

## The Use of ePortfolios to Support Metacognitive Practice in a First-Year Writing Program

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Recognizing the importance of meaningful reflective writing as an integral component to the portfolios used in the first-year program (FYP), faculty questioned whether a newly developed electronic portfolio offered any pedagogical benefits over the existing traditional paper portfolio. Of particular interest for this work was whether the use of ePortfolios might positively impact students' metacognitive skills. A study conducted with students and faculty in the FYP evaluated student understanding of purpose, significance, and relevancy in their reflective writings. Findings indicate that while both types of portfolios, electronic and traditional paper, contribute positively to students' learning related to "connections to the course," students completing an ePortfolio show heightened levels of metacognition in relation to "connections to learning" and "connections to career or personal goals."

As John Dewey (1916) stated regarding the importance of reflection in the acquisition of new knowledge, "thought or reflection . . . is the discernment of the relation between what we try to do and what happens in consequence. No experience having a meaning is possible without some element of thought" (p. 169). Furthermore, the use of reflection and more specifically metacognition, or the act of thinking about one's own thought processes to enhance learning (Flavell, 1979) is a pedagogical strategy that crosses disciplinary and demographic boundaries (Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010; Di Stefano, Gino, Pisano, & Staats, 2015; Kaplan, Silver, Lavaque-Manty, & Meizlish, 2013; Pearson & Heywood, 2004; Pintrich, 2002).

Comparatively, traditional paper-based portfolios might have once been considered a signature pedagogy, a technique which finds its greatest influence within certain disciplines, most often professional studies that focus on teaching the skills and dispositions of practitioners in the field (Shulman, 2005). For example, portfolios have a long tradition within the field of art, serving as a practical format with which to present the artist's work to the viewer. The arrangement of pieces creates an experience similar to turning pages in a book thereby allowing the artist to tell his or her story from beginning to end. In place of the artist's voice, comments and reflections are written across the pages to explain the artist's unique process. This practice of explaining the *whys* and *hows* challenges artists to invoke meaning into their work that goes beyond mere descriptions of the pieces. The act of creating these portfolios as an art student is both a showcase of work and an acquisition of skills necessary for professionals in that field.

Similarly, portfolios have long been a fixture of first-year writing courses and programs found within a wide range of higher educational institutions. Writing program administrators and instructors regarded

portfolios as a powerful and effective means to teach and evaluate students' writing skills—particularly in programs where process-based writing pedagogies emphasize student learning as much or more than polished written products (Black, Daiker, Sommers, & Stygall, 1994; Yancey, 1992). Writing programs and instructors typically ask students to submit many artifacts, including multiple drafts of essays, and to reflect on these artifacts as evidence of learning and skill development over a period of time. By the 1990s, writing programs and instructors had begun to adopt portfolios and their accompanying reflective texts with increasing regularity and enthusiasm, as they were seen to more effectively represent student work and contribute to a writer's development than discrete assignments and essay tests (Yancey, 1992, 2004). Yet certain challenges remained for writing programs intent on improving their pedagogical practices and realizing institutional goals. Course-based print portfolios have sometimes had the unintended consequence of sealing off writing from valuable external contexts. For example, students write and develop their craft in other general education courses and in their majors; in professional situations such as internships and part- and full-time employment, and in diverse personal situations and activities. These practices and experiences too often remain disconnected from even print portfolio construction, notwithstanding reflective prompts inviting commentary on prior writing experiences and invitations to include additional written work from outside the first-year writing course. How portfolios are deployed in writing programs depends very much on the institutional context and its particular mission, goals, and student population.

With the emergence of technological solutions and the transition to electronic platforms for portfolio development, ePortfolios have expanded outside of these early portfolio users to writing programs and almost any other discipline, especially those that

emphasize student self-reflection (Buyarski & Landis, 2014; Hassan, 2011; Parkes, Dredger, & Hicks, 2013; Wong & Trollope-Kumar, 2014; Yueh, 2013). However, in this transition from the traditional paper-based portfolio, primarily within certain disciplines, to an expanded use of ePortfolios across a broad array of content areas, the many new features and functions available in advanced technological platforms will likely impact the main drivers for portfolio development. Specifically, the role of student self-reflection on current work, evaluation of skill development, and goal setting for the future could be diminished or otherwise negatively impacted. As emerging teaching strategies and technological advances become more readily available to colleges and universities—along with the promise of more expansive data collection and assessment resources—it is imperative for program administrators, faculty, and staff to not lose sight of the principles that led to the perceived successes of portfolio-driven pedagogy. As faculty members began to explore and voluntarily adopt ePortfolios in first-year writing courses, program leadership became more curious about the impact of this pedagogy in freshman foundation writing courses. They developed the following specific question: What differences might exist in students' reflective writing when using an ePortfolio compared to a traditional paper-based portfolio?

### Literature Review

#### Reflection and Metacognition in Portfolios

Reflection on individual experience as a key to unlock the doors of learning and knowledge creation is not a new concept in education or general learning theory (Dewey, 1916; Flavell, 1979; Kolb, 1984; Korthagen & Kessels, 1999). However, the best strategies to promote this type of learning environment are continually being developed. For over a decade, the use of ePortfolios have been promoted in higher education to support student learning, serving as both a product of academic coursework and as a process that supports metacognitive thinking (Clark, & Eynon, 2009; Miller & Morgaine, 2009). Specifically the act of reflection through portfolios not only allows students to review their current progress and evaluate their own skill acquisition, but also can facilitate the active process of retrieving knowledge in order to apply it to a novel situation and increase students' ability to reach higher order thinking skills, such as comparing, analyzing, and drawing conclusions on the material in which they are focusing (Oosterbaan, van der Schaaf, Baartman, & Stokking, 2010). Penny Light, Chen, and Ittelson (2012) coined the term “folio thinking” to refer to learning that encourages students to “integrate

discrete learning experiences, enhance their self-understanding, promote taking responsibility for their own learning, and support them in developing an intellectual identity” (p. 86).

Though ePortfolios provide a great opportunity to encourage and promote high quality student reflection, such activities must take place under certain conditions to ensure that the desired outcomes truly are achieved. Driessen, van Tartwijk, Overeem, Vermunt, and van der Vleuten (2005) provided insight into the specific conditions that must be present for ePortfolios to be successful in developing students' reflective skills, including providing students with a well-structured portfolio environment with clear guidelines and expectations and ensuring that students have sufficient prior experiences and material to reflect upon before beginning the portfolio process. They also stated that portfolios should be included in some form of summative assessment to ensure the necessary effort is put forth as part of the learning process. In addition to these points, it is clear that the role of a coach or mentor in the ePortfolio creation process is vital for students to engage deeply in the act of reflection (Driessen et al., 2005; Hadley, 2007; Parkes et al., 2013; Pearson & Heywood, 2004). This mentoring role, which may take the form of a variety of roles in an academic setting, including instructor, tutor, or advisor, provides encouragement to students on their current progress, models the act of asking self-reflection questions, encourages the student to set future goals, and aids in the creation of learning plans to achieve those desired outcomes. Pearson and Heywood (2004) reported that students who received encouragement from their mentor were more likely to discuss the contents of the portfolio with the mentor and more likely to engage in reflection on the portfolio itself. Reflection is not a skill students will often display on their own and, even with basic prompting, they may reflect on it only at a superficial level. Hadley (2007) found the role of the mentor and the role of peer mentors to be essential to encourage students to engage in deeper, more thorough reflection. Through her use of portfolio forums, she has created an environment where students feel safe to share with classmates their work and their personal reflection on how their work has allowed them to achieve the specific learning outcomes of their program. All students aspire to achieve these same outcomes, but each may need to take a particular path. One of the key ways in which Hadley (2007) was able to encourage students to reach higher levels of reflection was through the projection of their work to the rest of the class for feedback. Putting their work on display in this way allows students to look at their work through new eyes and gauge how their work is received from outside perspectives. Scaffolding of reflection activities for students over time and presentation of

reflection as an iterative process, instead of only encouraging reflection as a culminating activity, is another important technique and should be incorporated into ePortfolio activities, as it can stimulate learning and allow students to achieve higher levels of achievement (Hadley, 2007; Qvortrup & Keiding, 2015).

