General Education Assessment--2012

Evidence from the ePortfolios of Graduating Students

David Hubert, ePortfolio Director
Kati Lewis, ePortfolio Coordinator

Welcome pages from the ePortfolios of Jana Freymuth and Randy Christensen. Used with Permission.

Salt Lake Community College

Table of Contents

Methods

Electronic portfolios are increasingly being used to document student learning in higher education.[1] For this assessment, we were interested in examining the level of evidence our graduating students have in their ePortfolios that pertains to Salt Lake Community College's (SLCC) General Education learning outcomes.

Our Institutional Research Office pulled a sample of 100 students who were graduating in May, 2012, and who did not transfer in any external credits for their AA or AS degrees. This ensured that we were looking at students who completed all of their General Education coursework at SLCC as opposed to other institutions. From that pool of 100 students, we discovered that 83 of them a) had ePortfolios in our system, and b) did not have their ePortfolio password protected. This collection of 83 ePortfolios from graduating AS and AS students became the sample for this assessment study.

We pulled together seven two-person assessment teams to examine all 83 ePortfolios on specific criteria in our General Education ePortfolio Holistic Assessment Rubric. Specific criteria from the rubric were assigned to the assessment teams. 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.

Teams	Discipline(s)
Kathy Eppler and Brenda Santistevan	Math
Jessica Frogley and Dina Wecker	English
Debbie Francis and Susan Baldwin	Humanities and Developmental Education
Kristen Taylor and Rebecca Sperry	Biology
Claire Peterson and Emily Dibble	Humanities
Paula Nielson-Williams and Laura Vanderhoff	Lifelong Wellness
Judy Bunkall and Kathleen Staker	Biology

---

[1] Tracy Penny Light, Helen L. Chen, and John C. Ittelson, *Documenting Learning with ePortfolios: A Guide for College Instructors*. San Francisco, Jossey-Bass, 2011.

Results
Effective Communication

One of the most fundamental expectations of our graduates is that they be able to write in multiple genres. Correspondingly, we expect an "exemplary" graduating student's ePortfolio to contain written artifacts representing at least five distinct genres; a student with "some" evidence of the ability to write in multiple genres will have three or four artifacts representing distinct genres; a student with "little" evidence will have two such artifacts; and a student with "no evidence" of the ability to write in multiple genres will have zero or one such artifacts.

Figure 1 shows that just less than a three-quarters of ePortfolios showed "some" or "considerable" evidence of writing in multiple genres, while only one-quarter of the ePortfolios displayed "some" or "no evidence" of writing in multiple genres. This represents quite strong evidence that SLCC's graduates are displaying one of the most important aspects of effective written communication.

Figure 1: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence that Students Write in Multiple Genres. (n=83)
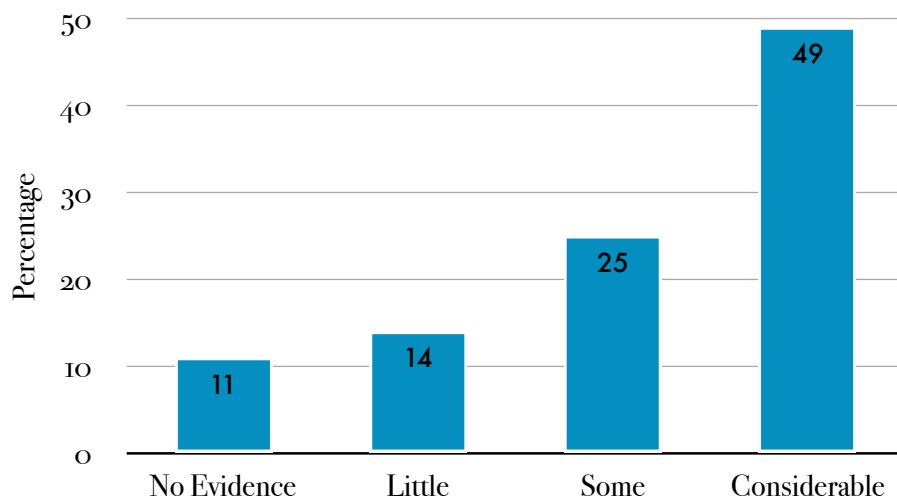
The second aspect of effective communication that can readily be examined with our holistic ePortfolio rubric is the ability of students to put forth--and support--an argument in written form. Reviewers looked

for the following: "When making an argument, the student puts forward a thesis or assertion that is supported by credible evidence and/or logic." And here they were making a qualitative rather than a quantitative assessment. They initially identified all the artifacts in the ePortfolio in which the student was supposed to be making an argument, and then determined whether there was little, some, or considerable evidence of effective argumentation based on the rubric's decision rules.

As indicated in Figure 2, thirty-seven percent of the ePortfolios had no evidence of students writing effective arguments, and fully 40% of the ePortfolios had "little" evidence, meaning that "the artifacts tend to not have recognizable theses and/or little solid supporting evidence or logic." Nineteen percent of the ePortfolios had "some" evidence, meaning that "the artifacts have identifiable theses and supporting evidence or logic." Finally, only 4% of the ePortfolios had considerable evidence, meaning that "the artifacts have strong theses and excellent supporting evidence or logic."

Figure 2: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence that Students Support Their Written Arguments. (n=83)
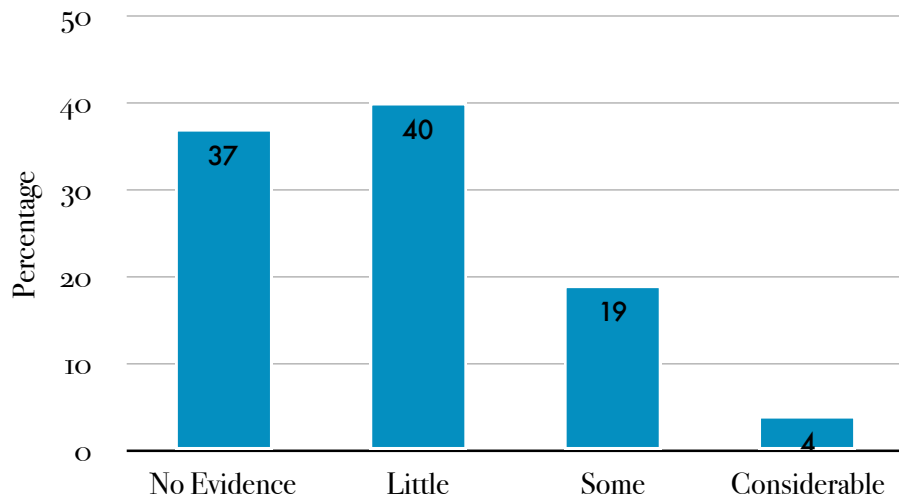
These results are disappointing. The vast majority of graduating students should have some or considerable evidence in their ePortfolios of being able to posit and support effective written arguments. Aside from being important in its own right, the ability to articulate and support a written argument presupposes an understanding of the elements of argumentation and the ability to recognize a poor argument when a student (or citizen) encounters one.

Results
Quantitative Literacy

A key learning outcome at all colleges and universities in the United States is for students to display quantitative literacy. Our assessment team for quantitative literacy consisted of two faculty who teach Math courses. They examined the sampled ePortfolios with respect to two indices of quantitative literacy.

