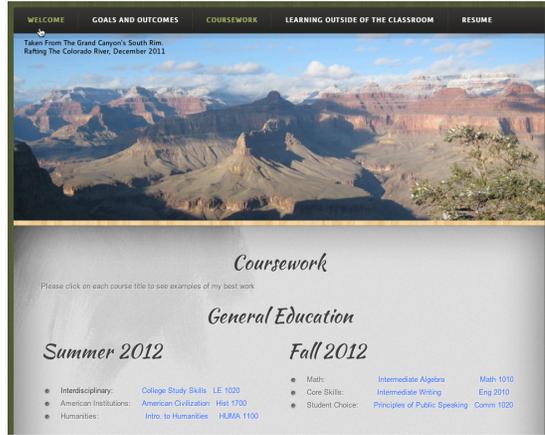
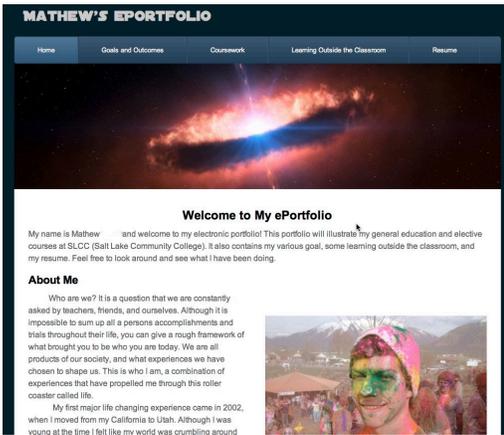


# ePortfolio Assessment of General Education Quantitative and Information Literacy--2013



*Pages from the ePortfolios of Matthew Potts and Adam "Eli" Spikell. Used with Permission.*

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David Hubert, ePortfolio Director  
Kati Lewis, ePortfolio Coordinator



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## Methods

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Electronic portfolios are increasingly being used to document student learning in higher education.<sup>1</sup> For this assessment, we were primarily interested in examining the extent to which our graduating students are meeting Salt Lake Community College's (SLCC) General Education learning outcomes with respect to quantitative and information literacy.

Our Institutional Research Office pulled a sample of 160 students who graduated in May, 2013, 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 50 female and the first 50 male students who had ePortfolios accessible in our Banner system and whose ePortfolios contained at least one quantitative literacy assignment. This collection of 100 ePortfolios from graduating A.A. and A.S. students became the sample for the assessment study.

We assembled two 2-person assessment teams to examine all 100 ePortfolios using quantitative literacy and information literacy rubrics. The assessment team composed of Kristen Taylor and Rebecca Sperry, both Biology faculty, looked at information literacy. The assessment team composed of Randall Kent (Math faculty) and Claire Peterson (Humanities faculty) looked at quantitative literacy. 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 quantitative literacy rubric we used pulls criteria and language directly from the AAC&U VALUE rubric for quantitative literacy, although modified to allow us to account for the number of assignments assessed. Part one of the information literacy rubric was also derived from a section of the AAC&U VALUE rubric for information literacy, while part two was developed in-house to quantify the amount of evidence pertaining to information literacy. Further information regarding the AAC&U's VALUE rubrics can be found here: <http://www.aacu.org/value/rubrics>. The rubrics used in this study are reproduced in Appendix 1.

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

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# Results

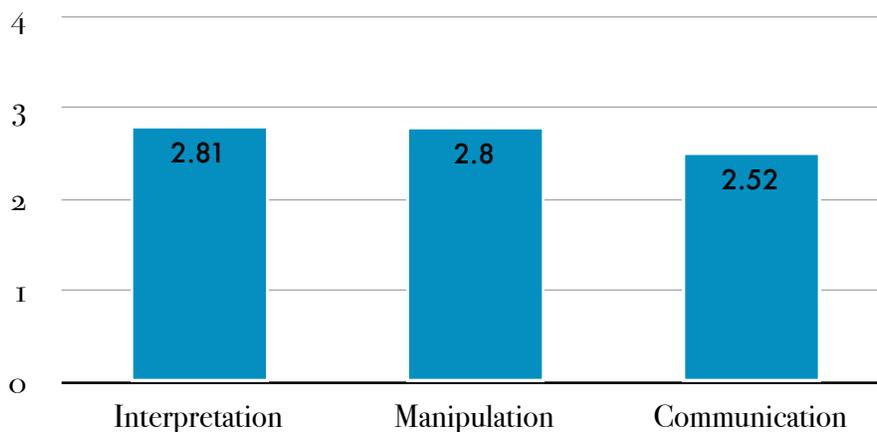
## Quantitative Literacy

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Most colleges and universities in the United States want their students to demonstrate quantitative literacy. Our assessment team for quantitative literacy consisted of one faculty who teaches Math courses and one faculty who teaches Humanities courses. They examined the sampled ePortfolios with respect to three indices of quantitative literacy, 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)

