LEADing the Way with ePortfolios in a First-Generation Learning Community

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Although an increasing number of first-generation students are beginning tertiary education, many are not completing their degrees. In an attempt to improve retention and graduation rates, learning communities responsive to the unique needs of first-generation students are becoming more common. This paper explores the implementation of ePortfolios in first-year writing courses in one such learning community, the LEAD Scholars Program. The research, which employed thematic analysis of student ePortfolios in a qualitative case study, suggests that ePortfolios operate synergistically with other high-impact practices to amplify the persistence and success of first-generation students and prepare them for their roles as engaged citizens and leaders in an increasingly technologically-connected society. The broader significance of this research derives from the importance of discovering how to improve the effectiveness of programs to retain and graduate first-generation students.

Although first-generation students make up an increasingly large segment of the high-school population, they are still underrepresented in tertiary education. In particular, they are very much underrepresented in four-year colleges and universities, tending to enroll in two-year institutions. Moreover, even if these non-traditional students enroll, they are less likely than their peers to graduate. As universities seek to increase diversity and inclusion, they are striving to attract this under-represented sub-population. Low admission and retention rates matter to all of us, not only in the interests of equity, but also out of self-interest; we need the talents of these capable students. To attract and retain these underrepresented students, many universities have created learning community (LC) models to support them as they make the transition from high school to what can seem a very unfamiliar and unforgiving college environment. This paper reports on one such highly successful LC for first-generation students at a regional university in the west and explores the role of ePortfolios in working synergistically with the other high-impact practices (HIPs) that students experience to realize this success.

First-Generation College Students

As no consensus exists on how to define first-generation college students, numbers stated for this demographic vary widely, depending on which definition is used. Definitions typically revolve around parents' education level; some also include socio-economic indicators from the Pell Institute and the National Center for Education Statistics. Recent research using data from the Education Longitudinal Study of 2002 found that if *first-generation* is understood as meaning that neither parent had ever attended college, only 22% were defined as first-generation, while including students with one parent who had some tertiary education increased the percentage to 77% (Toutkoushian, Stollberg, & Slaton, 2015). Whether first-generation students are defined as having no parent with any college education or only one parent with some college education but no degree, studies provide evidence of significant differences in retention and graduation rates (Smith, 2015). For example, a 2011 report from UCLA's Higher Education Research Institute on graduation rates at four-year institutions using 2004 data, which defined first-generation students as "students for whom neither parent has attended college" (DeAngelo, Franke, Hurtado, Pryor, & Tran, 2011, p. 9), found that 27.4% of first-generation students completed their degree after four years, whereas 42.1% of students whose parents had college experience did, and found that this difference remained constant after six years.

When first-generation students attend university, they often find the environment uncomfortable because they lack cultural capital and are unfamiliar with social norms (Bourdieu, 1986). Issues contributing to their discomfort include: internalization of negative stereotypes, poorer academic preparedness, less access to information about colleges and funding opportunities, ongoing financial concerns, culture shock, low self-esteem, and less well-developed study and time-management skills (Banks-Santilli, 2014; Engle & Tinto, 2008; Irlbeck, Adams, Akers, Burris, & Jones, 2014; Lawless, 2009; Nichols & Islas, 2016; Pascarella, Pierson, & Wolniak, 2004; Paulsen & Griswold, 2009; Perna, 2015; Wilbur & Roscigno, 2016). As the list above suggests, problems faced by non-traditional students are both external and internal. Consequently, an increase in the enrollment of first-generation students will not insure a corresponding increase in graduation rates unless institutions are sensitive to the challenges they face. If they are admitted but given insufficient assistance with both academic and social integration, they are at risk of failing to graduate. As Engstrom and Tinto (2008)

cautioned, "Access without support is not opportunity" (p. 50). First-generation students are more likely to engage more fully with academic and social aspects of campus life when colleges and universities offer a variety of initiatives to support their adjustment and learning; however, further compounding their potential problems, underrepresented students are less likely to use on-campus student support systems (Gonzales, Brammer, & Sawilowsky, 2015; Storlie, Mostade, & Duenyas, 2016).

Learning Communities and Other High Impact Practices

To ease the transition from high school to college and mitigate the issues mentioned above, LC models have been widely implemented. Much like definitions of *first-generation*, definitions of *learning communities* vary, but a commonly accepted definition is a group of people who meet regularly, share common academic goals, and embody a culture of learning (Bielaczyc & Collins, 1999). A four-year multi-institutional study of 19 effective LCs found that low-income students in LCs were nearly 10% more likely to persist than those who were not (Engstrom & Tinto, 2008). This finding is consistent with an action research study of a first-generation LC at Wayne State University, a large, public research institution with an undergraduate population of more than 17,500 students and a total student population of over 27,000. Gonzales et al. (2015) noted that the LC was especially helpful for first-generation Latino/a students because it supported both their social and academic integration: "A sense of collectivity, belonging, and *familia* was created that now carries these students well beyond their first year at WSU" (p. 236). They reported that over the course of their study, retention rates gradually increased, from 57.5% in 2006 to 85% in 2012 .