The first aspect of quantitative literacy is that "the student approaches practical problems by choosing and applying appropriate mathematical techniques." The levels of evidence for this criterion read as follows:

- No Evidence--No use of mathematical tools to solve problems.

- Little Evidence--Students apply mathematical tools to attempt to solve problems, but are unable to interpret the results correctly.

- Some Evidence--Students apply mathematical tools to solve most problems and are able to comprehend the results.

- Considerable Evidence--Students apply the most effective mathematical tools to solve all problems and are able to synthesize the results concisely.

Figure 3: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence that Students Choose and Apply Appropriate Mathematical Techniques. (n=83)
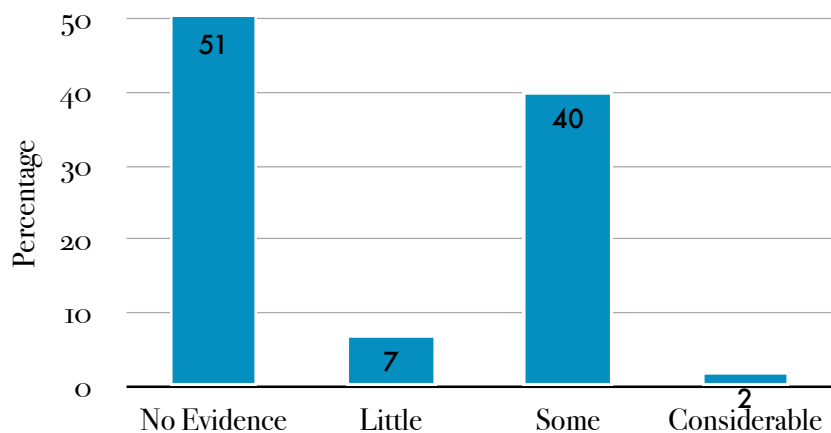
Figure 3 indicates that half of the students had no evidence of using mathematical tools to solve problems. This is problematic, since the vast majority of our graduates should have taken at least one Math course. Otherwise, the results are encouraging in that fully 42% of the ePortfolios had some or considerable evidence of students using mathematical tools to solve problems.

The quantitative literacy team also scoured the ePortfolios for evidence that students "can use and interpret information represented as data, graphs, tables, or schematics." If they found one artifact displaying this ability, then they marked that the ePortfolio had "little" evidence. Two artifacts of the student interpreting information as data, graphs, tables or schematics merited a "some" evidence designation, and three or more artifacts constituted "considerable" evidence.

Figure 4 shows that one-third of the ePortfolios had no evidence of the students using graphs, tables, data, or schematics. Twenty percent of the ePortfolios had "little" evidence, 27% had "some" evidence, and 20% had considerable evidence. These results indicate that while many of our students are experiencing a General Education curriculum that repeatedly challenges them to use and interpret information in a variety of ways, a slight majority of them are not.

Figure 4: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence that Students Use and Interpret Information. (n=83)
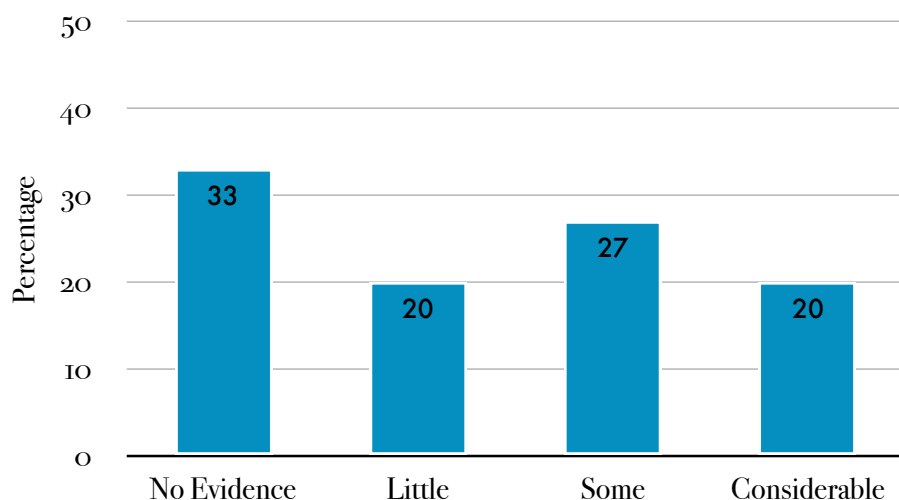
Results
Critical Thinking

Critical thinking has long been recognized as a multi-dimensional capacity that educated persons possess. We are concerned here with identifying and measuring discrete academic moves associated with critical thinking that many college faculty try to elicit from their students.

The first aspect of critical thinking we examined is whether students are demonstrating problem-solving skills in their ePortfolios. For this analysis, the assessment team looked for artifacts in which the student was asked to deal with an unstructured problem.[2] If no such artifacts were found, then the ePortfolio was scored as having "no evidence" of problem solving, a method that we'll follow--but not describe--in all other indices below. If the ePortfolio had one artifact in which the student addressed an unstructured problem, the assessment team indicated that it demonstrated "little" evidence of problem solving. If the ePortfolio had two artifacts, it was considered to have "some" evidence of problem solving. If the ePortfolio had three or more such artifacts, then it was considered to have "considerable" evidence of problem solving.

Figure 5: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence that Students are Addressing Unstructured Problems. (n=83)

_____
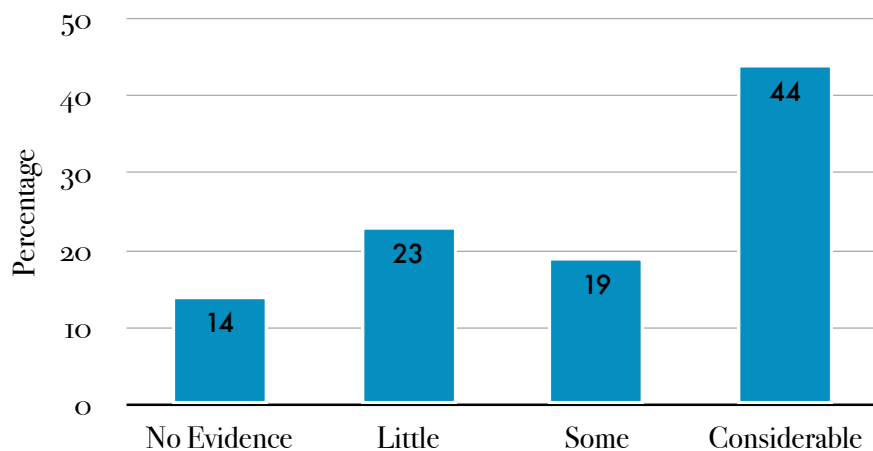
[2] An unstructured problem does not have a specific correct answer, lends itself to multiple courses of action in pursuit of a solution, and/or grants the student great freedom in responding to the assignment.

Figure 5 indicates that while 14% of graduating SLCC students in the sample had no evidence of addressing unstructured problems, fully 63% of them had addressed two or more such problems during their time at the College. This is a positive indication of the challenging nature of SLCC's General Education curriculum in that it appears to be reasonably well-stocked with unstructured problems at the Freshman/Sophomore level.