### **ePortfolio vs. Traditional Paper Portfolios**

The prevalence of electronic portfolio platforms has led to its increased use as a pedagogical strategy that is now being adopted by a variety of disciplines—including many that did not adopt portfolio strategies until they were available in an electronic medium. Much of the research on ePortfolios has thus far focused on the benefits and proper conditions for implementation. Only a few select studies have directly compared the effects on student outcomes between ePortfolios and their paper-based equivalents. Driessen, Muijtjens, van Tartwijk, and van der Vleuten (2007) found advantages to administering portfolios in an electronic platform, including increased student motivation and greater usability for mentors when accessing and evaluating student portfolios. In addition, they found the quality of student work and reflection was equivalent between the paper-based and electronic portfolio products. Similarly, van Wesel and Prop (2008) found that student perception of support for self-reflection and their feelings of usefulness on the portfolio creation process in general did not differ between the students who created an ePortfolio or paper-based portfolios. However, their findings indicate that students who created the ePortfolios saw significantly higher grades than those who created paper-based portfolios, which may suggest “a deeper level of reflection . . . [which] might have led to a better metacognitive regulation which in turn led to improvements in the learner’s performance” (van Wesel & Prop, 2008, p. 79). In the study conducted by Smith, Cook, Faulkner, and Peers (2011), it is clear that the transition from a paper-based portfolio to an electronic platform is not always easy for students or instructors. While the initial study included the comparison of a paper portfolio and a commercial electronic platform, a third option of portfolios created electronically stored on flash drives was added as the study progressed. Though student perceptions seemed to indicate a preference for paper portfolios, the researchers opted for the use of the flash drive portfolios moving forward, for several reasons: many of the student perceptions were rooted in prior familiarity with the paper-based process, students did not report difficulty with the technology involved, and further clarity of instructions and purpose of portfolio use were needed, regardless of platform.

### **Holistic vs. Course Portfolios**

While the vital pedagogical strategies involved in the use of portfolios must be present in both paper-

based and electronic platforms, including collecting and selecting exemplary artifacts, as well as reflecting, sharing, and celebrating those works, it is clear the transition to an electronic platform provides its own additional advantages (Barrett, 2007). Especially significant among these strengths is the ability to showcase experience, artifacts, and reflection from a variety of sources all in one location using web technologies. Paper portfolios, limited by their physical size, can only contain so many pages before they become impractical to carry from location to location and are best suited for an individual course or topic. However, with the variety of types of artifacts that can be displayed and the ability to link between many individual pages, web technologies allow for the creation of much larger, more holistic portfolios of the student experience, including not only academic, but also extra-curricular, professional, and personal experiences. Viewers of the portfolio, therefore, get a much broader view of the individual as a whole. The ePortfolio format provides a mechanism for students to make connections between both formal and informal learning experiences, including many high impact practices, such as common intellectual experiences, collaborative assignments, research activities, study abroad, service or community-based learning, and internships (Bass, 2012; Penny Light et al., 2012). Many of these kinds of activities do not take place directly within courses and are therefore invisible to faculty or advisors and often not included in traditional assessment measures. As stated by Bass (2012), ePortfolios “allow students to organize learning around the learner rather than around courses or the curriculum” (p. 26). Unlike their paper portfolio counterparts, which often remain on a shelf of the student or instructor after final review, rarely to be opened, within an ePortfolio system “students are poised to present their whole selves—not simply their academic selves—to their future teachers, schools, colleges, and employers, while allowing them to reflect thoughtfully on the past” (d’Erizans & Bibbo, 2015, p. 80).

### **A Qualitative Case Study: Portfolio Use in a First-Year Program**

St. John Fisher College (SJFC), a small liberal arts institution in Rochester, New York, is an example of an institution whose first-year programs (FYP) ask students to complete portfolios as part of the course requirements. The FYP at this College is made up of the Learning Community (LC) Program and the Research-Based Writing (RW) Program (see Appendix A for a description of the FYP). The LC Program is required of all first-year students at SJFC and is taken in the fall semester. Each LC consists of two courses from different academic disciplines, paired on a

common theme. The RW Program is also required, and students take this course in the spring semester of their first year. Both programs require students to compile a portfolio representing their semester's work. A primary goal of the portfolio assignment is to highlight growth and learning in connection with program goals. Furthermore, as part of the portfolio, students complete a reflective memo in which they discuss their work as relevant to each goal. Until recently, all faculty have used traditional paper portfolios. Two years ago, a faculty-driven Learning Circle resulted in the creation of a Fisher ePortfolio template (see Appendix B for ePortfolio template). It is this template that has been adopted for optional use in the FYP and also for this study. All students in both programs are required to complete a portfolio, but faculty may choose the format: traditional paper-based portfolio or the electronic portfolio using the SJFC template provided (see Appendices C, D, E, and F for LC and RW course guidelines for traditional and electronic portfolios). Regardless of the format chosen, all students are prompted to reflect on the types of skills (academic, personal, and/or career) they have gained as a result of participating in the Program. In addition, students are prompted to consider what they may have gained as a result of completing the portfolio assignment itself.

### Participants

Of the 40 faculty involved with the 22 learning communities in the fall semester, nineteen participated in the study. Of these faculty, 10 chose the ePortfolio option, and the remaining nine chose to administer traditional paper portfolios. In the following spring semester, of the 28 course sections of RW offered, 13 of the faculty teaching an RW course participated in the study. Of the 13 participating faculty, eight chose to administer the ePortfolio, and five chose the paper portfolio option.

All of the participating faculty were asked to submit the completed portfolios from three randomly selected students. Upon receipt of the work, it was discovered that some of the work samples were either incomplete, missing reflections, or illegible. These samples were excluded from the study. Of the 28 LC samples of student work accepted for review, seven male and seven female students submitted ePortfolios, and eight male and six female students submitted paper portfolios. During the following semester, of the thirty samples of student work accepted, seven male and nine female students submitted ePortfolios, and six male and eight female student submitted the traditional paper portfolios.