LCs are also an example of a high-impact practice (HIP), a term used to describe activities and experiences that have been identified as promoting student engagement and success. Although steadily growing, as of 2016 the 11 HIPs listed by the Association of American Colleges and Universities are (a) LCs, (b) first-year seminars and experiences, (c) common intellectual experiences, (d) writing-intensive courses, (e) collaborative assignments and projects, (f) undergraduate research, (g) diversity or global learning, (h) service learning or community-based learning, (i) internships, (j) capstones and projects, and (k) ePortfolios (Kuh, 2008; Watson, Kuh, Rhodes, Light, & Chen, 2016). Research suggests that HIPs are particularly helpful for first-year students, and for first-generation students, even more so (Brown, Roediger, & McDaniel, 2014; Finley & McNair, 2013; Huber & Hutchings, 2004; Hubert, Pickavance, & Hyberger,

2015; Kinzie, Gonyea, Shoup, & Kuh, 2008; Kuh, 2008; Kuh, O'Donnell, & Reed, 2013; Rahoi-Gilchrest, Olcott, & Elcombe, 2009; Tukibayeva & Gonyea, 2014; Watson & Pecchioni, 2011). As Tukibayeva and Gonyea (2014) noted, HIPs help students "reflect on their understandings, reconcile new ideas with old ones, and integrate learning from one setting to be useful in other settings" (p. 31).

Context of the Study

The goals of the LC discussed in this case study have much in common with those listed above. Founded in 1851, Santa Clara University (SCU) is a private, Catholic university, which during the period of study had an undergraduate enrollment of 5,385 and a full-time and part-time graduate enrollment of 3,296. Desiring to create an inclusive and diverse community, SCU prioritizes improved access, retention, and graduation rates of non-traditional students by offering scholarships and financial aid to enable underrepresented students to participate more fully in campus life. Offered to students who have been admitted and whose college application indicates that neither of their parents completed a four-year degree, the Leadership, Excellence, and Academic Development Scholars Program (LEAD) is SCU's LC for first-generation students (Santa Clara University, 2017). Top-down commitment to LCs is important because, without administrative-level support, resulting in coordinated, well-funded, efforts focused on the shared goal of improving student success, these models are less likely to prove consistently effective over time. The current program enrolls about 60 students each year, with about 4% of first-year students and 50% of the first-generation students being in that cohort. Whereas nationwide, fewer than 10% of first-generation college students graduate within six years, the average four-year graduation rate for eight LEAD scholar cohorts from 2007-2014 was 81.8%, and the first-year retention rate was 97.7% (Dancer, 2015).

Foundational to this LC is "LEAD Week," a one-week program that introduces students to academic and campus life at SCU. During the week preceding the formal start of the quarter, participants begin a first-year composition course and take an ungraded elective course, such as business or engineering. LEAD Scholars also engage in team-building activities to foster community and interact with faculty, staff, peer-educators and peer-mentors, who help ease their transition into campus life. During their first year, LEAD Scholars continue with the two-course LEAD first-year composition sequence and participate in a two-quarter LEAD seminar, which focuses on study skills required for academic success. During their subsequent years at SCU, LEAD

Scholars are required to participate in at least three LEAD activities per year, most of which are designed to ensure that students familiarize themselves with university resources and support systems, as well as explore leadership and career development opportunities. In other words, the LEAD Scholars Program responds to the needs identified by Irlbeck et al. (2014): "The cultural capital that tends to be lacking in first generation college students can be compensated for by relationships developed with faculty and other university personnel, because these relationships help provide important information, perspectives, values, and socialization skills" (p. 162).

Also important to the success of SCU's LEAD Scholars program is the cumulative effect of students' engagement in HIPs, which has been shown to deepen learning, increase student engagement, and promote retention of first-year students in general, and first-generation students in particular. In addition to the LEAD-specific HIPs (learning communities, first-year seminars and experiences, common intellectual experiences, and collaborative assignments and projects), LEAD Scholars, along with all SCU undergraduates, are required to participate in the LC of their residence, writing intensive courses, community-based learning, and learning related to diversity and global engagement as part of the Core Curriculum (i.e., general education). In addition, they may voluntarily engage in internships, capstone projects, and undergraduate research with faculty mentors.

First-Year Composition in a Learning Community

All SCU undergraduates complete a two-course first-year composition sequence called Critical Thinking and Writing (CTW) as part of their Foundations Core Curriculum requirements. The LEAD CTW sequences have the same learning goals and objectives as all other CTW sequences, but have a smaller enrollment cap and faculty who work as a team to develop shared assignments. The learning goals of CTW, a writing-intensive course, are critical thinking, complexity, and communication. At the end of the course, students are expected to have mastered four learning objectives:

- read and write with a critical point of view that displays depth of thought and is mindful of the rhetorical situation;
- write essays that contain well-supported, arguable theses and that demonstrate personal engagement and clear purpose;
- reflect on and/or analyze the rhetorical differences, both constraints and possibilities, of different modes of presentation;

- reflect on the writing process as a mode of thinking and learning that can be generalized across a range of writing and thinking tasks.