A second aspect of critical thinking as displayed in student ePortfolios is whether students make connections across disciplines—either in the artifacts themselves or in their reflections that accompany the artifacts. As shown in Figure 6, the reviewers rated 42% of the ePortfolios as having "no evidence" of making connections, and 30% of them as containing "little" evidence, meaning that "the ePortfolio contains one attempt to connect assignments—or entire courses—across disciplines." Twenty-four percent had "some" evidence of making connections, meaning that "the ePortfolio contains two or three attempts to connect assignments—or entire courses—across disciplines." Four percent had "considerable" evidence, meaning that "the ePortfolio contains four or more attempts to connect assignments—or entire courses—across disciplines."

Figure 6: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence Pertaining to Students Making Connections Across Disciplines. (n=83)
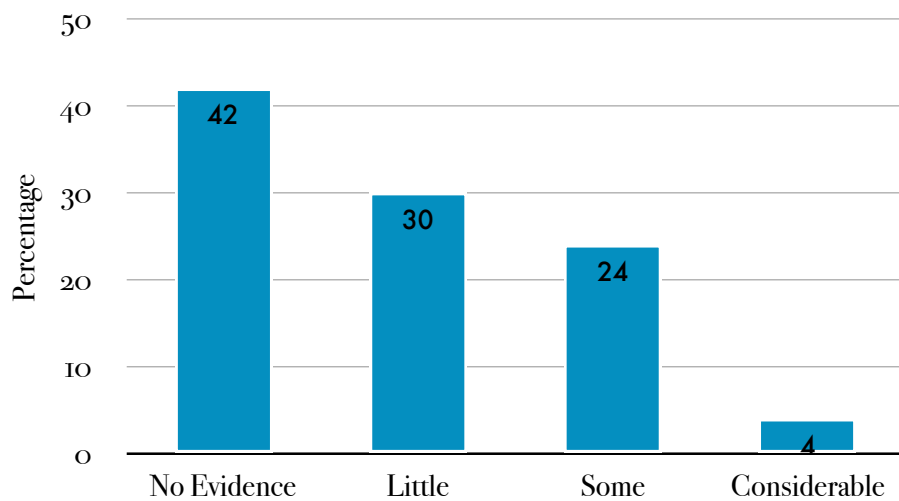

If we extrapolate these results, we come to the disturbing conclusion that around 4 of every 10 graduating SLCC students are never asked in the course of their General Education program to make connections across disciplines. And this despite the fact that General Education at SLCC contains an entire

Interdisciplinary course requirement. We don't need all instructors to rush out and use their reflection prompts to have students make connections across disciplines; that is certainly a valid use of reflection, but there are many others as well. Nor do all signature assignments in General Education need to ask students to incorporate ways of knowing from multiple disciplines. Still, it would be reasonable to ask that the faculty who teach courses that satisfy the Interdisciplinary Gen Ed requirement design their signature assignments and/or reflection prompts to push students to make connections across disciplines. If that were the case, future such assessments would indicate that all SLCC graduates have at least a little evidence in their ePortfolios of the ability to make connections across disciplines.

Salt Lake Community College defines creative expression as a component of critical thinking, and our reviewers looked for examples of creative expression in each ePortfolio. Within the sample of 83 ePortfolios, 46% showed no evidence of creative expression, and 30% showed "little" evidence of creative expression, meaning that "the ePortfolio contains one strong instance of creative expression." Such evidence might include assignments in Fine Arts, Humanities, or Creative Writing Courses, or perhaps a particularly creative form of reflection. Nineteen percent of the ePortfolios exhibited "some" evidence, meaning that "the ePortfolio contains two strong instances of creative expression." And 5% of the ePortfolios contained "three or more strong instances of creative expression," which put their level of evidence in the "considerable" category.

Figure 7: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence Pertaining to Creative Expression. (n=83)
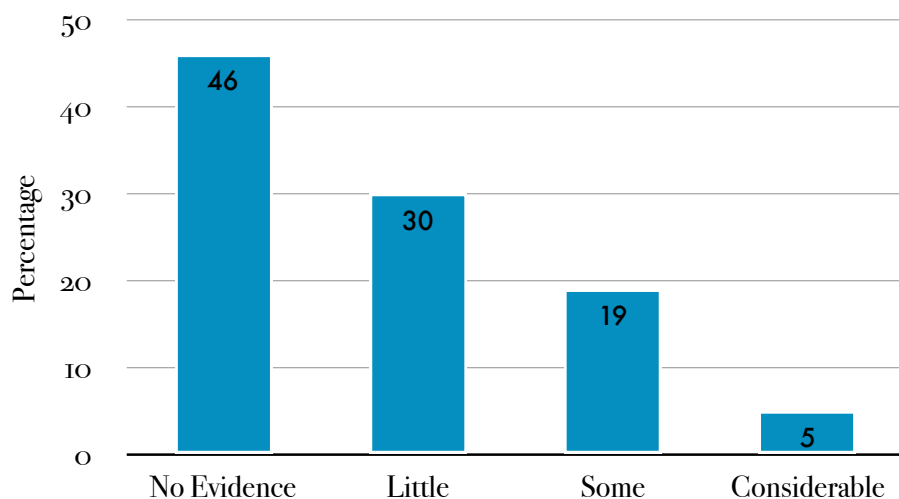
A central component of critical thinking is represented by the suite of skills known as analysis, synthesis, and evaluation. How often do SLCC's students engage in these activities and represent them in their ePortfolios? Out of our total sample, 34% of the ePortfolios had no instances of assignments or reflection asking students to analyze, synthesize and/or evaluate. Figure 8 shows that an additional 34% of the ePortfolios had "little" evidence, meaning that "the ePortfolio contains one artifact or reflective writing in which the student exhibits analysis, synthesis, or evaluation." Twenty-nine percent had "some" evidence, meaning that "the ePortfolio contains two artifacts or reflective writing in which the student exhibits analysis, synthesis, or evaluation." Only four percent of the ePortfolios contained "three or more artifacts or reflective writing in which the student exhibits analysis, synthesis, or evaluation," which we classify as exhibiting "considerable" evidence.

Figure 8: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence that Students are Engaging in Analysis, Synthesis, and Evaluation. (n=83)
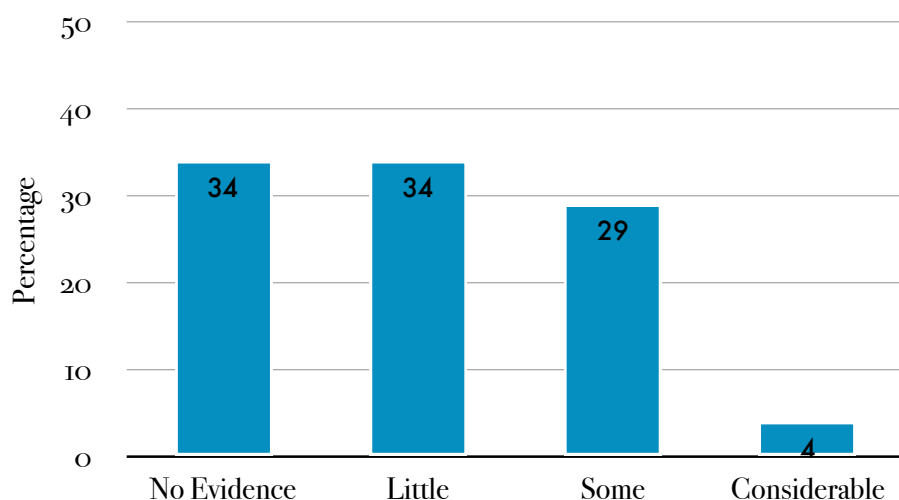
A final aspect of critical thinking that we examine in our study is whether students demonstrate an understanding of the scientific method. Fully 52% of the sampled ePortfolios had no artifacts indicating that students either use or understand the scientific method. As indicated in Figure 9, 25% of the ePortfolios had "little"evidence--meaning one strong example of students either using or understanding the scientific method. An additional 13% of the ePortfolios had two strong examples of students using or understanding the scientific method, which indicates "some" evidence for this criterion. Finally, 10% of the ePortfolios had "considerable" evidence, meaning that they had three or more strong examples of students using or understanding the scientific method.