**Figure 1: Mean Scores for Three Indices of Quantitative Literacy in Student ePortfolios. (n=100)**

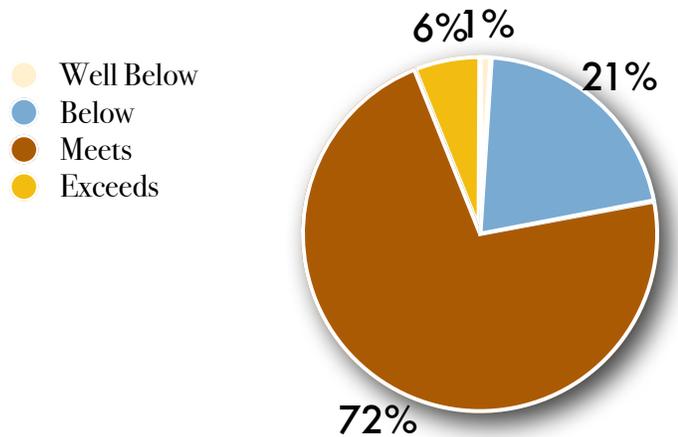


As Figure 1 indicates, mean scores for the Interpretation and Manipulation indices of quantitative literacy cluster around 2.8. There was no statistically significant difference between the scores of male and female students. Mean scores for Communication were somewhat lower at 2.5. Female students were better at Communication—expressing quantitative evidence in support of an argument or purpose

of the work. Women scored on average 2.70 on the Communication index, while men scored 2.34 on average, a difference that is statistically significant at the .05 level.

Another way to examine the data is to show how all the assignments fit into the different performance categories of the Quantitative Literacy Rubric.

**Figure 2: Categorization of ePortfolio Assignments on the Interpretation Criterion. (n=197)**



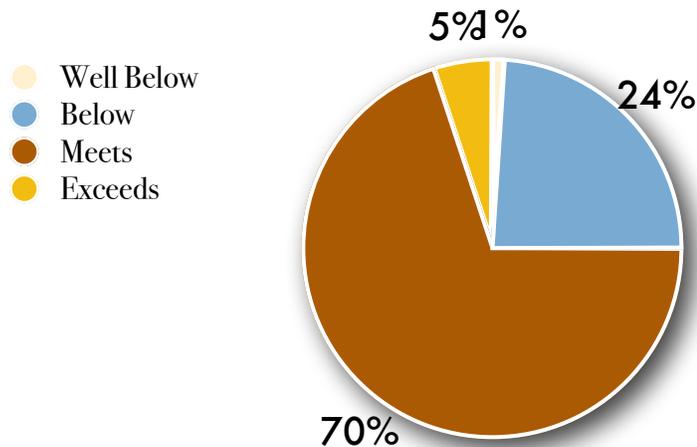
**Well Below Expectations**=Attempts to explain information presented in mathematical forms, but draws incorrect conclusions about what the information means.

**Below Expectations**=Provides somewhat accurate explanations of information presented in mathematical forms, but occasionally makes minor errors related to computations or units.

**Meets Expectations**=Provides accurate explanations of information presented in mathematical forms.

**Exceeds Expectations**=Provides accurate explanations of information presented in mathematical forms. Makes appropriate inferences based on that information.

**Figure 3: Categorization of ePortfolio Assignments on the Manipulation Criterion. (n=200)**



**Well Below Expectations**=Completes conversion of information but resulting mathematical portrayal is inappropriate or inaccurate.

**Below Expectations**=Completes conversion of information but resulting mathematical portrayal is only partially appropriate or accurate.

**Meets Expectations**=Competently converts relevant information into an appropriate and desired mathematical portrayal.

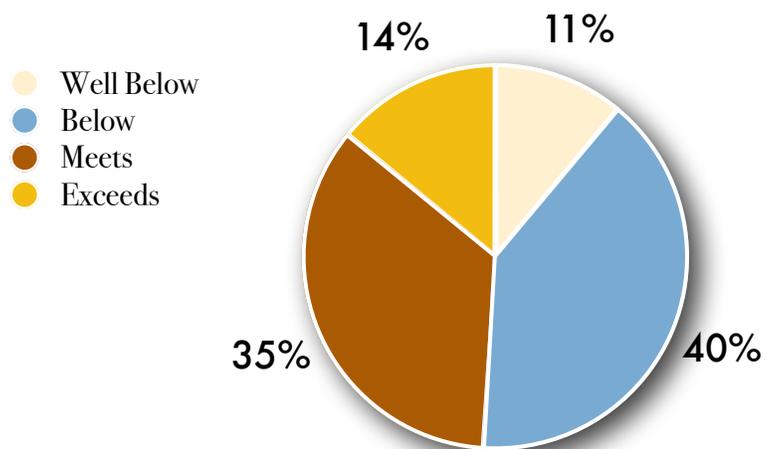
**Exceeds Expectations**=Skillfully converts relevant information into an insightful mathematical portrayal in a way that contributes to a further or deeper understanding.