Although all LEAD faculty work together to design the LEAD CTW syllabus, which is focused on the topic "education and identity," specific reading and writing assignments may vary across the four sections. All sections included an ePortfolio assignment, and typical assignment prompts were, "Create an ePortfolio that demonstrates your development this quarter as a critical reader," or "Make an argument about the most important habits and strategies you rely upon as reader/writer, as well as provide evidence that illustrates these habits and strategies." While all instructors had their students begin their ePortfolios early in the quarter, the class time allocated for work on the ePortfolios, technical assistance provided, and choice of platform varied. In all cases, students were instructed to include an introduction to their site and a reflective essay to make the case that they had met the course learning objectives. Faculty suggested that students include a variety of artifacts, such as rough and final drafts of essays, annotations, discussion posts, and notes on their texts or critical reading logs (CRLs) to support their claims about their learning. All students were required to submit an ePortfolio, worth 15-20% of the final grade, by the end of their first quarter on campus.

At SCU, interest in ePortfolios began in 2009 in the context of a revised core curriculum, which required students to study a theme in one of 24 Pathways from a number of disciplinary perspectives, creating their own "pathway" to promote integrative and intentional learning. In order for students to collect samples of their course work over time that would help them to write a final reflective essay on their chosen Pathway theme, starting with the class of 2013 members of the Core Curriculum Committee explored the use of ePortfolios for submission and assessment. Around this time, faculty were also piloting new learning management systems and an iPad program for the LEAD Scholars. When decisions about the learning management system and ePortfolios were finalized, the logical next step was to substitute ePortfolios for the paper portfolios LEAD instructors had used in the past to assess CTW course work.

Viewed as the digital successors of print portfolios, ePortfolios have been an option since the mid-1990s, and recent years have seen a rise of adoption, accompanied by more platform choices and improved ease of usage (Bass, 2014; Batson, 2015; Cambridge, 2007; Eynon, Gambino, & Török, 2014; Gambino, 2014; Jenson & Treuer, 2014; Kahn, 2014). Instructors can include ePortfolios in a variety of pedagogical paradigms, from instruction-centered to learner-focused (Conefrey, 2016). As well as uploading traditional alphabetic essays, students can incorporate blogs, videos, photos, audio texts, music, and links to other

digital media from within their site or the internet. A potentially transformative affordance of the digital portfolio, when compared to print portfolios, is the flexible space for students to reflect on their own learning, not only during the course but also in subsequent courses and even beyond their academic careers (Bolger, Rowland, Reuning-Hummel, & Codner, 2011; Cambridge, 2008; Chen & Black, 2010; Huber & Hutchings, 2004; Kahn, 2012; Singer-Freeman, Bastone, & Skrivanek, 2014, 2016). Commenting on the move from print-based to digital portfolios in her seminal chapter, Yancey (2004) asserted that the different "intellectual and affective opportunities" (p. 23) that they offer equate to a difference in "kind rather than degree" (p. 27).

Case Study Approach

This study examined, from the point of view of the students, the influence of ePortfolios in first-year composition that were designed for a first-generation LC, using a case study approach, a qualitative form of inquiry well-suited for studying a complex issue with many variables within its context (Stake, 1995; Yin, 2014). This versatile approach, which is not assigned to any particular ontological, epistemological, or methodological framework, works well with my orientation to research, which is rooted in a constructivist, interpretivist paradigm. The assumption that the researcher and the object of research are linked, so that the findings are created as the research proceeds, is based on a relativist ontology and a transactional and subjectivist epistemology. Within this constructivist view of reality, which assumes that there can be multiple credible interpretations of the same experience, my goal was to gain a deeper understanding from the LEAD Scholars' perspective (Denzin & Lincoln, 1994; Lincoln & Guba, 1985, 2013).

Following from this constructivist, interpretivist orientation, my initial research question was quite broad: What is the role of ePortfolios in the LEAD CTW? However, after familiarizing myself with the data, my research questions became more specific: (1) Do ePortfolios make a difference in progress toward learning objectives for the course and/or toward objectives of the LEAD Scholars Program? (2) How do ePortfolios interact with the other HIPs practiced in the LC? (3) What is the role of reflection in the ePortfolios? (4) What do students' reflections reveal about their transition to college? As most SCU students meet the learning outcomes of CTW without difficulty, I was less interested in assessing students' progress objectively and more interested in students' perceptions of their progress. The ongoing use of ePortfolios in the LEAD CTW is noteworthy and unusual because despite administrative level support for the adoption of

ePortfolios (and their implementation in a wide array of programs across campus, encompassing arts, sciences, business, and engineering), the total number of faculty using them regularly in other CTW sequences is low. Aside from my research interest, as one of the few other instructors who also assign ePortfolios in first-year writing courses, I was interested in understanding how they were used by other instructors in order to improve my own pedagogy.