Figure 9: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence that Students understand the Scientific Method. (n=83)
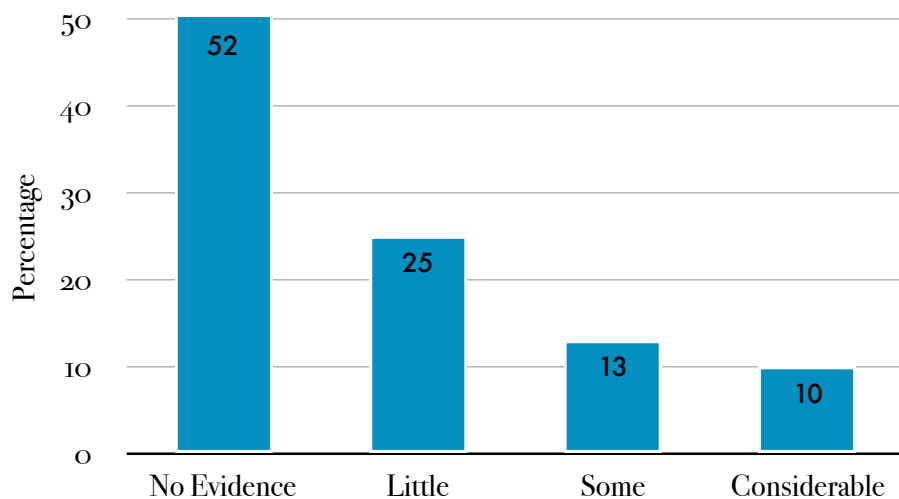
Given that students are required to take a Biological Science course and a Physical Science course, we are surprised that half of the ePortfolios in the sample have no artifacts indicating use or understanding of the scientific method. These results may engender a conversation among our science faculty regarding signature assignments in the ePortfolio.

Results
Civic and Professional Engagement

Salt Lake Community College has a college-wide learning outcome in which students prepare for a life of civic engagement and for a life of working cooperatively and professionally with a diverse set of colleagues. For this assessment using ePortfolios, we broke down preparation for civic and professional engagement into the kinds of artifacts and reflection that we could reasonably expect to show up in our General Education program.

For instance, we are interested that our graduates "demonstrate knowledge of the politics, economics, social issues, and/or historical development of the United States," for this kind of foundational knowledge is an important prerequisite to informed participation in the American polity. Moreover, students should at least have a little evidence in their ePortfolios of this kind of knowledge due to the American Institutions course requirement in our General Education program.

Figure 10 depicts our results. Surprisingly, 41% of the ePortfolios had "no evidence" of student knowledge about the United States. Thirty-nine percent of the Portfolios had a "little" evidence pertaining to knowledge of the United States, meaning that they had one artifact "demonstrating knowledge of the politics, economics, social issues, and/or historical development of the United States." Sixteen percent had "some" evidence (two artifacts), and 5% had "considerable" evidence (three or more artifacts).

With respect to the high number of ePortfolios in the sample that had no artifacts of student knowledge about the United States, we can conclude that one or two things (or a combination thereof) is going on. One possibility is that faculty who teach American Institutions courses (POLS 1100, HIST 1700, and ECON 1740) or other courses such as SOC 1020 are making signature assignments that don't really give students a chance to demonstrate their knowledge about American politics, economics, history or social issues. The other possibility is that a fair percentage of these faculty are not requiring their students to upload signature assignments and reflection into their ePortfolios. In either case, students are being denied the opportunity to showcase and reflect on their knowledge of the United States in the context of their other General Education courses.

Figure 10: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence that Students are Knowledgeable about the United States. (n=83)
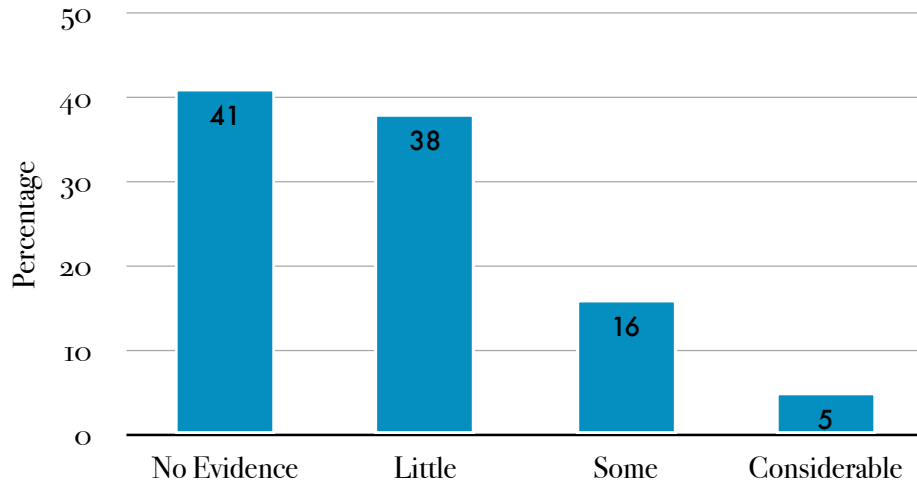
In addition to broad knowledge about the United States, we also want our graduates to know about the wider world in which the United States and its people operate. So we had a team of reviewers look in the sample ePortfolios for artifacts that demonstrate "knowledge of global politics, economics, historical development, and/or geography." A number of courses spread throughout the General Education program should help students demonstrate this knowledge.

Figure 11: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence that Students Have Global Knowledge. (n=83)
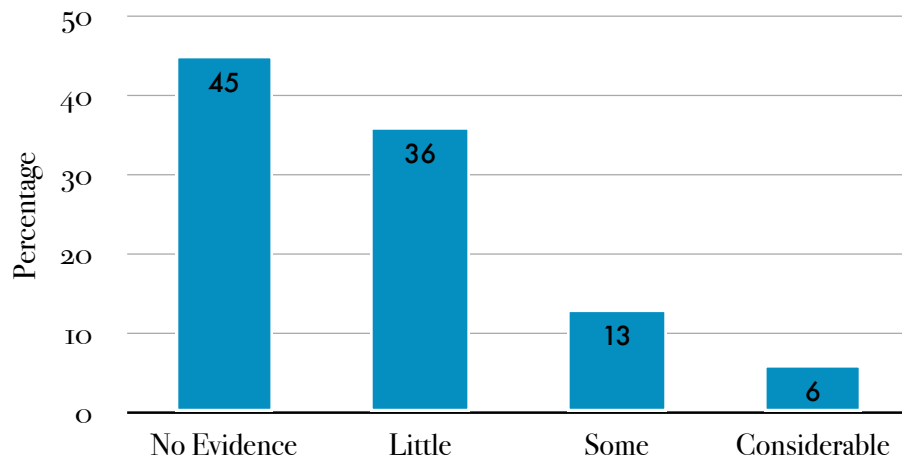
As Figure 11 illustrates, 45% of the ePortfolios had no such evidence of global understanding. Approximately 36% of the ePortfolios had "little" evidence of global understanding, meaning that they had one artifact demonstrating knowledge of global politics, economics, historical development, and/or geography. Thirteen percent had "some" evidence (two artifacts) and six percent had "considerable" evidence (three or more artifacts).