The results shown in Figures 2 and 3 indicate that three quarters of the graduates in the sample are meeting or exceeding expectations with respect to interpreting and manipulating data. That's the good news. The less-than-good news is that our confidence in this strong performance must be tempered by the fact that it is based on a rather thin number of assignments per student. On average, each ePortfolio contained 1.97 assignments that tapped QL Interpretation and 2.0 assignments that tapped QL Manipulation, and assignments in Math courses constituted the majority of the sample in both cases.

The other thing to note about these results is that the scores for Interpretation and Manipulation tracked each other almost exactly for each individual student. This stands to reason in one sense, given that students who are good (or poor) at interpreting data would be equally good (or poor) at manipulating it as well. On the other hand, it could mean that the VALUE rubric—as applied to collections of assignments which were not specifically designed for it—cannot distinguish clearly between interpreting and manipulating data. The solution to this dilemma probably lies in more nuanced assignment design—

about which we'll talk more in the observations and recommendations section below—and faculty sharing of quantitative literacy rubrics with their students, who might be encouraged to self-assess their work.

**Figure 4: Categorization of ePortfolio Assignments on the Communication Criterion. (n=262)**



**Well Below Expectations**=Presents an argument for which quantitative evidence is pertinent, but does not provide adequate explicit numerical support. (May use quasi-quantitative words such as "many," "few," "increasing," "small," and the like in place of actual quantities.)

**Below Expectations**=Uses quantitative information, but does not effectively connect it to the argument or purpose of the work.

**Meets Expectations**=Uses quantitative information in connection with the argument or purpose of the work, though data may be presented in a less than completely effective format or some parts of the explication may be uneven.

**Exceeds Expectations**=Uses quantitative information in connection with the argument or purpose of the work, presents it in an effective format, and explicates it with consistently high quality.

Figure 4 shows that, with an average of 2.6 assignments in each ePortfolio tapping the Communication criterion, nearly 50% of the assignments met or exceeded expectations. Forty percent of the assignments were below expectations, and 11% were well below expectations. There were more assignments that tapped the Communication criterion (as opposed to the Interpretation and Manipulation criteria) simply because there were additional non-Math assignments in which students attempted to express quantitative evidence in support of their argument or the purpose of the work.

## **Observations and Recommendations About Quantitative Literacy in SLCC's ePortfolios**

**One:** No one looking at the sampled ePortfolios could escape noticing that *outside of Math courses, SLCC students are almost never formally asked to interpret or manipulate data in the form of equations, graphs, diagrams, tables, etc.* This is probably a characteristic of most General Education programs at community colleges around the nation, but SLCC faculty need to ask themselves whether, given the prominence and importance of quantitative literacy in our learning outcomes and for the future success of our students, a concerted effort needs to be made to infuse quantitative literacy across the curriculum. *Surely, we are not serving our students well if fostering quantitative literacy is viewed by faculty as the sole responsibility of the Math department.*

**Two:** *General Education faculty in areas including the Social Sciences, Business, Physical and Biological Sciences, and Lifetime Wellness should make conscious efforts to design signature assignments that ask students to perform all three indices of quantitative literacy: interpret, manipulate and communicate evidence in the form of data, graphs, diagrams, tables, etc.* This might require faculty to ask students to put more than one signature assignment in the ePortfolio—one that speaks to quantitative literacy in the discipline and one that speaks to other learning outcomes such as effective communication, critical thinking, or civic engagement. *The point here is for students working their way through our General Education program to have multiple opportunities outside of their Math courses to reinforce basic quantitative literacy. An additional recommendation here is for academic schools to map QL signature assignments across their curriculum to ensure that students have such opportunities.*

**Three:** As Figure 4 indicates, we faculty have some work to do in helping students use quantitative data to better support arguments or fulfill their purpose with respect to signature assignments. *One suggestion would be to provide students examples of how quantitative data is used in disciplinary contexts. Another would be to write assignments that explicitly ask students to use quantitative data to accomplish their purpose.* Interestingly, what fails to be expressed in Figure 4 is the large number of signature assignments the reviewers noticed in which student work should have employed basic data but didn't. (e.g., papers on AIDS in the United States or obesity as a world health concern in which students didn't even attempt to present quantitative data to either inform the reader or make a point.)