Method

To carry out this research study, I obtained IRB approval and contacted all students in the 2015-2016 LEAD Scholars Program, inviting them to share their published ePortfolios with me. Fifteen students (representing all four sections) signed consent letters granting me access to their ePortfolios. The contents and appearance of the ePortfolios varied enormously from one student to another across the four LEAD CTW sections, depending on the ePortfolio prompt given and the platform chosen. As expected given the essay prompts, most ePortfolios comprised, to a large extent, students' use of rhetorical strategies and supporting evidence in the form of digital samples of their assignments and other multimedia artifacts to make a persuasive argument for improvement. Those students who were assigned a progress ePortfolio charted a trajectory that demonstrated increasing levels of complexity in their cognitive development, while those assigned a process ePortfolio described increasing levels of self-regulated learning and development of learning heuristics. Although the level of writing, overall design quality, and technical expertise varied from one ePortfolio to the next, each of the ePortfolios that I coded enacted complex decision making about which multimedia artifacts would best support the digital presence that students wanted to project to multiple and varied audiences and that showcased their developing presentation literacy skills.

I used thematic analysis, a qualitative method that works well within many different theoretical frameworks, for analyzing students' ePortfolios (Braun & Clarke, 2006; Clarke & Braun, 2013). After immersing myself in the data and noting any initial observations, I coded the ePortfolios for patterns and collated the codes to create candidate themes. After this, I coded and recoded data excerpts in an iterative process until all the data had been coded and I had more confidence in possible themes, and finally, I collated all the coded data for each theme. Next, I reviewed, defined, and named the themes. As part of the process of reviewing the themes, I contacted the students' instructors with questions about the assignments in order to deepen my understanding of the context of the writing that students had produced in their ePortfolios. Instructors generously shared syllabi, assignments, and readings that students had

mentioned. By waiting to acquire this additional information until after I had identified nascent themes, I was able to combine an inductive, data-driven, approach with a deductive, theory-driven analysis, which was consistent with my constructivist, interpretivist approach, in which data collection and data analysis generally proceed together, with the findings based on evidence and reasonable interpretations. Within the framework of this qualitative approach, I propose that the soundness of these findings be assessed based on whether they offer a coherent and convincing narrative account and whether they are useful in redirecting practice, what might be called a practical and dialogic validity (Blakeslee, Cole, & Conefrey, 2011).

Results

Students' ePortfolios suggested that they were integrating learning from their first-year writing course, their LC, and the other HIPs that they were experiencing. Together, these HIPs appeared to deepen students' learning, encourage self-efficacy, and promote valuable 21st century digital literacy skills. The four themes that emerged from students' curation of texts and reflection on their learning contribute to a convincing and compelling narrative account of the ways in which ePortfolios interact synergistically with other HIPs to augment the overall positive impact of the LEAD LC. The four themes are: (1) literacy skills, (2) self-regulation strategies, (3) academic and social integration, and (4) 21st century skills.

Theme 1: Literacy Skills

Many students complained that as a result of typical high-school writing assignments, they had little experience with reading and writing other than remembering and restating information. Since CTW required more cognitively complex tasks, they found the assignments daunting. The impressive progress that they described in their reflective essays, from lower to higher-order thinking, was reminiscent of Bloom's Taxonomy of Learning Domains (Bloom, 1956). Early in her reflective essay, one student wrote:

> My annotations were similar to my high school annotations where I would highlight quotes and write down nonsense just to fill the space and make it seem like I did work. Like in my Bartholomae and Petrosky annotations I wrote, "Looking at reading through your personal lens" as a comment for the quote, "working from passages or examples but filtering them through your own personal predispositions" (Bartholomae 2). I paraphrased—I didn't look for a deeper connection to the contents of the passages, which meant I was still a "passive reader," as Bartholomae and Petrosky would put it.

Later in the same essay, she notes how she began to transfer what she had learned from Bartholomae and Petrosky's text to other reading assignments to become herself what they termed a "strong reader" (Bartholomae & Petrosky, 2011):

> The first step was getting my annotations up to par. I got my best advice from Bartholomae and Petrosky when they stated, "we'd like you to imagine that you are in a position to speak back, to say something of your own in turn" (Bartholomae 2), so that's what I did.

Her reflection finished with an insightful comment on the irony that the reading she had used to "showcase how bad I was at the beginning of the year" ended up being crucial to her development as a critical thinker.

Consistent with research findings, some students expressed difficulty in evaluating their own literacy (Ambrose, Bridges, Dipietro, Lovett, & Norman, 2010; Dunning, Johnson, Ehrlinger, & Kruger, 2003). This was especially true for those students who believed that the grades of "intangible subjects" were "subjective" and improvements "hard to measure." One male wrote:

> With subject areas such as math it can be easy to measure since it can be shown through the advance towards more challenging and stimulating problems . . . One class that is specifically difficult to judge personally is english [*sic*] or language arts.

In an attempt to appear more objective in assessing his progress, this student utilized the features of the ePortfolio to make learning visible by providing specific exhibits to compare and contrast. The following excerpt illustrates the rhetorical solution he adopted to make his learning appear more concrete and quantifiable:

> One of the first readings with annotations that I did was by Bartholomae and Petrosky, which you can find by clicking the link to "Annotations" which is in the menu bar in between "Reflective Essay" and "CRLs." If instead of looking at the authors' writing, you look at my annotations, it is clear that my thoughts were not very developed at the time. I simply regurgitate information and point it out directly next to the text that I am copying from . . . Luckily, my ability to make my own thoughts coherent is something that progressed as I got better at both reading critically and annotating.