A third aspect of civic and professional engagement is the ability to "work with others in a professional and constructive manner." The assessment team looked at both signature assignments and reflection for evidence of cooperative work. Figure 12 displays the results. Eighty-four percent of the sampled ePortfolios exhibited no such evidence, while 13% had "little" evidence (one instance of cooperative work) and 3% had "some" evidence (two instances of cooperative work). No ePortfolios had "considerable" evidence of students working with others.

Figure 12: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence that Students Work with Others. (n=83)
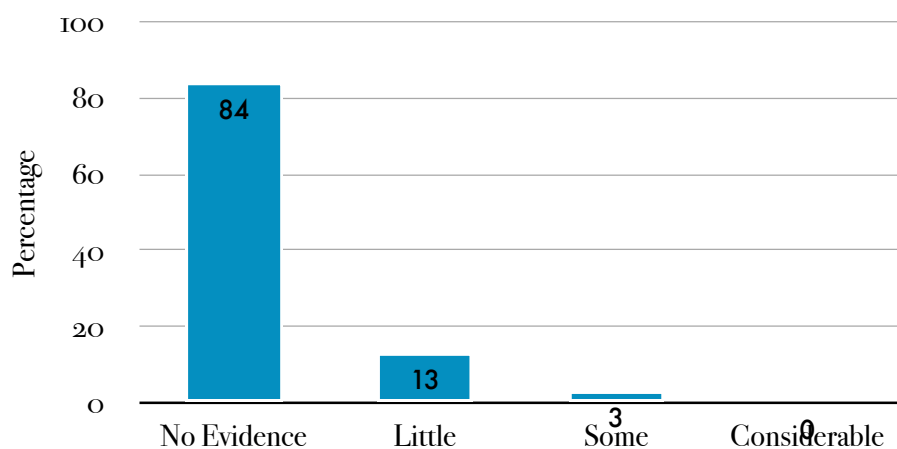

These results should give us pause, because the ability to work productively with others is a clear employability marker for college graduates. For instance, a recent survey of employers conducted for the Association of American Colleges and Universities by Hart Research Associates revealed that 71% of the

respondents wanted colleges and universities to place more emphasis on "teamwork skills and the ability to collaborate with others in diverse group settings."[3]

The assessment team also looked at the extent to which the artifacts and reflection in the ePortfolios indicates that the students "grapple with the contemporary and historical significance of diversity in American life." We want to graduate students who can thrive in an increasingly diverse world, and we expect that our Gen Ed Diversity requirement and other courses will provide students the opportunity to meet this learning outcome.

As Figure 13 indicates, fully 40% of the sampled ePortfolios had zero artifacts and reflection indicating that students had grappled with diversity in American life. Thirty-two percent of the ePortfolios had "little" evidence, meaning that they contained one signature assignment or reflection in which the student dealt with the issue of diversity in America, and 22% had "some" evidence, or two instances of grappling with diversity. Six percent of the ePortfolios had "considerable" evidence of students dealing with diversity in their assignments or reflection.

Figure 13: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence that Students Grapple with Diversity in the United States. (n=83)
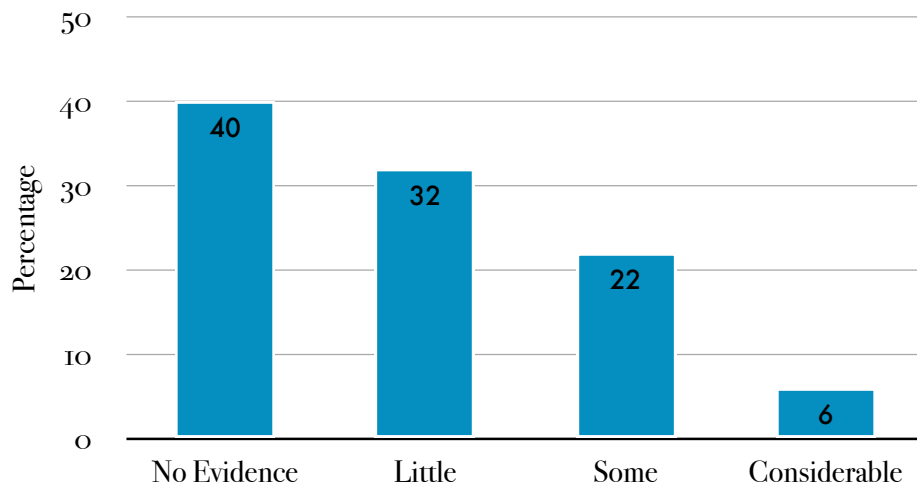
[3] AACU, Raising the Bar. *Employers' Views on College Learning in the Wake of the Economic Downturn*. January 10, 2010. Available online at: http://www.aacu.org/leap/documents/ 2009_EmployerSurvey.pdf

Given that all SLCC students must take a Diversity designated course as part of their General Education requirements, the results are somewhat surprising. Ideally, no students should fall into the "no evidence" category, for they should at least have one signature assignment or reflection from their Diversity course. If these results are an accurate indication of the average student's curricular exposure to diversity, SLCC's faculty may need to think carefully about the kinds of signature assignments and reflection they are assigning, especially in our Diversity designated courses.
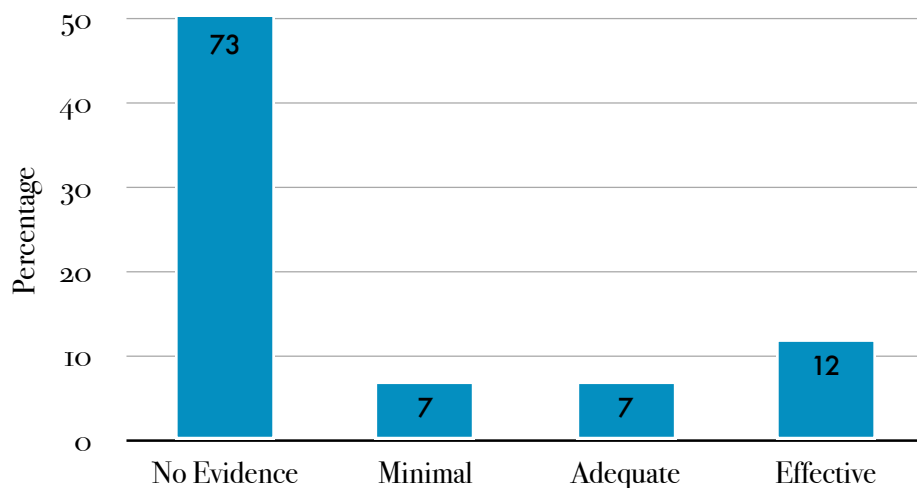
Results
Lifetime Wellness

SLCC students who graduate with an AS or AA degree are required to take a Lifetime Wellness course. We had a team of faculty who teach Lifetime Wellness courses examine the sample of ePortfolios. Since we don't expect students to have more than one signature assignment in their ePortfolios that deals with lifetime wellness, the reviewers examined the quality of students' understanding of lifetime wellness rather than counted signature assignments.