**Four:** *The Faculty Teaching and Learning Center (FTLC) should work with academic programs, the Assessment Office and the ePortfolio Office to infuse quantitative literacy signature assignments in*

*appropriate General Education courses outside of Math.* FTLC mini-grants should be available to compensate faculty who engage in this process.

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# Results

## Information Literacy

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It almost goes without saying that graduates in any field need to be capable researchers and users of information. We live in the Information Age, and it is incumbent upon citizens and workers to be able manage the flood of information that is available to us via a keystroke or a mouse click. An important way for faculty in higher education to help our students, then, is to make assignments in which students need to find information, sift through it to locate credible sources, and appropriately use and cite those sources in their work.

Our reviewers examined the sampled 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 5: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence of Outside-of-Class Research. (n=100)**

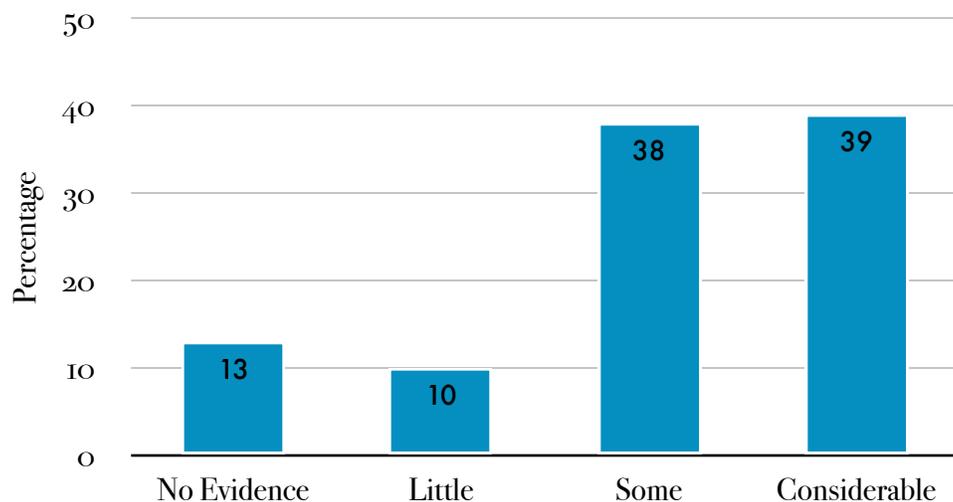
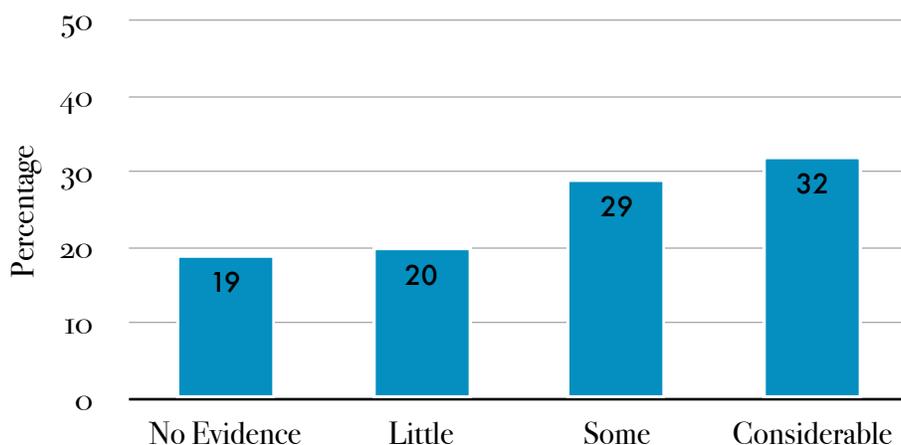


Figure 5 shows that nearly 25% of the ePortfolios had little or no evidence of outside-of-class research--namely, that these ePortfolios contained zero or one artifact for which the student went to outside resources for information to complete the assignment. More encouraging is that 38% had “some” evidence, or 2-3 artifacts that required outside research, and 39% 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 6 indicates, 19% of the ePortfolios had zero signature assignments that cited credible sources. Twenty percent of the ePortfolios had one artifact that used credible sources, which was coded as “little” evidence. A positive result in Figure 6 is that 29% of the ePortfolios had “some” evidence, meaning that 2-3 artifacts used credible sources, and 32% of the ePortfolios had “considerable” evidence--four or more artifacts that cited credible sources.