First, he seized on the tangibility of his annotations, and then he directed the reader to click on a series of hyperlinks to compare and contrast different examples of annotations, to make the case that the later ones were

superior to the earlier ones insofar as they evidenced more critical thinking.

Theme 2: Self-Regulation Strategies

Students whose assignment prompt required them to make an argument about their self-regulation strategies wrote about having to overcome high school habits of excessive highlighting and inefficient reading and note-taking skills, which impacted their CTW class, as well as other classes: "Since I did not know how to read smart, I had a habit of reading every single word of the reading assigned, which would take me too long. This would happen in my psychology and biology classes, which negatively affected me." Others noted that they could no longer continue former study habits of socializing and writing assignments the night before, and that they had needed to learn both how to balance social life and school work and where to find spaces conducive to studying: "It took me some time to realize I had to set time to do homework alone or in an environment where I could not get distracted, such as in the library." Above and below her text, the student used the affordances of the ePortfolio to support her claims with photographic evidence portraying her surrounded by friends, appearing distracted, and then working alone in the library.

A further distraction that students addressed frequently was music, reflecting on genres and styles that were or were not favorable to studying. Some noted how music, people, and space interacted to make a productive or non-productive learning environment. For example, one student, who had left her parents behind in the Philippines and was living with relatives, illustrated her ePortfolio page titled "Writing Environment" with photographs depicting herself sleeping surrounded by books, reading with friends, and studying in a room surrounded by young children. She wrote, "Music plays a very significant role in my writing process because listening to music is my way of 'isolating' myself to be able to think critically." At the bottom of the page was a photo with a YouTube link to a sample of the kind of instrumental music that she listened to, which she made available to the viewer.

Another student organized her whole ePortfolio around an epiphanic (Denzin, 1989) moment when she had realized that she needed to rethink a self-regulation strategy that had worked successfully for her since starting her formal education. By exploring a series of hyperlinks, the viewer learned that what sounded like good advice had a surprisingly disastrous effect on the student's college writing. Each click led to pages with illustrations, photos, and also screen-captures of her assignments, with feedback from her instructor before the viewer arrived at a page where her grandfather's advice was revealed: "Don't wait 'till [*sic*] the last minute to get something done. Just do it right away and finish it!" Viewers who wondered how this advice could be so problematic and continued to click various links reached a page with a graphic of a stick figure staring at a screen and an arrow (indicating that three hours had passed) pointing to a blank screen to illustrate the point when the student finally realized that she could not write a complex essay without thorough planning and changed the way she went about her writing. Other pages, with photos and screen-captures of the student's work in her composition and her biology courses, explored how her discovery of steps to help her get from a blank screen to a completed assignment led to better work and improved grades as the student reflected on how she could integrate this epiphany into other aspects of her life:

> Though this change in my writing style might seem simple for some, this change did more to me than just improve my grade . . . My change in writing style opened my eyes to more change and thus more improvements in my life.

Theme 3: Academic and Social Integration

Many first-generation students arrive at college with low self-esteem despite having been admitted under the same stringent criteria as more traditional students. LEAD scholars described attending academically-poor high-schools and experiencing financially-deprived backgrounds, which led to their arriving on campus feeling under-prepared. Although the purpose of the ePortfolio assignment was for students to provide evidence of their meeting the CTW course goals and learning outcomes, equally important for their growth as scholars was their use of the reflections to help them integrate their knowledge and transfer their self-regulation strategies across disciplinary boundaries. Students' ePortfolios suggested that by the end of their first quarter in the LEAD LC, their self-efficacy and self-esteem had improved and they felt more confident about their academic prospects:

> At the beginning of the quarter, I doubted my abilities as a reader and writer in college; I wasn't sure whether I would be able meet the expectations of work required for SCU. I was ready to give up . . . Now, nearing the end of my first quarter at SCU, I am ready to say that I have exceeded my expectations on my ability as not only a critical thinker, but also a college student.

Often, new students are reluctant to seek help from their instructors or staff in student services when they are struggling academically, and this is especially true of first-generation students, who often lack social and cultural capital and become used to relying on themselves. One student who wrote, "I had previously

turned to myself to solve any problems I had," described reaching out as the writing assignments became ever more complex and used italicized words to link to photographs of the different support systems that she mentioned:

> I soon found out that asking for help was normal and expected in order to be successful. When I made this realization I turned to different people. My *professor* was the first person I sought out when I had trouble understanding the prompt, or when I needed help developing my ideas for the topic. I also turned to *friends* and my *writing group* when I needed further clarification on the prompt, or if I wanted to see if my writing was on the right track, I visited the *campus writing center*.