### Methods

In order to investigate the perceptions and practices of students when writing reflective summaries using ePortfolios and traditional portfolios, it was necessary to approach the subject inductively, which would allow the

researchers to enter the field without a preconceived hypothesis. This study, therefore, employed a qualitative collective case study design that included several sections of two required courses in the FYP (Miles & Huberman, 1994). As a form of research, the case refers to an event that can be identified as *patterned*, with sequential or coherent behaviors and *bounded*, with certain features that can be identified as in or out of the case (Stake, 2000). As such, the case study methodology provides insight into the complexities involved in a particular situation and allows researchers to compile detailed information to assess specific programs or participants, providing resonance and strength of other studies. Selecting multiple sections of the FYP courses, as Miles and Huberman (1994) suggest, provide the researchers with a deeper understanding of locally grounded causality. Since all sections of the FYP courses are required to include either a traditional portfolio or ePortfolio, the faculty participants who volunteered to use their courses for this study selected the format based on personal preference, thereby allowing a maximum variation sampling (Guba & Lincoln, 1989; Miles & Huberman, 1994) of instructors who supported the use ePortfolios and those who did not want to adopt the electronic version. Faculty bias, if any, would have an equal influence on student perceptions, thereby allowing for increased confidence in the results.

Qualitative researchers are said to be by nature "bricoleurs," using the strategies and materials that are at hand (Becker, 1998, as cited in Denzin & Lincoln, 2000, p. 4). Their methods and procedures vary depending on the context and the question, emerging as the pieces come together. For this study, the students' reflective writings, portfolio entries, and faculty feedback forms provide the data for analysis. In order to measure the students' levels of engagement when writing their reflective summary, a rubric was developed that assessed the students' understandings of the assignment's purpose, significance, and relevance (see Appendix G). Based in part on Anderson and Krathwohl's (2000) revised taxonomy of Bloom's levels of cognitive domains, the rubric looked at ways the students might connect the assignment to the course, to their overall learning, and to their career and personal goals. Student reflective writings were collected after the end of the semester, masked, and reviewed by two members of the research team using the rubric. Finally, to triangulate the findings, faculty comments on the faculty feedback forms were reviewed through a process of open coding by the researchers.

### Findings and Analysis: Faculty and Students Respond

#### Increased Levels of Student Understanding

The results from the rubric scoring of student reflections found that students in both the ePortfolio

sections and the traditional portfolio sections made clear and convincing connections between their assignment and the course goals, demonstrating a level of understanding purpose. During the spring semester, 100% of students in the study, regardless of the portfolio format, reached the developmental level, scoring 2 out of a possible 3 points in this area. Differences between the two portfolios began to emerge when assessing the higher levels of understanding: significance and relevance. The average rubric scores measuring connections to learning, or significance, were 2.6/3.0 and 2.1/3.0 for the ePortfolios, and 1.8/3.0 and 1.6/3.0 for the traditional paper portfolios (Spring and Fall, respectively). Perhaps the most compelling evidence of differences resulting from the use of an ePortfolio rather than the traditional portfolio can be seen at the highest level of understanding, connections to career or personal goals, which demonstrated the students' abilities to articulate the relevance of the assignment. The average rubric scores for the ePortfolio were 2.3/3.0 and 2.0/3.0, as compared to the traditional portfolio scores of 0.8/3.0 and 1.2/3.0 (Spring and Fall). The percentages of students achieving the development level was also significantly different, with 68% and 60% of the students using the ePortfolio reaching this level and only 25% and 40% of the students using the traditional portfolio (see Appendix H for a summary of results).

### **Students Perceive Value in Seeing their Progress Over Time**

Student reflections from the fall LC courses indicate that students were able to see how the creation of the portfolio would be useful to them in the future, in both their academic pursuits to represent the quality work they have produced, and as a means of showcasing and sharing their skills to potential employers and others after graduation. As well, both groups stated that the portfolios allowed them to see their personal development and progress over time. Interestingly, students using paper portfolios often made the claims in the context of the given course while looking back on the work they had completed, for example stating the portfolio was “beneficial to see how my writing has progressed since September” or “the portfolio assignment has given me the ability to see how I have progressed through my first college semester.” Students who created an ePortfolio made similar statements but also added broader claims on how their progress would impact their future pursuits. For example, “It is the best tangible evidence of my growth as a student not only during the semester, but into the future as well,” and “I will also use this to further my academic career because it will allow me to see my progress as I continue my college journey.”

### **Students Actively Engaged in Portfolio Process**

In addition to the rubric scores, the researchers also reviewed the student reflections through an axial coding process that identified several benefits of the use of ePortfolios and of portfolios in general. Interestingly, one of the early findings that held up through both semesters was the students' perception that portfolios were a beneficial activity, allowing them to see progress in their work, and was not seen as a static document repository. One student's comment in particular speaks to the importance of this process: “Sometimes you get lost in the stress and commotion of college and fail to realize how much your professors have taught you, or made you teach yourself.”

### **Faculty Perception of Product and Process**

Faculty perception of the value of portfolios was somewhat mixed. While some faculty noted the pedagogical value of making portfolios, in particular in helping students see the connection between the course goals and their own work, other faculty members saw its use primarily as a product or as a repository for the work completed in the course. For example, while one faculty member noted, “I think portfolios are an excellent tool. They invite students to reflect on their work, and to consider the purpose of course assignments.” A different faculty member, however, stated, “I have never used portfolios as pedagogical tools . . . I use portfolios as evidence of the work itself that each student has produced over the semester. They are a database or warehouse of that work.” In this way, some (though certainly not all) faculty perceive the process of making portfolios as a purely manual way to collect examples of student work, not a cognitive endeavor through which students gain insights about what they have learned, how they have learned, and the value of this learning.

When asked about the experience of creating portfolios for their students and what they perceived as its pedagogical benefit, faculty using both the ePortfolio and traditional formats saw portfolios as providing students with a “professional manner” through which to present their work. Further, faculty noted that portfolios teach students “the importance of branding themselves.” Interestingly, faculty using ePortfolios, in some cases, did tend to point out the specific pedagogical value of this tool. One faculty member whose students used ePortfolios commented, “I like the reflection on goals happening concurrently to the uploading of work that serves as evidence for the goal. I think it promotes more concrete, specific reflection.”

As for the negatives involved with the portfolio assignment, faculty cited the time and effort required to create a portfolio as the primary drawback because the time needed to assemble portfolios resulted in “less content and

material to be covered by this course.” The benefit, as one faculty saw it, was that from an instructor’s point of view, it was “useful to have all graded work collected in one place.” In spite of the practical implications or drawbacks that some faculty members say portfolios have, most faculty do see the positive benefits that the portfolio process has for student learning in their courses. Several faculty specifically described how the students better understood the connections between the coursework and the course learning goals. As one faculty member explained,

I believe the main pedagogical value of the portfolio lies in the ability to assemble all their work, and to reflect on it in hopes of viewing development and progress. More importantly, the students seem to readily recognize this function, and appear quick to engage in the reflection process, even [if only] on a superficial level.

### **Faculty Perceptions of ePortfolio versus Traditional Portfolio**

Faculty adopting the ePortfolio did recognize benefits that the electronic medium offered over the traditional format. Seeing the ease of both sharing work and providing public access with an ePortfolio, faculty hypothesized that students “are more likely to take the assignment seriously when they understand that their work might live as part of a public repository that others might be able to see.” Others noted that they are “customizable, easy to use,” as well as having a “playful aspect, engaging most students.”