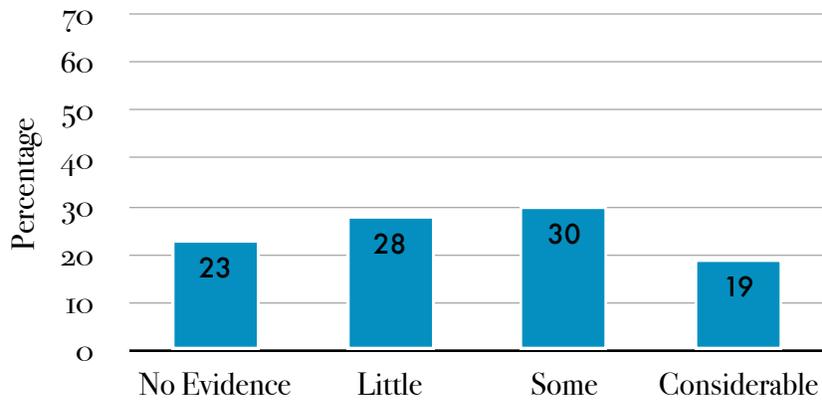
**Figure 6: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence of Students Using Credible Sources in Their Work. (n=100)**



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 using one of those methods.

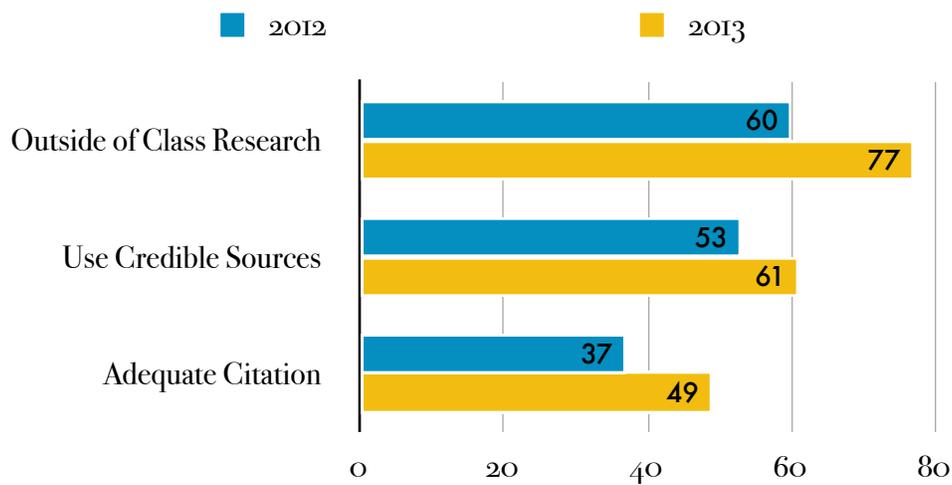
Figure 7 reveals that 23% of the ePortfolios had no properly cited sources. Twenty-eight percent had one properly cited artifact, or “little” evidence. Thirty percent had 2-3 properly cited artifacts, or “some” evidence. And 19% had four or more assignments with sufficiently documented sources. Since 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 7: Percentage of Sampled ePortfolios Displaying Key Levels of Evidence of Students Adequately Citing Their Sources. (n=100)**



Our 2012 General Education assessment captured this same data (although with a sample of 83 ePortfolios rather than 100), so we are in a position to document improvement in the number of signature assignments that tap these dimensions of information literacy. Figure 8 clearly shows that the ePortfolios of graduating students in 2013 were significantly richer with evidence of students conducting outside of classroom research, using credible sources and adequately citing those sources than were the ePortfolios of 2012 graduates. This is positive news, and may indicate that SLCC faculty are demanding more from students in their signature assignments.

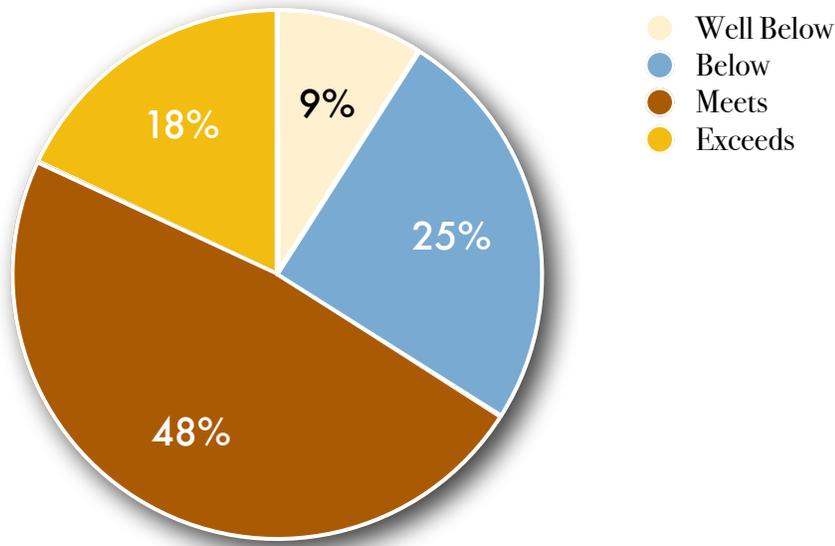
**Figure 8: Percentage of Graduating Student ePortfolios (2012 and 2013) Demonstrating “Some” or “Considerable” Evidence of Key Dimensions of Information Literacy.**