Figure 14 documents the results of the assessment. Seventy-three percent of the ePortfolios had no artifacts or reflection from Lifetime Wellness courses. That's the bad news, for we would expect nearly all of the ePortfolios to have some evidence of students' understanding of lifetime wellness. The good news is that the majority of students who did have evidence in their ePortfolios had more than a "minimal" understanding of lifetime wellness: seven percent had "adequate" understanding (representing 27% of those who had any evidence at all), and 12% had "effective" understanding of lifetime wellness (representing 45% of those who had any evidence at all).

Figure 14: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence/Understanding of Lifetime Wellness. (n=83)

Results
Computer and Information Literacy

Computer and Information Literacy is a new General Education student learning outcome at Salt Lake Community College, although the College has long had a Computer Literacy course requirement in General Education.

Our reviewers examined ePortfolios for evidence that students "gather information using technology, library resources and/or other modalities." They were careful to exclude simple "information gathering" such as reading the course text or other materials that the instructor provided, instead noting "instances of outside-of-class resources that indicate the student relied on the library, online databases, or other modalities to do research."

Figure 15: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence of Outside-of-Class Research. (n=83)
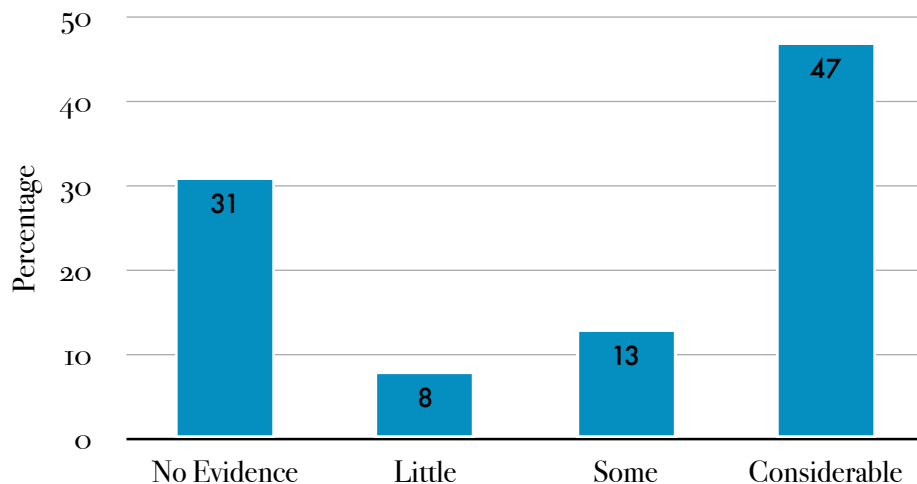

Figure 15 shows that nearly one-third of the ePortfolios had no evidence of outside-of-class research. Eight percent of the ePortfolios had "little" evidence of outside research–namely, only one artifact for which the student went to outside resources for information to complete the assignment. Thirteen

percent had "some" evidence, or 2-3 artifacts that required outside research, and 47% of the ePortfolios had four or more artifacts that required the students to do outside research to complete the assignments.

Our assessment team also looked at the extent to which each student's work used credible sources. As Figure 16 indicates, 45% of the ePortfolios had zero signature assignments that cited credible sources. Two percent of the ePortfolios had one artifact that used credible sources, which was coded as "little" evidence. More encouraging is that 20% of the ePortfolios had "some" evidence, meaning that 2-3 artifacts used credible sources, and 33% of the ePortfolios had "considerable" evidence--four or more artifacts that cited credible sources.

Figure 16: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence of Students Using Credible Sources in Their Work. (n=83)
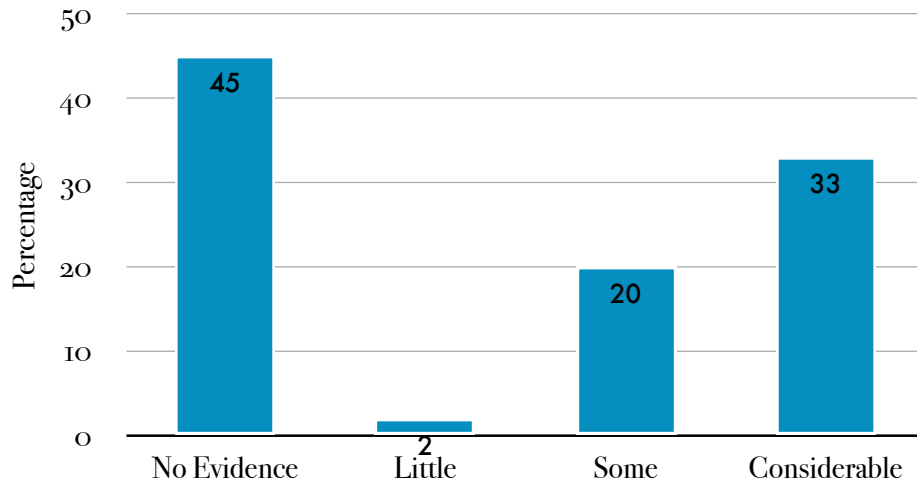
In addition to using credible sources, a college educated person should also properly cite those sources. Our reviewers were not interested in the type of citation used by students (MLA, APA, Footnoting, etc.), but that students sufficiently documented their sources.

Figure 17 reveals that 55% of the ePortfolios had no properly cited sources. Eight percent had one properly cited artifact, or "little" evidence. Sixteen percent had 2-3 properly cited artifacts, or "some" evidence. And 21% had four or more assignments with sufficiently documented sources. Since proper citation of credible sources is at the heart of academic work, it appears that the General Education program at SLCC is not providing students enough practice in this important skill.

Figure 17: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence of Students Adequately Citing Their Sources. (n=83)
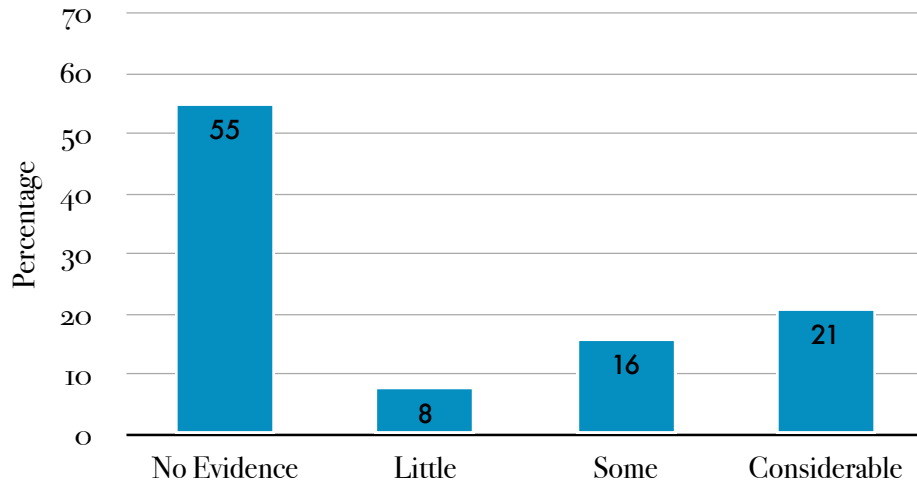
Results
Creation and Organization of the ePortfolio

Students can use any platform to create a web-based ePortfolio, but the College only provides support for three platforms. Of the 83 ePortfolios in the sample, 34% were built on the Yola platform, 16% were built using Wordpress, and 50% were built on Weebly. Students prefer Yola and Weebly because of their ease of use; they have drag-and-drop interfaces, whereas Wordpress has a slightly more difficult learning curve.