Interestingly, one of the concerns expressed by faculty using ePortfolios was a concern about the lost potential if the ePortfolio technology is not ultimately adopted more broadly across campus, beyond the FYP and into students’ major or other courses. In this case, the work that went into having the students create the ePortfolio, while valuable for the particular course, would be limited to that course. As one faculty member put it, “While the ePortfolio was much preferred over the regular one, I wonder to what extent there will be frustration with other professors [beyond the FYP] who don’t necessarily require the same kind of work [i.e., the use of ePortfolios]. [In that case, w]hat was the point of the set up? As another faculty member explained, “I think it is hard for students to understand the value of a portfolio when they have never done one before or their discipline may not require it.”

## **Discussion**

### **ePortfolio Template Facilitates a More Holistic View of the Student**

One fundamental difference between the ePortfolios created by students in this study and their paper-based counterparts is the breadth of information

contained within each portfolio type. The paper-based portfolios are typically contained within one three-ring binder and include a series of documents and student self-reflections, organized into sections pertaining to each program goal. The ePortfolio site similarly provides an opportunity to reflect on learning in connection with each goal. However, the ePortfolio does so within an institute-wide template that contains not only opportunities to share the same type of information found in a paper-based, three-ring binder portfolio but also additional web pages that focus on the student’s holistic experience as a learner. The specific pages for both Learning Community and Research-based Writing courses are located within a series of pages related to the overall general education curriculum. The general education curriculum section is also located within a larger framework of experiences the student may choose to showcase about their success, both academic (e.g., major, service learning, internships) and co-curricular (e.g., clubs, student government, athletics).

In addition, unlike the paper-based portfolios, the ePortfolios include a variety of other pages that students might choose to populate with additional information about themselves. This includes pages that provide an overall summary of the student’s goals and aspirations, a photo, major(s)/minor(s), pages specific to their current resume, internship or work experience, extracurricular activities, or additional coursework that may have been completed up to that time. From the outset, this overarching structure puts students’ experiences and what is documented in the ePortfolio from these courses in the context of their longer journey as college students, including both formal and informal learning experiences.

Findings of this study demonstrate that while both types of portfolios, electronic and traditional paper, contribute positively to students’ learning related to connections to the course, students completing an ePortfolio show heightened levels of metacognition in relation to connections to learning and connections to career or personal goals. Though additional study would be needed to confirm this finding, we suspect that the added growth or, in other words, heightened levels of metacognition, is likely to have been facilitated by the holistic format of the ePortfolio template used at this particular institution. This suggests that, while the electronic nature of the ePortfolio may in itself be advantageous for student motivation and engagement, ease of use for students as well as faculty, and, it seems in some cases, improved academic performance (Driessen et al., 2007; van Wesel, & Prop, 2008), an added benefit is realized with a template for the ePortfolio owned by the student that purposefully offers a medium within which connections to the student’s major, personal interests and passions, and

career are not only possible, but prompted by the design of the medium.

Institutions considering the use of ePortfolios or interested in refining their current use may want to consider the template and the medium of the portfolio design as well as how this template is developed. One factor that may have contributed to the success of our findings in terms of higher metacognitive engagement with the ePortfolio student population versus the traditional paper portfolios may have been that the template was purposefully designed to reflect this institution's various program goals and was also designed to put students in touch visually with their major, the core, extra-curricular activities and organizations, and specific career touch points such as the student's resume, personal narrative, internship experiences, and so on. The template is user friendly for any program that desires to integrate his or her specific program into the template and can be personalized by students to meet their specific needs. This enhances, one might surmise, the use of the template for students and programs alike and increases buy-in and ownership of the personal sites created by students and the concept of students creating these personalized ePortfolio sites by faculty.

### **Holistic View of Student May Influence Student Perception of Learning**

Similarly, the holistic perspective of the learner seen in the design of ePortfolios may influence the students' perception of their own learning process. Specifically, for the first-year students in this study the ePortfolio puts the learning, in the form of the students' own work and reflections on that work, directly into a broader view of their overall college journeys. Therefore, there is potential for students to see and perhaps even appreciate that they still have many more experiences ahead of them, in which and through which they will have the opportunity to perfect their skills. Students are able to see with relative ease, facilitated by the format of the ePortfolio template, that their current progress will be useful to them as they reach their future required coursework. In comparison, students using the paper-based portfolio may view learning as a more discrete process in which they should master all skills required in one class before moving on to the next. It is clear from the analysis of student reflective statements that students using the paper portfolios were able to make statements related to the assessment of their own growth and skill development from the beginning of the course to the end. However, students using the ePortfolio were able to make these statements as well as statements that indicated their ability to use these skills in the long term beyond the given course and their ability to continue improving over time. This

indicates that the ePortfolio structure and its holistic view of learning may encourage students to adopt a growth mindset over a more fixed view of learning (Dweck, 2006). There is also a growing field of research investigating student feelings of hope and how these viewpoints may influence student success, both within specific courses and in overall college completion rates (Grasgreen, 2012). The ePortfolio structure, with an emphasis on student ownership of the learning experience, may be one possible technique to encourage these characteristics.

### **Portfolio Use Should be Integrated into the Teaching Process**

An influencing factor in the findings may be the timing of when reflection is encouraged by the instructor of the course. When and how faculty introduce the portfolio assignment (whether electronic or paper-based) and the reflective skills and process connected with this medium of learning matters, because the valuable reflection that portfolios ask students to do is likely to be perfunctory for the faculty member and the student if viewed as and treated as an afterthought to the central work of the course or if placed at the end of the course only, even when valued by the faculty. This is likely because the yield on learning through the reflection on course work is thwarted to the extent that the iterative process required for meaningful reflection is relegated to the end of the semester – for example, in a final assignment completed for finals week. However, as noted above, Driessen et al. (2005) have shown that for the benefits of reflection to be realized, there must be a well-structured medium with clear guidelines and expectations and sufficient experience and materials for the student to reflect on related to their learning. In addition, to ensure student effort, students must see that the portfolio has weight in the summative assessment, in some way, of their course work. Further, as also noted above, the educator, what the authors call “mentors,” must be invested as well in the value of the portfolio for learning and convey this value to students (Driessen et al., 2005). This may explain why students completing ePortfolios had higher levels of metacognitive reflection—if we also assume that those faculty who value the process of portfolio thinking are more likely to embrace ePortfolios as a valuable pedagogical tool and also are more likely to convey this value to their students. Thus, one implication of this study and our reflections on the possible meaning of the findings is that faculty development will be central to realizing the full benefits of reflection on a program-wide level. Future faculty development sessions need to convey the findings and the necessary preconditions for realizing the pedagogical value of portfolio use, which

would likely enhance the value further and may do so, at some level, not only for the electronic format but also for the traditional paper-based format. In the case of the latter, this could occur at less comprehensive levels because of the more limited scope (specific course-focused only) of paper-based medium.

In addition, though it is an individual decision made by each instructor independent of portfolio platform used, the general structure of the ePortfolio, which encourages reflection as an iterative process, may result in more faculty who had adopted the ePortfolio platform to encourage its use early in the semester, as compared to those using a paper-based portfolio. This decision alone creates more opportunity for reflection and the scaffolding of assignments related to these reflection activities, which may result in enhanced reflection skills of students by the end of the term. The general timing and iterative process of reflection compared to summative reflection activities may have possible implications for student's ability to reflect more broadly on their own learning experiences.