Other students who had immigrated to the United States as children described the initial difficulties that they had experienced because neither they nor their close family members spoke English well:

> English as my second language also caused a barrier for me. Many times, I found myself thinking in Spanish. As a result, I had minimal knowledge of English sayings, thus causing awkward wording in my sentences in unsuccessful attempts of translating Spanish to English.

Some who were recent immigrants also acknowledged their difficulties coping with a foreign culture. This was especially true of students who had been sent by their parents to live with relatives. Articulating her difficulties in switching from writing in Tagalog to English and being placed in a remedial English class against her wishes in high school, one student from the Philippines wrote about her pride in her progress:

> Looking back, I feel proud of myself because I never would have thought that I am capable of writing about three major essays (five to six pages), one collaborative paper, and be able to read a book and many articles within a couple of weeks . . . The first quarter of my college career has been quite the experience. I have met many new friends, have taken classes that were interesting, and found a community that will aid me in achieving my goals . . . The past ten weeks have taught me more than I have ever learned in the past. This quarter was the foundation for the next four years, and I can

confidently say that I am ready to tackle whatever life throws at me next

Students' reflections in their ePortfolios reveal the complex interactions of their HIPs, which supported the learning outcomes of their first-year writing course and the learning goals of their LC and their other HIPs. To succeed, LEAD scholars must believe in themselves as capable scholars and come to feel that they fit into the SCU campus culture. If they are admitted but not given the support they need, they may not persist with their degrees. Just as students' literacy could be seen to follow Bloom's Taxonomy (Bloom, 1956), their integration into the campus community could be said to follow Maslow's hierarchy, insofar as students' lower-level needs had to be met before they could aspire to higher-level ones (Maslow, 1943).

Theme 4: 21st Century Skills

While the benefits of reflection and integration can be realized by assigning a paper portfolio, the digital format enables a richer account of students' learning and additional benefits. For the researcher, however, writing about digital portfolios is more challenging than writing about their paper predecessors. Whereas a text-based portfolio is typically read linearly by scanning the table of contents, reading the reflection, and then checking the included writing samples and other print-based artifacts for more details, engagement with digital media is more complex and cumbersome to navigate. Does one read it, view it, or use it? Does one discuss readers, viewers, or users? How do we describe students' roles? Are they authors, builders, or creators? Another difficulty for the researcher is how to construct or weave together a text-based, linear narrative to account for the non-linear structure of a digital portfolio, with its internal and external links to multiple artifacts. As content can be accessed in a variety of sequences, leading to many possible paths, writing about order is problematic. While a Home or Welcome page might be considered the "first" page, there is often no obvious route to viewing additional pages, requiring that students provide their audience with directions if there is a specific order in which they would like their content to be considered and processed.

For students also, moving from paper to pixels provides added challenges. In addition to re-conceptualizing audience as broader than their instructor, they must make choices about identity management and the presentation of self. Because the self in the ePortfolio is dispersed throughout the entirety of the digital environment and in a reciprocal relationship with the viewer, students have to think carefully about which artifacts to include and where to

Figure 1
Student ePortfolio
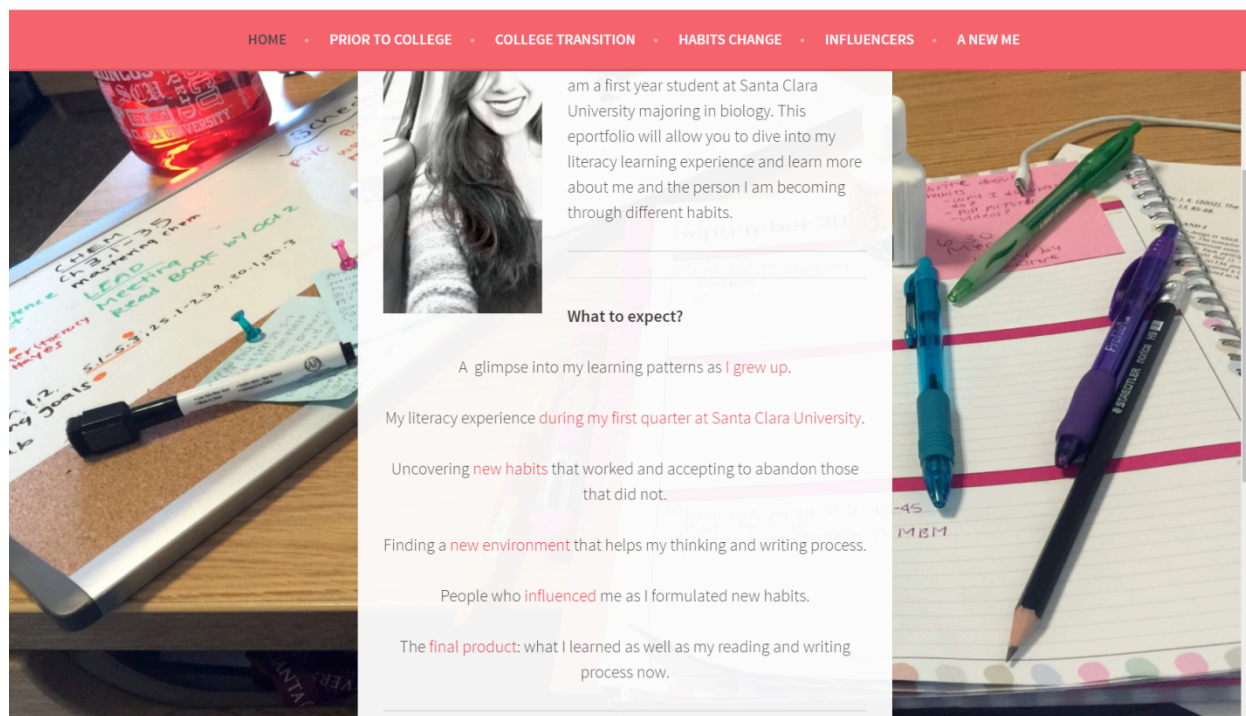
include them as they structure their site to create their digital presence. This attention to audience, a process that Ramírez (2011) likens to performing, led her to claim that ePortfolios have "an inherent ability to function as a performance space, a kind of theatre in which the self is both rehearsed and presented to an audience" (p. 1). With these challenges come opportunities. Adding to the familiar mantra of "collect, select, and reflect," what the "e" brings to portfolios is the ability to "connect," as students can communicate with whomever, whenever, wherever, on a variety of platforms on many devices, with a wealth of texts, graphics, videos, photos, music, and other digital media. Along the way, they are developing valuable media literacy skills: how to use digital communication tools to communicate with different audiences. As Gallagher and Poklop (2014) noted, "The ability to craft compositions that successfully negotiate multiple audiences' needs and expectations is a critical twenty-first century skill" (p. 7).