We were especially concerned to investigate the extent to which our students can, in the words of the AAC&U’s VALUE Rubric for Information Literacy, “use information effectively to accomplish a specific purpose.” More specifically, we were interested in whether students could do so using resources acquired outside of class, so our evaluators read each assignment, looking for the extent to which the student “communicates, organizes, and synthesizes information from sources to fully achieve a specific purpose, with clarity and depth” (see the rubric at the end of this report). Scores on this rubric range from 1.0 to 4.0. The mean score for all students in the sample—including those ePortfolios that contained no assignments that used out-of-class sources—was 2.35, with no statistically significant difference between female and male students. If we factor out the 13 ePortfolios in the sample with no assignments needing out-of-class resources, the mean rises to 2.74.

In the 87 ePortfolios that had assignments requiring some research outside of class materials, reviewers identified a total of 338 assignments. Figure 9 breaks down the percentage of those assignments that fit into each category of the rubric.

**Figure 9: How Well Do SLCC’s Graduates “use information effectively to accomplish a specific purpose”? Percentage of Assignments (n=338) Falling into the Rubric Categories.**



- **Well Below Expectations**=Communicates information from sources. The information is fragmented and/or used inappropriately (misquoted, taken out of context, or incorrectly paraphrased, etc.), so the intended purpose is not achieved.

- **Below Expectations**=Communicates and organizes information from sources. The information is not yet synthesized, so the intended purpose is not fully achieved.
- **Meets Expectations**=Communicates, organizes and synthesizes information from sources. Intended purpose is achieved.
- **Exceeds Expectations**=Communicates, organizes and synthesizes information from sources to fully achieve a specific purpose, with clarity and depth.

We can see that for assignments marked “well below” and “below”—constituting 34% of the total—students did not adequately use outside resources to achieve their purpose. On a brighter note, 66% of the assignments demonstrate that students did achieve their purpose when using outside resources.

### **Observations and Recommendations About Information Literacy in SLCC’s ePortfolios**

**One:** As Figure 5 indicates, in nearly a quarter of all the sampled ePortfolios, students had zero or one assignment in which they apparently were asked to use resources they obtained outside of class. Given that students take 12 or 13 courses to fulfill their General Education requirements, faculty at SLCC need to decide whether these results are satisfactory. Obviously, the signature assignments in some courses necessarily rely only on in-class materials, but *we argue that it should not be possible for a student to achieve an A.S. or A.A. degree without ever having the experience of locating, using and citing credible outside-of-class sources to accomplish a specific assignment.*

**Two:** Similarly, Figures 6 and 7 show that 39% of the sampled ePortfolios had zero or one assignment in which the student used credible sources in their work, and 51% had zero or one assignment in which the sources were adequately cited. This implies that *when faculty make assignments that require outside research, they need to do a better job impressing upon students—verbally or in the assignment itself—that they are expected to use and properly cite credible sources in their work. Faculty and Associate Deans should work collaboratively in their respective programs to ensure that students receive this message.* In addition, faculty might consider having students use the research workshops available through the campus libraries and Student Writing Center.

**Three:** Students often come to college not knowing the difference between credible and non-credible sources and not knowing how to properly cite their sources. We faculty often assume that students learned these things in high school, when in fact they did not. Or it may be the case that enough time has elapsed since they did learn about citation and credible sources that they’ve forgotten by the time they return to a formal educational setting. In any case, *departments or individual faculty should develop*

*instructional materials that explain their disciplinary understanding of source credibility and proper citation.* Students would then have something concrete to aim for when completing their work. Because much of these instructional materials will be common across many disciplines, *the FTLC should coordinate this effort, and all faculty should employ these instructional materials going forward.*

**Four:** Online resources for citation are readily and freely available from the following organizations:

- SLCC's Student Writing Center "Writing Resources" page: <http://www.slcc.edu/swc/resources.aspx>
- The OWL at Purdue: <https://owl.english.purdue.edu>
- UNC Writing Center, "Citing Information": <http://www.lib.unc.edu/instruct/citations/>

*If they have not already done so, faculty should share these resources with students in their Canvas course sites, syllabi, and/or department webpages.* We need to make it easy for students to properly cite the sources they use in their work.

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# Results

## Creation and Organization of the ePortfolio

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Students can use any platform to create a web-based ePortfolio, but the College only provides support for three platforms. Of the 100 ePortfolios in the sample, 45% were built on the Yola platform, 15% were built using Wordpress, and 39% 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. One student created his/her ePortfolio on Blogspot.