Given this, it is important that institutions interested in realizing the full pedagogical potential of ePortfolios support their use and integration into teaching through program or institutional support. Further, they should do so with an emphasis on ePortfolios as pedagogically valuable in-themselves for student learning, rather than as a repository for documents to demonstrate learning that has already occurred. Reflection on artifacts included in the ePortfolio, ideally directly in the vicinity of the artifact itself (as is the case with the SJFC ePortfolio template) and in conversation with specific elements within each artifact included is vital.

### **Faculty and Student Buy-In is Imperative to Successful Implementation**

The findings suggest that while students may be quick to appreciate the value of the opportunity for reflection in a portfolio (paper-based or electronic) faculty, in some cases, are more reticent to embrace portfolios as a pedagogical tool that has the potential to deepen and enhance learning. Faculty development in the form of workshops, online tutorials, etc. and offering tools to engage students in meaningful and cognitively heightened levels of reflection (e.g., higher levels of cognitive engagement as found on the Bloom's taxonomy of learning; Anderson & Krathwohl, 2000) should be integrated as support for the faculty in programs and institutions adopting partial or full implementation of ePortfolios. Further, the positive yield from reflection may also be facilitated, but perhaps less smoothly, with the paper-based portfolio approach. In this case, in order to realize positive yields not only in learning related to the course but also in relation to academics beyond the course and/or in the student's career of choice,

institutions using paper-based portfolios will benefit from purposeful efforts to provide students with opportunities to make the connections that seem to be facilitated seamlessly and somewhat without extended effort in the ePortfolio format used by SJFC. As noted above, this is likely because the template of the ePortfolio for SJFC itself is uniquely and purposefully designed to prompt the student to make these connections.

In addition, students will benefit from explicit education on the value of portfolio creation, especially ePortfolio creation, for depth and breadth of understanding the value of education and of the future possible uses for pursuing continued education and/or career development. To this end, sharing the stories and ePortfolio examples of past students' successful use of ePortfolio to further their pursuits in academics (e.g., major and graduate school), and career (e.g., job applications) will likely prove to be beneficial to ePortfolio adoption at our institution.

### **Possible Study Limitations**

One possible issue with this study is related to faculty selection bias. It is likely that faculty who believe that there is value in portfolios (either format) are likely to be the early adopters of ePortfolios and also are likely to devote more teaching and class time to the portfolio and the reflection required therein.

In addition, the sample size for this study was quite small, and the duration of the study was limited in time (only one cycle of assessment for each Program). It would be informative to complete the study with a larger sample over more semesters, getting multiple years of data from each program rather than just one set from each, as is the case for this study.

Finally, an additional limitation is that the analysis in this study focused exclusively on student and faculty reflections related to the course goals and related to a holistic reflection on the value of the course and the value of the portfolio assignment for their academic, personal, and careers. The study, therefore, is not pointing to content learning or even skill learning (writing, research skills, and so on); rather it is only exploring students' perceptions of the value of the course and the value of the portfolio assignment to their learning and to their future personal or career selves. It would be interesting to see if there is a connection between course learning (as assessed by, for example, course grades or assessment of student writing completed for the course over the semester) and levels of cognitive reflection of the same students in their ePortfolios, as compared with traditional paper-based portfolios.

### **Conclusion**

The findings of this study suggest that the use of ePortfolios, as compared to traditional paper portfolios, yields greater connections not only to learning within the



course but also, and especially, beyond the course, to the students' academic majors and careers. Thus, there appear to be good reasons to continue to encourage the adoption of the ePortfolios over the traditional paper format. It is clear that students who create their portfolios using the template provided for ePortfolios see the value of the course and the assignment in more extended ways, beyond the course, than do students who only completed the traditional paper portfolio. However, this same insight is not necessarily shared by faculty in either group. Rather, as noted above, some faculty participating in the study express at least some skepticism about the value of the portfolio, even when they also might acknowledge its pedagogical potential, beyond its role as a document repository that also facilitates end-of-the-semester assessment. Given this, and the evidence that the value of portfolios extends much deeper into the quality of student learning achieved, faculty development that highlights the cognitive benefits of reflection and student learning would be valuable. In addition, faculty development to enhance the pedagogical tools available for promoting meaningful and educational reflection on learning is also important. While some might argue that, given the results, a wide-spread adoption of ePortfolios across the entire FYP and perhaps even by all students at the college would follow, this would be a mistaken conclusion. Instead, because faculty buy-in of the ePortfolio as a pedagogical tool and faculty support to the students throughout the process of on-going reflection is vital to the success of its implementation, ePortfolio use should be encouraged and facilitated through faculty development but not forced.

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## Appendix A

### Learning Communities & Research-Based Writing: Mission Statement & Program Descriptions

In a college rooted in the liberal arts, the Learning Community and Research-based Writing (199) programs at St. John Fisher College play an important role in the college's central goal of preparing individuals for lives of intellectual, professional, and civic integrity. As such, these programs form the foundation of the college-wide core curriculum by cultivating the fundamental skills (writing, reading, critical thinking, and informational literacy) necessary for academically engaged living and learning. In these programs, students build upon skills and habits necessary for enriched civic engagement and academic success.

#### **Learning Communities**

The Learning Community is the first component of St. John Fisher's required core. In the LC, faculty from two different academic disciplines teach linked courses sharing a common theme, giving students an opportunity to learn about a topic from at least two perspectives. Through active participation in class discussion, collaborative learning, and a variety of assignments, all Learning Communities are designed to improve students' writing, reading, critical thinking, and informational literacy. The LCs target writing, discussion, research, and group work skills as the first step in improving students' ability to succeed in college.

#### **CORE 101 (Learning Communities): Student Learning Goals**

1. Students will increase their self-awareness via engagement in an important issue(s) and reflection on where they place themselves regarding that issue.
2. Students will approach an issue from multiple perspectives.
3. Students will be able to mount a convincing argument about an issue, demonstrating the ability to write and think critically.
4. Students will increase their information literacy skills.
5. Students will learn to work effectively in collaboration with others.

#### **Research-Based Writing (DEPT 199)**

In Research-based Writing (199), students will study and practice skills central to academic and professional research through the development of an independent, inquiry-based project. In their project, students assert, support, and integrate their own position into a scholarly conversation based in research. Students develop competency in the location, evaluation, analysis and documentation of sources that represent a range of different perspectives on important issues.

#### **DEPT 199: Student Learning Goals**

1. Students will be able to locate, select, and document secondary source material relevant to topic.
2. Students will be able to analyze and incorporate research in support of their own position, solution to a problem, or answer to a question.
3. Students will summarize, apply, and integrate multiple scholarly perspectives on a text or issue.
4. Through critical revision, students will learn to assert a position and support it using the tools of research in a well-developed, well-reasoned written document.
5. Students will be able to effectively present and defend some aspect of their research, using oral communication skills.