In building their portfolios in a digital format, the learning curve for some LEAD students was steep, such as for the student who wrote, "During this course, I started to learn how to use my first laptop ever, unsure of how to use a device that most of the other students at SCU considered a staple in their academic lives." However, despite varying levels of prior digital expertise, all students collected samples of their papers, uploaded them, and made decisions about which photographs and music to include as they envisioned their audiences and judged how best to weave everything together into a coherent and cohesive persuasive narrative that was attentive to audience.

An example of an ePortfolio that portrayed the development of an academic identity effectively and was particularly attentive to audience was assigned the overall title, "Evolving and Adapting: Creating New Literacy Habits" (see Figure 1). Throughout the student's site, images, color, font choice, and style cohesion across pages were used effectively to reinforce her rhetorical goal. As well as displaying her understanding of visual rhetoric, her ePortfolio revealed effective self-presentation and identity management. Each page focused on a different aspect of her growth into an effective writer and scholar, and at relevant points she addressed the audience with a "navigation

tip" and explanations of the material presented. Evident in the content of her pages was her awareness of what an appropriate persona for an academic audience was, possibly in contrast to her digital presence on other forms of social media. Her Homepage opened with a self-introduction juxtaposed to a "selfie" (which is obscured here to protect her privacy), and she indicated that she was a "first year student at Santa Clara University majoring in biology." She offered a brief overview of her site with embedded links to the pages, which could also be reached by clicking on the tabs below her site title, and her calendar was attractively framed on a background featuring a table with notebooks, pens, and other images connoting study and projecting an academic, scholarly identity. Other pages included additional photos of her study habits, and time-lapse videos (accompanied by embedded music) of her working alone or with others. Throughout the additional pages of her ePortfolio, she displayed attention to visual rhetoric, audience, tone, and other aspects of presentation literacy as she created/composed an appropriate digital presence.

Many in the LEAD LC will not have had role models for how a "college student" should present him or herself, and some might still be struggling to imagine themselves as the kinds of persons who obtain college degrees. Although the student above wrote, "Coming to college was a culture shock," her ePortfolio suggested that over the course of the quarter, with support from the LEAD LC and her other HIPs, she was successful in "evolving and adapting." As other researchers have noted, ePortfolios can help students "make meaning from specific learning experiences and connections to other experiences, within and beyond the course" (Eynon et al., 2014, p. 104) to create "a more intentional and purposeful sense of self" (p. 101).

Another example of an ePortfolio whose author seemed particularly attentive to both the requirements of the assignment and reaching a potentially broader online audience was the student who organized her ePortfolio around the epiphanic (Denzin, 1989) moment when she had realized that she needed to rethink her prior self-regulation of beginning assignments promptly without prior planning. Like an author at the start of a mystery novel, the student built suspense into her Home Page, as she introduced herself and directed viewers to click on hyperlinks in a specific sequence to discover what words had been passed down to her from her grandfather that could have had such a profoundly negative impact on her college writing. Throughout the pages of her ePortfolio, this student attempted to hold the audience's interest as she set the tone with effective page layout, color, graphics, font, and other elements of visual rhetoric in order to weave a cohesive tale of failure and success. Other ePortfolios, while less dramatic, appeared attentive to audiences inside and outside the classroom.