Welcome Page--Approximately 63% of students in the sample either created a content-less Welcome page or created one that was rated "poor" by the reviewers. The reviewers rated 25% of the Welcome pages as "satisfactory" and 12% were rated as "exemplary." The percentage of Welcome pages rated "exemplary" doubled between last year and this year, which is a very good sign that more students are seeing the importance of the using that page to create a positive impression.

Goals and Outcomes Page--Approximately 92% of students in the sample either created a content-less Goals page on their ePortfolio, or created one that the reviewers rated as "poor." The reviewers rated the remaining 8% of Goals pages as "satisfactory." Clearly, we need to do a better job of helping students see the importance of listing their goals and reflecting on how SLCC's learning outcomes can help them achieve those goals.

Outside the Classroom Page--Approximately 80% of the students did not have content on their Outside the Classroom page. As with the Goals and Outcomes page, the majority of students are not understanding the relevance of the Outside the Classroom page. The ones who do, however, are documenting extracurricular activities, volunteer work, and hobbies.

Resume Page--Fifty-three percent of the sampled ePortfolios did not have a resume page at all. Of the ePortfolios that had a resume page, 54% included an actual resume, while 46% were blank.

Reflection--Reflection is central to the pedagogical benefits of ePortfolios. Without reflection, ePortfolios risk becoming the electronic equivalents of the dusty drawers into which the academic work of previous generations disappeared. Carefully crafted reflection prompts enable students to personalize and contextualize their understanding, reaching internally to their own lived experiences and externally

to other academic experiences and disciplines. Reflection is foundational to constructivist educational theories that have shaped pedagogical practices for decades. [4]

The reviewers examined the reflection exhibited in the students' ePortfolios. Last year 28% of the ePortfolios in the sample had no reflection whatsoever, while this year only 16% of the sample had no reflection. This is a significant improvement, and indicates that more faculty are incorporating reflection into their ePortfolio assignments. Of the ePortfolios that did contain reflection, the reviewers rated 59% as "poor" and 36% as "satisfactory." Whereas last year only one ePortfolio exhibited "exemplary" reflection, this year four ePortfolios in the sample had exemplary reflection. We applaud this improvement and hope that it continues in the future, for broad-based reflective practice throughout SLCC's General Education program should pay many dividends for both students and the institution.

_____

[4] See the second chapter of Dannelle D. Stevens and Joanne E. Cooper, *Journal Keeping. How to Use Reflective Writing for Learning, Teaching, Professional Insight and Positive Change*. Sterling, Virginia: Stylus Publishing. 2009.

Recommendations

What should SLCC's faculty and academic administrators do with these results?

To respond to the results of this assessment, we recommend first that faculty have a set of conversations about what kinds of artifacts and reflection should be contained in the ePortfolio of a graduating AA/AS student at SLCC--and the extent to which they should speak to the College's General Education outcomes.

Figure 18: Percentage of ePortfolios containing "some" or "considerable" evidence of key General Education Outcomes. (n=83)
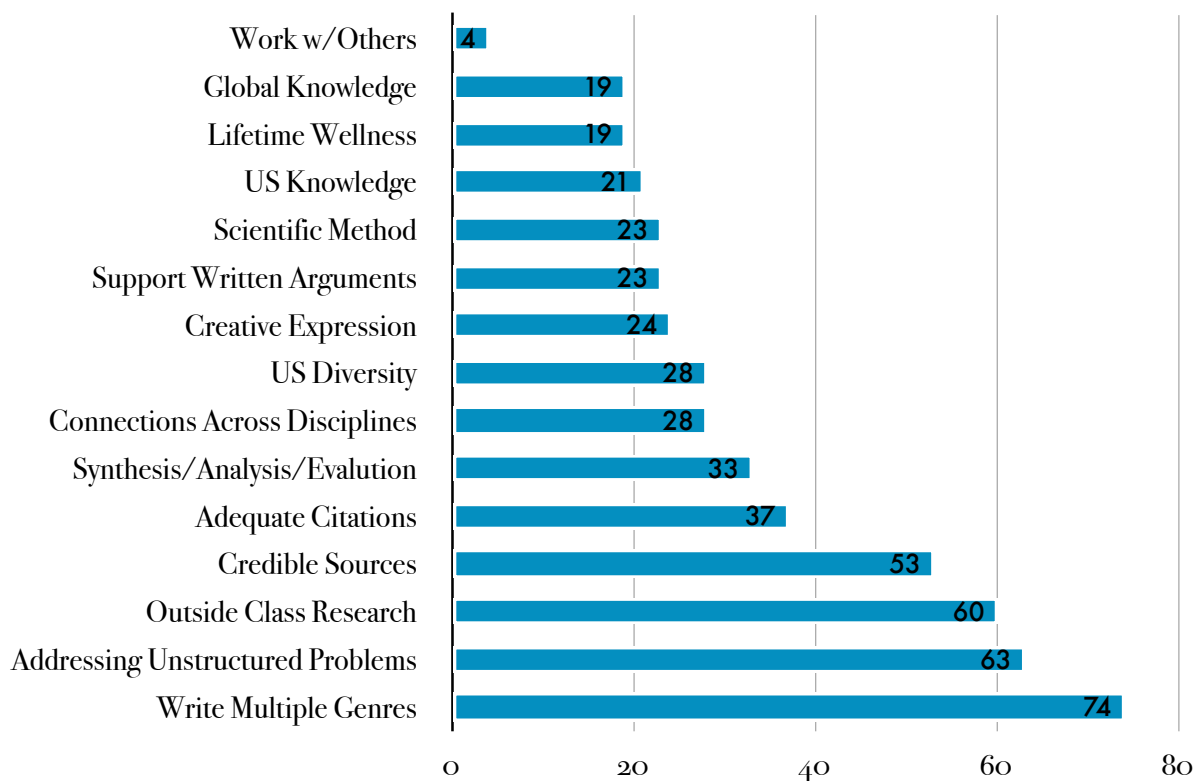

If we plot the percentage of ePortfolios in the sample that show "some" or "considerable" evidence of key learning outcomes (See Figure 18), we see that the students' artifacts and reflections illustrate some General Education outcomes better than others. Faculty in the Curriculum Committee, the General Education Committee, and within their own departments should be discussing these questions:

- **Why are we seeing these results?** For outcomes that have relatively little evidence in student ePortfolios, one explanation could relate to curricular misalignment--a poor translation of General Education outcomes down to course-level outcomes. A related issue might be the design of our signature assignments and reflection prompts. Finally it could be that some faculty who teach General Education are either failing to use the ePortfolio in their Gen Ed courses, or are struggling to figure out the best ways to integrate what Helen Chen and others call "folio thinking" and reflection into their courses.[5]

- **What can we faculty do to help students better showcase their attainment of key learning outcomes?** A good exercise here would be for faculty in departments to use the holistic ePortfolio assessment rubric to have a conversation about the range of signature assignments and reflection that they assign in General Education courses. Each assignment/reflection pair should probably help students showcase multiple learning outcomes. For example, a student's Powerpoint presentation on issues of gender in U.S. society could represent an example of writing in a particular genre, knowledge of the United States, evidence of grappling with diversity, outside of class research…etc. If the students in the class peer reviewed drafts of their presentations and then reflected on giving and receiving feedback from a partner and the revision process, that would be evidence of working collaboratively with others.