Appendix B  
St. John Fisher College ePortfolio Template

Example 1:

The screenshot shows the SJFC ePortfolio Template home page. At the top is a photograph of a building at night with the text "ST. JOHN FISHER COLLEGE" overlaid. Below the photo is the title "SJFC ePortfolio Template" and the subtitle "Overall reflection on college wide learning goals". A search bar is located to the right of the subtitle. A navigation menu includes links for HOME, BE CURIOUS, BE ENGAGED, BE READY, BECOME, and EPORTFOLIO HELP. The main content area is titled "Home" and features a "Summary Statement" section with placeholder text. A "CONTACT INFORMATION" box contains a silhouette of a person and fields for name, major, school, and email. A navigation sidebar on the left lists categories like "ABOUT ME" and "SHOWCASE" with sub-items. Annotations on the left side of the page explain the structure: "Career-oriented portion, updated continuously" points to the "ABOUT ME" section; "General academic area, applies to all undergraduate students" points to the "SHOWCASE" section; and "Specialized areas for participating programs" points to the sub-items under "SHOWCASE". A note on the right states "Also provided in specialized templates for participating majors" with an arrow pointing to the "YOUR MAJOR" sub-item.

**SJFC ePortfolio Template**  
Overall reflection on college wide learning goals

HOME BE CURIOUS BE ENGAGED BE READY BECOME EPORTFOLIO HELP

NAVIGATION

- ABOUT ME
  - RESUME
  - SKILLS
  - INTERNSHIPS
  - REFERENCES
- SHOWCASE
  - FRESHMAN SEMINAR
  - THE CORE
  - YOUR MAJOR
  - YOUR MINOR
  - EXTRACURRICULAR ACTIVITIES
  - COMMUNITY SERVICE
  - FIRST GENERATION SCHOLARS PROGRAM
  - HONORS PROGRAM
  - SCIENCE SCHOLARS

**Home**

**Summary Statement**  
[DELETE THIS TEXT: A summary statement for employment purposes contains the following elements: who you are (as a young professional), what you are good at (skills/achievements) and what you bring to the workplace (this shows motivation/drive as well as an awareness of what you have to offer). A college student with limited experience should represent their *potential* in this section.]

**CONTACT INFORMATION**

Firstname Lastname  
Major  
School of your major  
St. John Fisher College  
email@sjfc.edu

Career-oriented portion, updated continuously

General academic area, applies to all undergraduate students

Specialized areas for participating programs

Also provided in specialized templates for participating majors

ksf

Example 2:

---

HOME
BE CURIOUS
BE ENGAGED
BE READY
BECOME
EPORTFOLIO HELP

**NAVIGATION**

▼ ABOUT ME

- RESUME
- SKILLS
- INTERNSHIPS
- REFERENCES

▼ SHOWCASE

- FRESHMAN SEMINAR
- THE CORE**
- YOUR MAJOR
- YOUR MINOR
- EXTRACURRICULAR ACTIVITIES
- COMMUNITY SERVICE
- FIRST GENERATION SCHOLARS PROGRAM
- HONORS PROGRAM
- SCIENCE SCHOLARS

## The Core

Fisher's Core curriculum consists of 15 courses, which must be successfully completed to graduate.

The Core experience complements your other academic experiences by helping develop skills and perspectives that are enhanced and applied through study within your major.

The Core is comprised of two tiers of study: Foundations and Perspectives.

- ▼ **Foundations**
  - 1-Learning Community (LC)
  - 2-Research-Based Writing (RW-199)
  - 3-Cultural Contrasts (CC)
  - 4-Scientific and Quantitative Literacy (SQ)
- ▼ **Perspectives**
  - (P1) Perspectives on the Arts
  - (P2) Philosophical and Religious Perspectives
  - (P3) Sociocultural Perspectives
  - (P4) Exploration of the Natural and Technical World
  - (P5) Intercultural Perspectives and Languages

**Skills Across the Core**

Example 3:

The image shows a screenshot of a course page layout. On the left, a box contains the course title '1-Learning Community (LC)' and a paragraph of introductory text. Below this is a section for 'Insert Learning Community Title Here' and a list of two courses. In the center, a 'Reflective Memo' box lists five 'LC Program Goals'. On the right, a larger box shows a sub-page titled '1 - Self & Social Awareness' with a description of the artifact and a reflection section. A blue arrow points from the '1 - Self & Social Awareness' goal in the 'Reflective Memo' box to the sub-page.

[The Core > Foundations >](#)

## 1-Learning Community (LC)

In your Learning Community, faculty from two different academic disciplines teach two linked courses sharing a common theme, giving you the opportunity to learn about a topic from at least two perspectives. You'll explore topics of social importance both in discussions and in writing. Learning Communities target writing, discussion, research, and group work skills as the first step in improving your ability to succeed in college.

**Insert Learning Community Title Here**  
Insert Learning Community course description here.

This Learning Community is made up of two courses:

- Insert Course 1 Title
- Insert Course 2 Title

**LC Program Goals**

- 1 - Self & Social Awareness
- 2 - Multiple Perspectives
- 3 - Writing & Critical Thinking Skills
- 4 - Information Literacy Skills
- 5 - Collaborating with Others

**Reflective Memo**


[The Core > Foundations > 1-Learning Community \(LC\) > LC Program Goals >](#)

## 1 - Self & Social Awareness

Students will increase their self-awareness via engagement in an important social issue(s) and reflection on where they place themselves regarding that issue.

**Description of Artifact:**

**Reflection:**



[ADD FILES](#)

This layout is consistent for all courses within the core curriculum, including;

- Home page for each course in the core, general description of course type, specific course description and course name
- Link to sub-pages for each of the program goals, the goal itself and prompts for student description of their artifact, reflection and location to attach artifact

Appendix C  
St. John Fisher Learning Community Program  
Portfolio Guidelines for Students  
(Paper/3 Ring Binder Format)

As a requirement for the Learning Community. All LC students must submit a portfolio of their work. The primary purpose of the portfolio assignment is to offer you an opportunity to synthesize your experiences gained in your Learning Community and situate those experiences in relation to the LC Program goals. In addition, through your work on this assignment we hope that you will become more aware of the skills you have developed, the knowledge you have gained, and the relevancy of these skills and knowledge to your particular academic, professional and personal aspirations.

To complete the portfolio assignment, each student should:

- Obtain a one-inch binder in which you can place your learning community materials. At the end of the semester, you will submit this binder to one of your LC instructors as determined by your LC faculty. This portfolio will contain a significant amount of your work; you should be sure to treat it professionally, as a representation of your ideas.
- Create a structure for the portfolio with a Table of Contents so that your professors can easily locate the different assignments, the drafts, and the revisions.
- Include in your portfolio appropriate writing assignments, drafts of formal essays, and revisions of those essays as directed by your LC faculty. In addition, at least one paper must be a revision of a previous draft, and you should be sure to identify this revision for your readers.
- Include at least one written assignments from both courses in the cluster.
- Finally, write a reflective memo in which you evaluate your performance in relation the learning community learning goals. Those learning goals are:
  1. Students will increase their self-awareness via engagement in an important issue(s) and reflection on where they place themselves regarding that issue.
  2. Students will approach an issue from multiple perspectives.
  3. Students will be able to mount a convincing argument about an issue, demonstrating the ability to write and think critically.
  4. Students will increase their information literacy skills.
  5. Students will learn to work effectively in collaboration with others.

In your memo, you should refer specifically to your work, pointing to particular moments in essays and assignments that demonstrate the quality of your performance in reference to the goals, and use these to illustrate and demonstrate the ways you have improved over the semester. This reflective memo is an opportunity to make your case about what you have learned in the LC cluster.