Most students, although focusing on their instructors as their primary audience, also displayed awareness of secondary audiences, such as the one who wrote: "An e-Portfolio is a platform from which individuals can share their work with either the public or those who are associated with Santa Clara University," or the student who included under his homepage the following headings: "What is CTW?" and "What is an e-Portfolio?" These headings gesture towards an external audience because the student's instructor, classmates, and others at SCU could be presumed to know this information already. Most also displayed an awareness that since the ePortfolio was non-linear, a page entitled "How to Navigate this Site" could be helpful in directing the viewer's gaze in a particular sequence if this were beneficial in developing the student's narrative.

Other students explicitly invited audience feedback, as suggested by the following comment: "Thank you so much for reading! Would you like to share your ePortfolio with me? To share yours, please comment on the link *here*. You may also add your feedback or ask questions there." Students were also aware of multiple audiences and multiple purposes insofar as some chose to share their work with me, someone who had contacted them by SCU e-mail and identified herself as a colleague of their instructors. Those who responded expressed pleasure that I had reached out to them and offered to provide me with additional information. According to LEAD faculty and staff, some students also shared their ePortfolios with friends and family overseas.

However, not all students were equally successful in wrestling with the complexity of the digital environment. Some of this challenge was apparent when students struggled to navigate the tension of being both subject and object of their own writing, such as the student who switched from the use of "we" to refer to both himself and his classmates, and himself and the audience: "Documenting the way I read would normally be a very difficult task, but luckily we have been using annotations," and then later, "If instead of looking at the author's writing, we *click* on my annotations." As others have noted, students do not always make successful decisions, and sometimes there is confusion about audience and appropriate voice in their ePortfolios (Benander & Refaei, 2016; Gallagher & Poklop, 2014).

Discussion

All ePortfolios appeared to display evidence of engagement with and progress in meeting the first-year composition learning outcomes noted earlier. However,

the benefit of the ePortfolio assignment went beyond assessment purposes. Each of the ePortfolios that I coded evidenced students' literacy and metacognitive development in terms of choices about which materials to include, the logic of organization, and the overall rhetoric of presentation. The act of reflecting, which is central to their ePortfolios, allowed and encouraged them to integrate various aspects of their learning in this course, other courses, and other HIPs, especially their LC, and to view themselves as successful scholars who engaged more fully with the campus community. As the themes identified show, the process of collecting, selecting, and reflecting enabled students to trace a journey from a perception of deficit in academic preparedness to self-efficacy, a newfound belief in their ability to succeed

While many of these benefits might have been possible with non-digital portfolios, the extra affordances of the digital environment included the possibility of connecting with authentic audiences, providing opportunities for identity rehearsal and reinvention, and increasing confidence with multimedia and digital communication. Despite having no prior experience with ePortfolios and little knowledge, if any, of web design, students managed to think analytically in virtual and print-based spaces to build effective digital portfolios that demonstrated to themselves and others that they had the academic knowledge and study strategies, as well as sufficient familiarity with social norms, to view themselves as belonging to an academic community. The digital format facilitated the collaborative nature of constructing meaning and enabled students to work through issues of audience and identity to create an effective academic persona. By creating an ePortfolio in their first quarter, students were mastering their CTW learning outcomes and familiarizing themselves with an educational technology that may be used in advanced classes in their major, as well as starting down a path to becoming self-directed learners with a deep understanding of their own best learning practices. In building their sites, students also accrued multimedia digital literacy skills that will empower them in their academic career and beyond.

My study suggests that ePortfolios, which have recently been declared the eleventh high-impact practice, operated synergistically with the other high-impact practices that students engaged in as part of their learning community to accentuate the exemplary qualities of SCU's LEAD Scholar Program. This finding of amplification is consistent with research noted earlier that found that the greater the number of experiences, the stronger the effect in promoting an increased sense of self-confidence, resilience, and self-esteem, and also with the finding that multiple HIPs are particularly valuable for first-year students in promoting retention and persistence. It also supports the

contention that ePortfolios might be considered a "meta-HIP" (Watson et al., 2016) or "the one HIP to rule them all" (Hubert et al., 2015).

Conclusion

This case study, which has sought to understand the roles of ePortfolios in a first-generation student LC, suggests that they go beyond serving as a convenient tool to showcase, access, and assess student work to one that helps students integrate their learning across disciplinary boundaries and consolidate their academic identity. In addition, the digital aspect of the portfolios enables students to tell and retell their stories in multiple, non-linear ways to multiple audiences for multiple purposes and to acquire valuable 21st century skills. The only limit is their imagination. "Space to Think," the title used by one of the students in the LEAD LC community, appears to be particularly apt. ePortfolios offer students space and a place to reflect on and integrate their learning, rehearse their presentation of self, imagine and reimagine potential personas and audiences, and connect with others online. The significance for first-generation students is that they can revise their initial narratives of deficit to ones of self-efficacy, where they can envision themselves becoming the kind of persons who have college degrees and succeed at SCU and beyond, or as one student titled her page, "Far from what I once was, but not yet where I'm going to be." In conclusion, this study suggests that ePortfolios function synergistically to amplify and augment other HIPs to make the LEAD Scholars Program even more successful in retaining first-generation students, preparing them for their roles as engaged citizens and leaders in an increasingly technological and global society, while also encouraging them to transform themselves and their world.

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