**Welcome Page**—Approximately 54% of students in the sample either created a content-free Welcome page or created one that was rated “poor” by the reviewer.<sup>2</sup> This is clearly unsatisfactory, but an improvement over last year’s sample, in which 63% of the Welcome pages were content-free or poor. The reviewer rated 23% of the Welcome pages as “satisfactory” and 23% as “exemplary.” The percentage of Welcome pages rated “exemplary” nearly 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**—Ninety-five percent of students in the sample either created a content-less Goals page on their ePortfolio, or created one that the reviewer rated as “poor.” The reviewer rated the remaining 5% 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**—Ninety percent of the students did not have content on their Outside the Classroom page. As with the Goals and Outcomes page, the vast 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.

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<sup>2</sup> The reviewer for this section on creation and organization of the ePortfolio is Kati Lewis, our ePortfolio Coordinator, who is in a unique position to do so because she has normed ePortfolio expectations after having seen and read so many of them. See Appendix I for the decision rules on the quality of ePortfolio pages and reflection.

**Resume Page**--Thirty-one percent of the sampled ePortfolios did not have a resume page at all, a decline from 53% of the sample last year. Of the ePortfolios that had a resume page, 49% included an actual resume, while 51% 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.<sup>3</sup>

The ePortfolio Coordinator examined the reflection exhibited in the students' ePortfolios. In 2011, 28% of the ePortfolios in the sample had no reflection whatsoever; in 2012, 16% of the sample had no reflection; this year only 2% of the ePortfolios in the sample had no reflection. This is a significant improvement, and indicates that more faculty are incorporating reflection into their signature assignments. Of the ePortfolios that did contain reflection, the ePortfolio Coordinator rated 63% as "poor" and 29% as "satisfactory." Eight percent of the ePortfolios in the sample exhibited "exemplary" reflection.

### **Observations About the Creation and Organization of Student ePortfolios**

**Observation 1:** It seems clear that for SLCC's 2013 graduates, *ePortfolio was not yet seen as a defining part of the college culture but that it was increasingly relevant to their General Education experience.*

**Observation 2:** Two recent developments promise to help students construct effective ePortfolios: The *stronger incorporation of ePortfolio into EDU 1020 courses* and the establishment of *ePortfolio support labs* at the Taylorsville-Redwood and Jordan campuses.

**Observation 3:** *Many SLCC faculty are missing the opportunity to fully integrate ePortfolio into their courses--which actually makes for less faculty work and better student buy-in than attempting to graft ePortfolio onto an otherwise unchanged course.* A new concentration on ePortfolio in faculty

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<sup>3</sup> 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.

development and a new faculty ePortfolio site (<http://facultyportfolioresource.weebly.com>) should help to better develop an ePortfolio culture at SLCC.

## Appendix 1: Rubrics

### Quantitative Literacy Rubric\*

	Exceeds Expectations (4)	Meets Expectations (3)	Below Expectations (2)	Well Below Expectations (1)
<p><b>Interpretation</b></p> <p><i>Ability to explain information presented to the student in the form of equations, graphs, diagrams, tables, words, etc.</i></p> <p>Total # Assignments _____</p> <p>Mean Score _____</p>	<p>Provides accurate explanations of information presented in mathematical forms. Makes appropriate inferences based on that information.</p> <p># of Assignments _____</p>	<p>Provides accurate explanations of information presented in mathematical forms.</p> <p># of Assignments _____</p>	<p>Provides somewhat accurate explanations of information presented in mathematical forms, but occasionally makes minor errors related to computations or units.</p> <p># of Assignments _____</p>	<p>Attempts to explain information presented in mathematical forms, but draws incorrect conclusions about what the information means.</p> <p># of Assignments _____</p>
<p><b>Manipulation</b></p> <p><i>Ability of the student to convert relevant information from one form—such as equations, graphs, diagrams, tables, words—to another.</i></p> <p>Total # Assignments _____</p> <p>Mean Score _____</p>	<p>Skillfully converts relevant information into an insightful mathematical portrayal in a way that contributes to a further or deeper understanding.</p> <p># of Assignments _____</p>	<p>Competently converts relevant information into an appropriate and desired mathematical portrayal.</p> <p># of Assignments _____</p>	<p>Completes conversion of information but resulting mathematical portrayal is only partially appropriate or accurate.</p> <p># of Assignments _____</p>	<p>Completes conversion of information but resulting mathematical portrayal is inappropriate or inaccurate.</p> <p># of Assignments _____</p>