- Place your reflective memo as the first item in your portfolio, following the Table of Contents.

**Name \_\_\_\_\_ Learning Community Reflective Memo**

1. One goal of learning communities is to teach you to approach an issue from multiple perspectives. As you review the paper in your portfolio that you feel best represents your ability to do this, please identify here the perspectives through which you considered the topic and how those perspectives differed.
2. This learning community should help you to increase your information literacy skills, especially in relation to the use of scholarly databases and other library resources. What did you learn about information literacy that you did not know before and how is that learning reflected in the work in your portfolio?

3. A third goal of learning communities is that you should be able to construct a convincing argument about an issue, demonstrating the ability to think and write critically. Looking over your portfolio, please choose one paper and comment on how the thesis, the organization, and the treatment of evidence all work to make a convincing argument.
4. An additional goal of the learning community was to assist students in learning to work effectively in collaboration with others. Please use the space below to reflect on how your learning community helped you to do this during the semester and please point to particular assignments, activities and/or group projects that facilitated you learning this skill.
5. Finally, one of the goals of the learning community is that you will increase your self-awareness through an engagement in an important issue. How did your work in the learning community help you do this during the semester and where in your work do you demonstrate this?
6. What types of skills (academic, personal, and/or career) have you gained from participating in the Learning Community Program?
7. Now that you have nearly completed this assignment, reflect on what you have gained, if anything, from the process (creating the Portfolio and all its elements and completing the reflective memo). Do you see yourself using this portfolio in some way in the coming months, years, etc.? If so how?



Appendix D  
St. John Fisher Learning Community Program  
Portfolio Guidelines for Students  
(ePortfolio Format)

**Learning Community Topic:** \_\_\_\_\_ **ePortfolio Guidelines**

**Professor Names:** \_\_\_\_\_ **Due Date:** \_\_\_\_\_

As a requirement for the Learning Community, all LC students must submit a portfolio of their work. In this Learning Community we will do this in electronic form, as an ePortfolio. The primary purpose of the portfolio assignment is to offer you an opportunity to synthesize your experiences gained in your Learning Community and situate those experiences in relation to the LC Program goals. In addition, through your work on this assignment we hope that you will become more aware of the skills you have developed, the knowledge you have gained, and the relevancy of these skills and knowledge to your particular academic, professional and personal aspirations.

A few ePortfolios will be selected at random and will be read by members of the Learning Communities assessment committee. All students enrolled in the learning communities participate in this portfolio assessment program, and submission of a portfolio is a requirement for a passing grade in this course.

Included in the ePortfolio should be:

- I. LC Reflective Memo (See detailed guidelines below.) Post completed as a *Word* doc in the tab labeled “Reflective Memo” on your ePortfolio site.
- II. Completed Assignments, posted as “Artifacts” for the goal that best connects with this assignment. [Faculty may specify required artifacts to post, if they wish, here.]
- III. Post at least one “Artifact” for each goal.
- IV. For the “Description of Artifact” connected with each goal on your ePortfolio website, tell the reader what this assignment asked you to do and what the reader will find, in general terms, when they view the completed work. Include in your attachments the guidelines (if provided) by your professors in relation to each assignment posted.
- V. Each goal must include a “Reflection”. In your reflection connected with each goal, you should explain how the work you have provided demonstrates achievement of the particular goal. In your reflection, be sure to be specific, pointing to particular parts of your work and/or passages in your attached completed assignments that demonstrate your achievement of each goal.

**General Guidelines:** Your portfolio is due on \_\_\_\_\_. Be sure to either make your ePortfolio accessible to all individuals within the “sjfc.edu” domain; to people with the “sjfc.edu” domain and the appropriate link; or, at the very least, specifically to the professors of your course.

#### Guidelines for the LC Reflective Memo

The Reflective Memo offers a chance for you to reflect holistically (rather than in relation to each Program goal) on the experience in your LC and of the process of completing a portfolio as part of the LC Program requirements. To complete your Reflective Memo, please follow the following instructions:

In a 2-3 page response, please respond to the following writing prompts. To support your reflections, be sure to refer to elements of your written work as well as to various readings from both of the courses that make up your LC.

- A. This group of questions asks you to think about your personal response to the issues we have discussed in this Learning Community: What issues do you think about differently after this LC? Has your outlook on the world changed, and if so how? In your answer, point to specific reading assignments, LC experiences, and/or writing projects that influenced your ideas about these matters.
- B. All Learning Communities at SJFC pair together two courses on a common theme and work together to achieve the goal of the LC Program. In this section of your Reflective Memo, please reflect on what you take to be the

purpose of this particular aspect of the Program and reflect on how it has or has not been valuable for you and your learning.

- C. Discuss developments or modifications in your usual writing practice and/or your sense of yourself as a writer since the beginning of the course and offer reflection on what aspects of your writing you are still working on in order to continue to improve.
- D. What types of skills (academic, personal, and/or career) have you gained from participating in the Learning Community Program?
- E. Now that you have nearly completed this assignment, reflect on what you have gained, if anything, from the process (creating the Portfolio and all its elements and completing the reflective memo). Do you see yourself using this portfolio in some way in the coming months, years, etc.? If so how?

Appendix E  
St. John Fisher Research-Based Writing Program  
Portfolio Guidelines for Students  
(Paper/3 Ring Binder Format)

**Guidelines to Student Portfolios for DEPT. 199**

All students who take a DEPT. 199 course at St. John Fisher need to submit a portfolio of their work in the course.

- Please obtain a one-inch binder in which you can place your materials; at the end of the semester, you will turn this binder into your professor. This binder will contain a significant amount of your work; you should be sure to treat it professionally, therefore, as a representation of your ideas.
- You should set up a structure for the portfolio with a Table of Contents so that your professor can easily locate the different assignments, the drafts, and the revisions.
- Your portfolio will contain your research paper; all drafts of this paper; the research proposal; your follow-up assignment to the library session; material from your oral presentation; assignments regarding research methods and processes (e.g., annotated bibliography, research journal, critical review, etc.); assignments having to do with identifying appropriate sources (print or database); assignments having to do with incorporating quotations from source material; assignments having to do with summarizing or paraphrasing source material.
- Finally, you must write a reflective memo in which you develop a response to the following:
  - A. Evaluate your performance in relation to the student learning goals for Research-based Writing (199). These learning goals include:
    1. Students will be able to locate, select, and document secondary source material relevant to topic.
    2. Students will be able to analyze and incorporate research in support of their own position, solution to a problem, or answer to a question.
    3. Students will be able to identify multiple perspectives on a text/issue and articulate those perspectives.
    4. Through critical revision, students will learn to assert a position and support it using the tools of research in a well-developed, well-reasoned written document.
    5. Students will be able to effectively present and defend some aspect of their research, using oral communication skills.
  - B. What types of skills (academic, personal, and/or career) have you gained from participating in the Research-based Writing Program?
  - C. Now that you have nearly completed this particular project (your portfolio), reflect on what you have gained, if anything, from the process of creating the portfolio and all its elements as well as the reflective memo. Do you see yourself using this portfolio in some way in the coming months, years, etc.? If so how?