- **What are appropriate levels of evidence for these learning outcomes?** If we were to perform this same assessment next year, or the year after, what would be some reasonable targets for the results in Figure 18? Could we expect that at least 33% of ePortfolios would have "some" or "considerable" evidence for all of the General Education outcomes?

Another conversation faculty should have centers around quantitative literacy. Our institutional assessment schedule will be focusing on quantitative literacy in the spring of 2013. Faculty in programs that have some level of quantitative literacy as a program-level learning outcome (and many of our programs do) need to think about the kinds of signature assignments they could be having students showcase in their ePortfolios next year.

---

[5] For information and examples of work on folio thinking, see http://scil.stanford.edu/research/projects/folio.html.

Figure 19: Percentage of ePortfolios containing "No" or "Little" evidence of Quantitative Literacy Outcomes. (n=83)
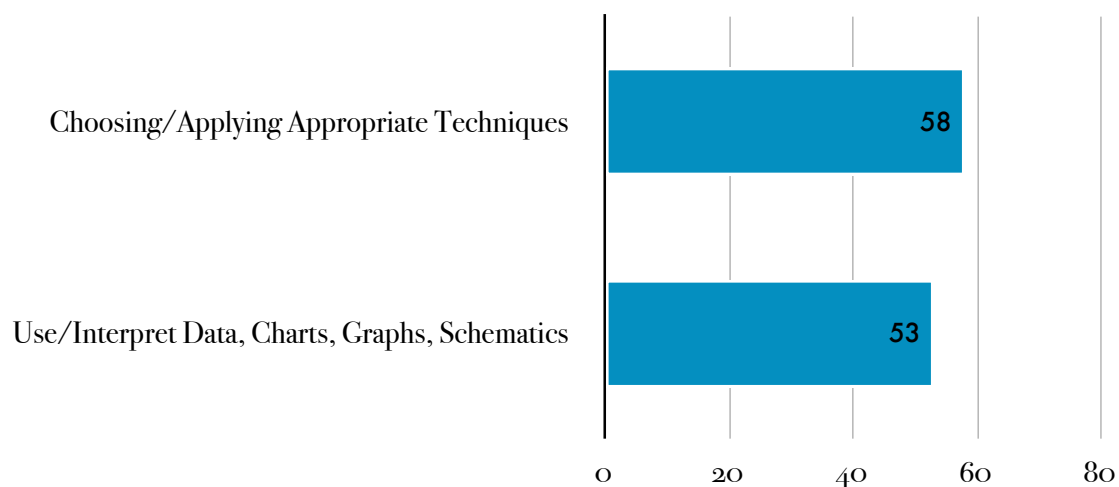
As Figure 19 shows, over half of our graduating students have little or no evidence of work that could possibly indicate that they are progressing towards being quantitatively literate. The Math department needs to ensure that all students are correctly using the ePortfolio to document their work. However, we cannot--and should not--solely rely on the artifacts from the students' Math courses to illustrate Quantitive Literacy. That would defeat the notion of General Education, for the discrete mathematical skills and representational understandings that support Quantitative Literacy manifest themselves all across our General Education program.

Finally, the results on the creation and organization of the ePortfolio clearly indicate that we need to do a better job of training and supporting faculty and students. We encourage academic departments to schedule training for their faculty who might have questions about signature assignments, reflection prompts, and how to incorporate ePortfolio into their classes. We are also setting up a staffed ePortfolio drop-in lab in the Taylorsville-Redwood library. This will allow us to better provide individual service to students who are setting up their ePortfolios as well as students who need help with more advanced ePortfolio techniques.

We end this report by focusing less on assessment *per se*, and more on portfolio culture at Salt Lake Community College. A properly organized and fully developed student ePortfolio is a thing of beauty that can--when multiplied by the thousands of students we have at SLCC--really change the academic climate

of our educational institution in remarkable ways. After only two years of implementation, we are already getting some very positive anonymous feedback from students, which is an indication that many faculty are doing amazing things with the ePortfolio in their General Education courses. That work compounds in positive ways each time students take additional courses that incorporate the ePortfolio.

"I enjoy maintaining my own web site dedicated to my general education. It's great to have a place to review everything I've learned from my time at SLCC. I don't find the technology difficult, since it's styled like a simple blog. I would actually like to experiment with more complicated methods of presenting my work, for example learning html."

"After the final reflection in this course, I am definitely seeing how my Gen Ed courses fit together. Yes, I think it is helping me engage with my learning. Although it is kind of a pain in the arse while you're adding to it for each course, it is neat to go back and look at past course reflections and signature assignments."

"I really like the eportfolio assignments. The layout really helps to make it more presentable and engaging. I like the fact that I can go back through it to reminisce about the things I've learned; usually we forget all too soon!"

SLCC's Learning Outcomes for General Education

1. Acquire Substantive Knowledge Throughout the General Education Requirements

2. Effective Communication

A. Develop critical literacies--reading, writing, speaking, listening, visual understanding--that they can apply in various contexts.

B. Organize and present ideas and information visually, orally, and in writing according to usage.

C. Understand and use the elements of effective communication in interpersonal, small group, and mass settings.

3. Develop Quantitative Literacies Necessary for Their Chosen Field of Study

A. Approach practical problems by choosing and applying appropriate mathematical techniques.

B. Use and interpret information represented as data, graphs, tables, and schematics in a variety of disciplines.

C. Apply mathematical theory, concepts and methods of inquiry appropriate to program-specific problems.

4. Think Critically and Creatively

A. Reason effectively using available evidence with an awareness that knowledge is dynamic and builds on new evidence and alternative perspectives.

B. Demonstrate effective problem solving.

C. Engage in creative thinking, expression, and application.

D. Engage in reflective thinking and expression.

E. Demonstrate higher-order thinking skills such as analysis, synthesis, and evaluation.

F. Make connections across disciplines.

G. Apply scientific methods to the inquiry process.

5. Develop the Knowledge and Skills to be Civically Engaged

A. Understand the natural, political, historic, social and economic underpinnings of the local, national, and global communities to which they belong.

B. Develop the awareness of both civil rights and responsibilities for individual and collective action in a democracy.

C. Engage in service-learning for community building and an enhanced academic experience.

D. Develop the awareness and skills to take leadership roles in classrooms, the broader college, and the community.

E. Engage in principled, vigorous, and respectful dialogue.

6. Develop the Knowledge and Skills to Work with Others in a Professional and Constructive Manner

A. Engage with a diverse set of others to produce professional work.

B. Interact competently across cultures.

C. Understand and appreciate human differences.

D. Understand and act on standards of professionalism and civility, including the requirements of the SLCC Student Code.

7. Develop Computer and Information Literacy

A. Use contemporary computer hardware and software to effectively complete college-level assignments.

B. Gather and analyze information using technology, library resources and other modalities.

C. Understand and act on ethical and security principles with respect to computer technology and to information acquisition and distribution.

D. Distinguish between credible and non-credible sources of information, and use the former in their work in an appropriately documented fashion.

8. Develop the Attitudes and Skills for Lifelong Wellness.

A. Understand the importance of physical activity and its connection to lifelong wellness.

B. Learn how participation in a fitness, sport, or leisure activity results in daily benefits including stress reduction, endorphin release, and a sense of well-being.