	Exceeds Expectations (4)	Meets Expectations (3)	Below Expectations (2)	Well Below Expectations (1)
<b>Communication</b>  <i>Ability of the student to 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)</i>  <i>Total # Assignments_____</i>  <i>Mean Score_____</i>	Uses quantitative information in connection with the argument or purpose of the work, presents it in an effective format, and explicates it with consistently high quality.  # of Assignments_____	Uses quantitative information in connection with the argument or purpose of the work, though data may be presented in a less than completely effective format or some parts of the explication may be uneven.  # of Assignments_____	Uses quantitative information, but does not effectively connect it to the argument or purpose of the work.  # of Assignments_____	Presents an argument for which quantitative evidence is pertinent, but does not provide adequate explicit numerical support. (May use quasi-quantitative words such as "many," "few," "increasing," "small," and the like in place of actual quantities.)  # of Assignments_____

\*This is drawn from the VALUE Rubric for Quantitative Literacy, published by the Association of American Colleges and Universities, with the addition of the number of assignments being used to calculate a mean score on each dimension for each ePortfolio.

## Information Literacy Rubric\*

Part I	Capstone (4)	Milestone (3)	Milestone (2)	Benchmark (1)
<p><i>Uses information effectively to accomplish a specific purpose.</i></p> <p><i>Total # of Assignments: _____</i></p> <p><i>Mean Score: _____</i></p>	<p>Communicates, organizes and synthesizes information from sources to fully achieve a specific purpose, with clarity and depth.</p> <p># of Assignments _____</p>	<p>Communicates, organizes and synthesizes information from sources. Intended purpose is achieved.</p> <p># of Assignments _____</p>	<p>Communicates and organizes information from sources. The information is not yet synthesized, so the intended purpose is not fully achieved.</p> <p># of Assignments _____</p>	<p>Communicates information from sources. The information is fragmented and/or used inappropriately (misquoted, taken out of context, or incorrectly paraphrased, etc.), so the intended purpose is not achieved.</p> <p># of Assignments _____</p>

Part II Decision Rules	Considerable Evidence	Sufficient Evidence	Little Evidence	No Evidence
<i>A. The student gathers information using technology, library resources and other modalities.</i>	Considerable—Four or more artifacts indicate the use of sources that required research outside of class.	Sufficient—Two or Three artifacts indicate the use of sources that required research outside of class.	Little—One artifact indicates the use of sources that required research outside of class.	No Evidence—No outside-of-class resources appear to have been used by this student.
<i>B. The student uses credible sources in their work.</i>	Considerable—Four or more artifacts indicate the use of credible sources that required research outside of class.	Sufficient—Two or Three artifacts indicate the use of credible sources that required research outside of class.	Little—One artifact indicates the use of credible sources that required research outside of class.	No Evidence—Credible sources appear not to have been used by this student.
<i>C. The student appropriately cites his/her sources.</i>	Considerable—Four or more artifacts indicate the use of sufficiently documented sources.	Some—Two or Three artifacts indicate the use of sufficiently documented sources.	Little—One artifact indicates the use of sufficiently documented sources.	No Evidence—Sources appear not to have been documented by this student.

The decision rules in Part II reflect General Education coursework leading to an Associate’s degree, and should be adjusted upwards for assessing a body of work leading to a Bachelor’s degree.

\*Part I is taken directly from the AAC&U’s VALUE Rubric for Information Literacy, but with the addition of recording the number of assignments and using that number to calculate a mean value for each ePortfolio. Part II is a rubric internal to Salt Lake Community College and is copyrighted by SLCC, which permits its use by other institutions with attribution.

### Rubric for Creation and Organization of the ePortfolio

ePortfolio Characteristic	Performance Categories
<i>ePortfolio Pages</i>	<p>Poor—The page is confusing (or clear but very basic), with little or no content or elaboration.</p> <p>Satisfactory—The page is representative of good work from a typical college sophomore: It is clearly organized and contains elaboration or significant content.</p> <p>Exemplary—The page meets the Satisfactory designation AND the rater would pick out this page to show to an external audience or as an example for other students to emulate.</p>
<i>Reflection</i>	<p>Poor—The majority of the reflective writing exhibits one of the following: The writer fails to address the reflection prompt(s) given by the instructor. The reflection piece contains no elaboration and is too short, <b>Or</b> The writer partially addresses the reflection prompt(s) given by the instructor, and fails to sufficiently elaborate his/her points. S/he makes few connections, offers few insights and perspectives, etc.</p> <p>Satisfactory—The majority of the reflective writing exhibits the following: The writer addresses the reflection prompt(s) given by the instructor, 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.</p> <p>Exemplary—The majority of the reflective writing exhibits the following: The writer directly addresses the reflection prompt(s) given by the instructor, elaborates his/her points, makes real connections between the assignment and his/her learning, highlights new insights and perspectives, and/or uses techniques such as questioning, comparing, interpreting, and analyzing.</p>

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## Appendix 2: SLCC's Learning Outcomes for General Education

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### 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.