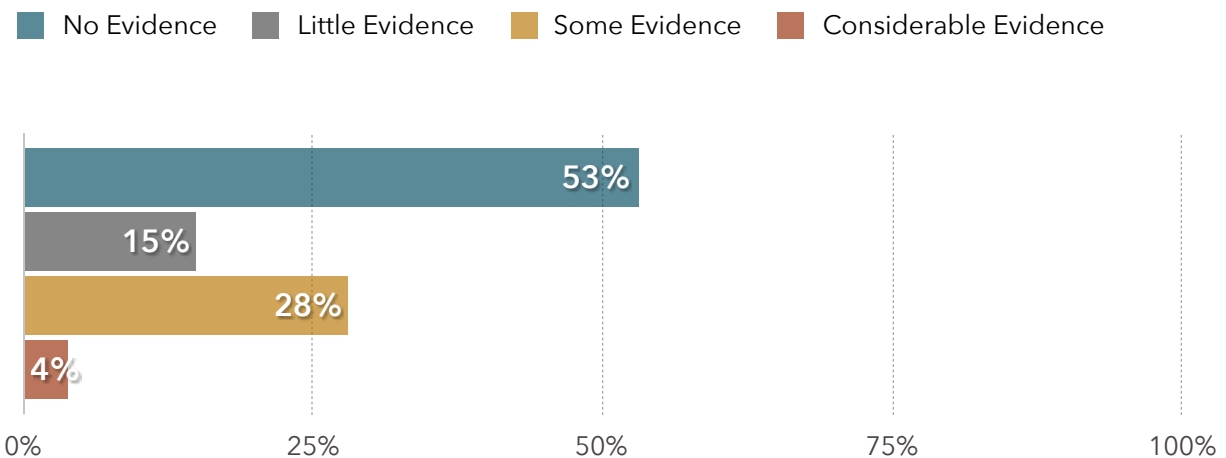
Information Literacy

__Students develop information literacy.__ This includes gathering and analyzing information using technology, library resources, and other modalities; understanding and acting upon ethical and security principles with respect 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 9 depicts the percentage of ePortfolios with "considerable" evidence (four or more artifacts) in which the student used outside-of-class information sources to complete the assignment, used credible sources, and adequately cited those sources. A slight majority of students is getting enough practice doing research outside of class, but we would expect nearly all students to have to do outside research in at least four of their General Education courses. Only 42% of the students appear to be getting sufficient practice using credible sources in their work, and just over a third (37%) are adequately citing outside sources in four or more of their courses.

Figure 9. Percentage of Portfolios with Considerable Evidence of Three Important Dimensions of Information Literacy
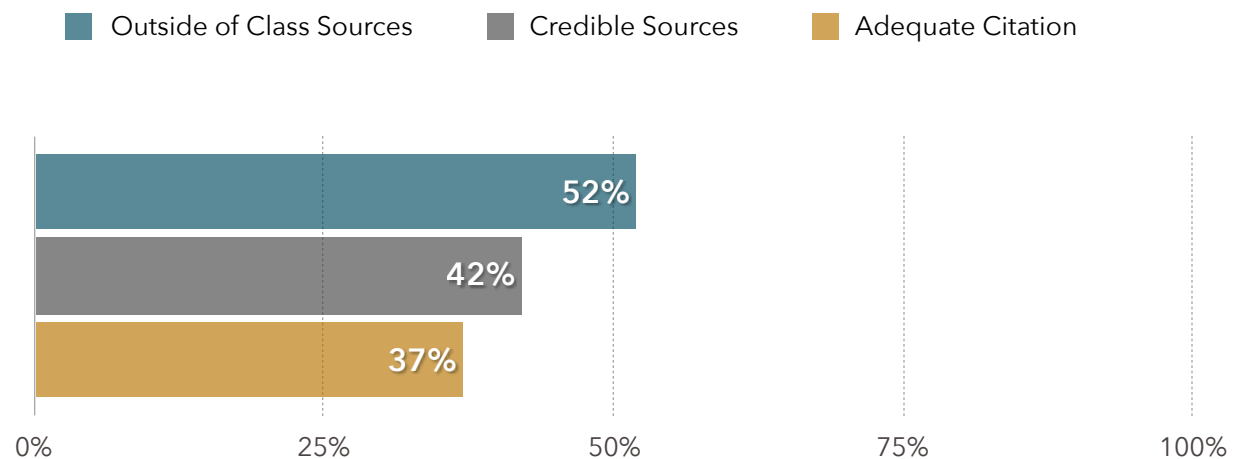
Computer Literacy

Students develop computer literacy. *This includes using contemporary computer hardware and software to effectively complete college-level assignments; understanding and acting upon ethical and security principles with respect to computer technology.*

For computer literacy, the ePortfolio gives us an insight into the kinds of computer hardware and software use to complete their assignments.