In this self-evaluation, you should refer specifically to your work over the semester, pointing to specific moments in the research paper and the assignments that demonstrate the quality of your performance in reference to the goals, and use these to illustrate and demonstrate the ways in which you have improved over the semester. This reflective memo (in whatever format your professor has asked you to complete it) serves as an opportunity to make your case about what you have learned in the course. It should be the **first item in the portfolio following the Table of Contents**.

Please note: A random sample of student portfolios will be collected for assessment purposes for the SJFC First-Year Program and may not be returned to students.

Appendix F  
St. John Fisher Research-Based Writing Program  
Portfolio Guidelines for Students  
(ePortfolio Format)

**Research-Based Writing                      ePortfolio Guidelines**

**Professor Names:** \_\_\_\_\_ **Due Date:** \_\_\_\_\_

As a requirement for the Research-based Writing (199), all 199 students must submit a portfolio of their work. In this 199 course we will do this in electronic form, as an ePortfolio. The primary purpose of the portfolio assignment is to offer you an opportunity to synthesize your experiences gained in your Research-based Writing course and situate those experiences in relation to the Research-based Writing program goals.

All students enrolled in Research-based Writing create a portfolio and submission of a portfolio is a requirement for a passing grade in this course. A few ePortfolios from each 199 course will be selected at random and will be read by members of the Learning Communities assessment committee.

Please include the following in your ePortfolio:

- I. 199 Reflective Memo (See detailed guidelines below.) Post completed as a *Word* doc in the tab labeled “Reflective Memo” on your ePortfolio site.
- II. Completed Assignments, posted as “Artifacts” for the goal that best connects with this assignment.  
**[Faculty may specify required artifacts to post, if they wish, here.]**
- III. Post at least one “Artifact” for each goal.
- IV. Each goal asks for a “Description of Artifact.” For this, explain to your reader what this assignment asked you to do and what the reader will find, in general terms, when they view the completed work. Include the guidelines (if provided by your professor) for each assignment posted.
- V. Each goal must include a “Reflection.” In your reflection explain how the work you have provided demonstrates achievement of the particular goal. In your reflection, be sure to be specific, pointing to particular parts of your work and/or passages in your attached completed assignments that demonstrate your achievement of each goal.

**General Guidelines:** Your portfolio is due on \_\_\_\_\_. Be sure to either make your ePortfolio accessible to all individuals within the “sjfc.edu” domain; to people with the “sjfc.edu” domain and the appropriate link; or, at the very least, specifically to the professors of your course.

**Guidelines for the 199 Reflective Memo**

The Reflective Memo offers a chance for you to reflect holistically (rather than in relation to each Program goal) on the experience in your Research-based Writing course and of the process of completing a portfolio (or ePortfolio) as part of the 199 Program requirements. To complete your Reflective Memo, please respond to the writing prompts below. In your response, be sure to refer to elements of your written work and/or various readings from your 199 course.

- Discuss developments or modifications in your usual writing and research practice and/or your sense of yourself as a writer since the beginning of the course and offer reflection on what aspects of your writing and/or your research you are still working on in order to continue to improve.
- What types of skills (academic, personal, and/or career) have you gained from participating in the Research-based Writing Program?
- Now that you have nearly completed this particular project (your ePortfolio), reflect on what you have gained, if anything, from the process (creating the Portfolio and all its elements as well as the reflective memo. Do you see yourself using this portfolio in some way in the coming months, years, etc.? If so how?

Appendix G  
Rubric for Assessing Student Reflections in ePortfolios

	<b>Highly Developed</b>	<b>Developed</b>	<b>Emerging</b>	<b>Initial</b>
<p><b>Connections to Course</b> <i>(Understanding Purpose)</i></p>	<p>Student describes the artifact and explains why it satisfies the course assignment. Student clearly articulates the relationship between the assignment and a goal of the course. Student evaluates the success of his/her work.</p>	<p>Student describes the assignment and the artifact. Student describes how the assignment relates to specific topics taught in the course.</p>	<p>Student describes the artifact and references an activity or topic from the course.</p>	<p>Student describes the artifact but does not reference any specific class activities or topics.</p>
<p><b>Connections to Learning</b> <i>(Understanding Significance/Meaning)</i></p>	<p>Student identifies specific skills and/or knowledge learned in the course and explains how the skills and/or knowledge learned relate to the intent of the core curriculum and/or their academic major. Student clearly states the academic importance of the skill and/or content knowledge beyond the importance to the course alone.</p>	<p>Student identifies specific skills and/or content knowledge and explains their importance to their academic work beyond the significance of the course.</p>	<p>Student mentions an academic skill or some content knowledge learned through the course but does not explain its significance .</p>	<p>Student does not identify specific academic skills or content knowledge that is separate from the assignment (i.e., “writing” vs. defending a thesis statement)</p>
<p><b>Connections to Career or Personal Interests</b> <i>(Understanding Relevancy)</i></p>	<p>Student identifies specific components of the artifact that relate to career objective, or personal interest. Student describes why the artifact is personally significant.</p>	<p>Student describes how the assignment relates to the course and how the course relates to their career or personal plan. Student mentions why they took the course or why the topic is personally meaningful.</p>	<p>Student describes the assignment and is able to explain how it relates to their personal interests or plan.</p>	<p>Student describes the assignment as being “required” and does not see it as personally or academically significant.</p>

Appendix H  
Summary of Rubric Scores

Table H1  
Average of Rubric Scores on Student Reflections

	ePortfolio <i>Spring 2015 – 199</i>	ePortfolio <i>Fall 2014 – LC</i>	Paper Portfolio <i>Spring 2015 – 199</i>	Paper Portfolio <i>Fall 2014 – LC</i>
Connections to Course	2.9	2.5	2.9	2.2
Connections to Learning	2.6	2.1	1.8	1.6
Connections to Career or Personal Goals	2.3	2.0	0.8	1.2

Table H2  
Percent of Students with a “2” (Developed) or higher

	ePortfolio <i>Spring 2015 – 199</i>	ePortfolio <i>Fall 2014 – LC</i>	Paper Portfolio <i>Spring 2015 – 199</i>	Paper Portfolio <i>Fall 2014 – LC</i>
Connections to Course	100%	93%	100%	80%
Connections to Learning	82%	87%	63%	80%
Connections to Career or Personal Goals	68%	60%	25%	40%

Table H3  
Mean and Comparison p-values (T-test)

E 15 Course	E 15 Learn	E 15 Goals	E 14 Course	E 14 Learn	E 14 Goals	P 15 Course	P 15 Learn	P 15 Goals	P 14 Course	P14 Learn	P14 Goals
Mean											
2.89	2.64	2.25	2.53	2.13	2.07	2.91	1.84	0.84	2.27	1.60	1.27
Percent $\geq$ 2											
100%	82%	68%	93%	87%	60%	100%	63%	25%	80%	80%	40%
Standard Deviation											
0.31	0.78	0.93	0.63	0.63	0.94	0.30	0.77	0.81	0.78	0.81	.069
Group 1			Group 2			Course		Learning		Goals	
ePort 2015			ePort 2014			0.008		0.009		0.459	
ePort 2015			Paper 2015			0.866		0.000		0.000	
ePort 2015			Paper 2014			0.000		0.000		0.000	
ePort 2014			Paper 2015			0.005		0.108		0.000	
ePort 2014			Paper 2014			0.152		0.006		0.000	
Paper 2015			Paper 2014			0.000		0.230		0.030	