Hardware

It is a given that all students used desktop or laptop computers to create their ePortfolios. In addition, our reviewers noted that 54% of the students had used a scanner–most often to scan and upload written Math assignments. Additionally, 42% of the ePortfolios used digital still or video cameras to record their work or experiences.

Software

Students use a variety of software programs to complete their work, the most common of which is a word processor. Fully 96% of the ePortfolios clearly evidenced the use of word processing software. Digital image editing software came in second place, with 48% of students using it. Presentation software came in third place, with 34% of the students using some variety of it in their signature assignments. Spreadsheets were used by 18% of the students.

Lifelong 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 Lifelong 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 SLCC-developed rubric for how well the student understood the importance and personal use of lifetime activity and wellness. As Table 10 indicates, 44% of the students had no lifelong wellness artifact or reflection in their ePortfolio. A total of 31% of the students met or exceeded expectations in demonstrating their understanding of lifelong wellness.

Table 10: Percentage of Students Whose Mean Scores for Lifelong Wellness Fell into These Ranges.

No Evidence	1 Well Below Expectations	2 Below Expectations	3 Meets Expectations	4 Exceeds Expectations
44%	5%	20%	27%	4%
The ePortfolio had no LW artifact or reflection.	The posted artifact or instance of reflection was completely unsatisfactory.	At least one artifact or instance of reflection in which the student minimally expresses an understanding of the importance of physical activity and its connection to lifelong wellness.	At least one artifact or instance of reflection in which the student adequately expresses an understanding of the importance of physical activity and its connection to lifelong wellness.	At least one artifact or instance of reflection in which the student effectively expresses an understanding of the importance of physical activity and its connection to lifelong wellness.

Student Understanding of General Education Learning Outcomes

Using a separate methodology from this assessment report, we can determine the impact of ePortfolio and signature assignments on student understanding of SLCC's General Education learning outcomes. SLCC adopted its learning outcomes in 2005, and began implementation of the ePortfolio requirement in the summer of 2010.

In the spring of 2010—the semester before ePortfolio was adopted—we conducted a survey in a random sample of on-campus, face-to-face General Education courses. We performed the same survey using the same sampling method in the spring of 2015. The survey asked students if they had been made aware of the General Education learning outcomes in that course. Figure 10 shows the tremendous increase in student awareness of General Education learning outcomes over the past five years. We attribute this to the ePortfolio with its signature assignments explicitly tied to learning outcomes, combined with the General Education Committee's course review process, which has increasingly stressed a tie between pedagogy and learning outcomes.

Figure 10. Percentage of Students Who Agreed that They Were Made Aware of the General Education Learning Outcomes in the Course in Which They Were Surveyed.
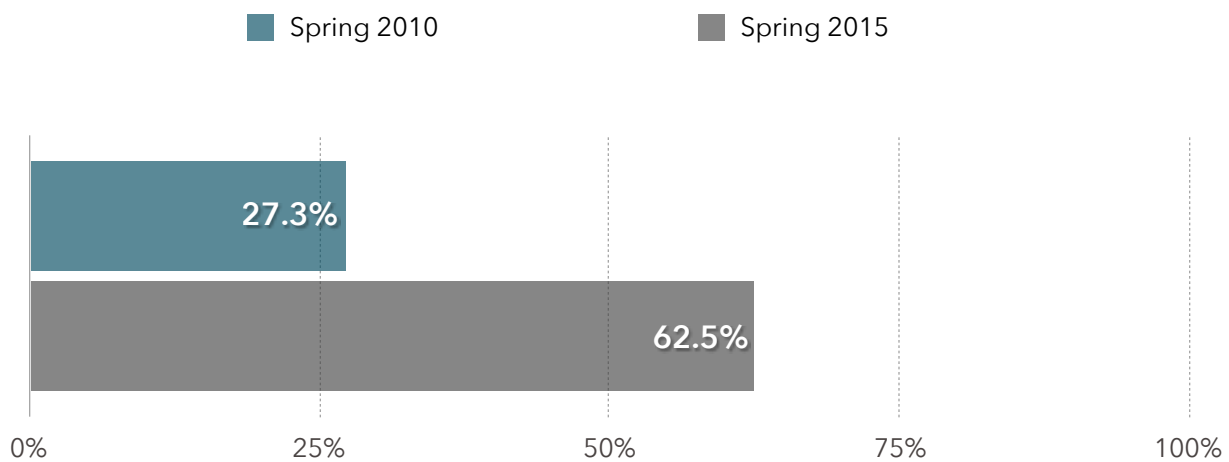
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