

2014

# Reflection, Integration, and ePortfolio Pedagogy

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## Reflection, Integration, and ePortfolio Pedagogy

Bret Eynon, Laura M. Gambino & Judit Török

*Learning is both an active and reflective process. Though we learn by doing, constructing, building, talking, and writing, we also learn by thinking about events, activities and experiences. This confluence of experiences (action) and thought (reflection) combines to create new knowledge.... Reflection then is the vehicle for critical analysis, problem-solving, synthesis of opposing ideas, evaluation, identifying patterns and creating meaning – in short, many of the higher order thinking skills we strive to foster in our students.<sup>i</sup>*

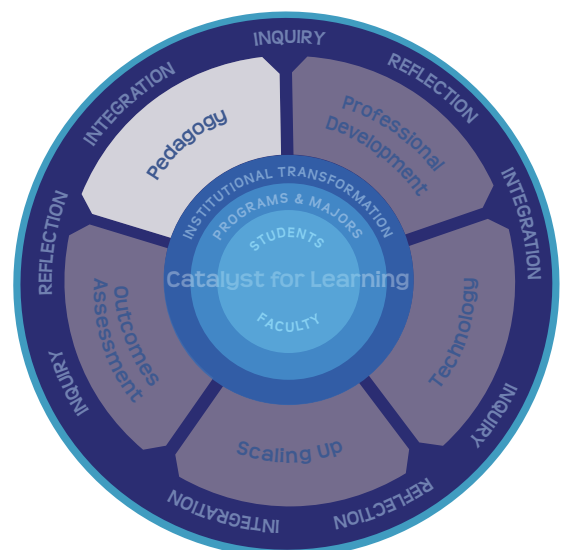
### Introduction

Sophisticated integrative pedagogy is central to ePortfolio's value for student learning. And reflection is the key to integrative ePortfolio pedagogy and practice. In her essay, "Reflection and Electronic Portfolios: Inventing the Self and Reinventing the University," Kathleen Blake Yancey defines reflection as the centerpiece of powerful ePortfolio learning.<sup>ii</sup> Reflective pedagogy transforms ePortfolio from a push-button technology into an engaging process of connection, integrating academic learning, life experience, and profound processes of personal growth.

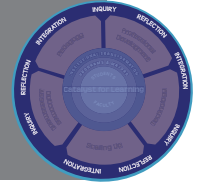
In the "Catalyst Design Principles," Reflection is the bridge between Inquiry and Integration. Reflective ePortfolios help students connect and make meaning from otherwise isolated learning experiences. This deepens the inquiry process and helps students integrate their learning into a larger framework of education and purposeful self-authorship, often through reflective engagement with other students. As Dewey scholar Carol Rodgers has written:

The function of reflection is to make meaning, to formulate relationships and continuities...  
The creation of meaning out of experience is at the very heart of what it means to be human.  
It is what enables us to make sense of and attribute value to the events of our lives.<sup>iii</sup>

Landmark scholarship has positioned reflection as the core of enriched learning. In an acclaimed synthesis of cognitive research, *How People Learn: Brain, Mind, Experience and School*, John Bransford's National Research Council team found that reflection helped students transfer learning across semesters and disciplines. Bransford argued for the critical role of metacognition in deepening students' inquiry into key academic content and concepts. Metacognitive strategies, he suggested, "engage learners as active participants in their learning by focusing their attention on critical elements, encouraging abstraction of common themes or procedures (principles), and evaluating their own progress toward understanding."<sup>iv</sup>



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Patricia K. Cross confirmed this finding in her own review of the research:

Perhaps the most significant message [of the new cognitive research] is the role of reflection in learning. Learning occurs, not necessarily as a result of the experience itself, but as a result of reflecting on the experience and testing it against further experience and the experience of others.<sup>v</sup>

Other scholars have highlighted the role of reflection in advancing integration, the development of the whole student. Marcia Baxter-Magolda has underscored the centrality of reflection in learners developing a stronger, more confident and resilient sense of identity, what she describes as “self-authorship.” In the influential *Learning Reconsidered*, Richard Keeling builds on Baxter-Magolda to argue for attention to both the cognitive and the affective, generating what he calls transformative learning:

Learning as it has historically been understood is [now] included in a larger context that requires consideration of what students know, who they are, what their values and behavior patterns are, and how they see themselves contributing to and participating in the world in which they live.<sup>vi</sup>

Tracing a wide range of pedagogies and practices, Keeling and others put reflection “at the core” of transformative learning.

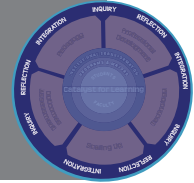
Data collected from the Connect to Learning (C2L) campuses supports this argument, suggesting that students in courses shaped by reflective ePortfolio pedagogy not only achieve greater academic success, but also engage in deeper and more integrative learning. That data, discussed in [“What Difference Can ePortfolio Make? A Field Report from the Connect to Learning Project”](#) appears in a special research issue of the International Journal of ePortfolio (IJeP) co-sponsored by the American Association of Colleges and Universities (AAC&U). The essay that follows examines the reflective pedagogy developed by C2L faculty and used with students on campuses nationwide. The analysis is based in a practical framework that is grounded in Deweyan theory.

C2L data suggests that community engagement deepens the impact of reflection, helping students understand connections and make meaning from their learning experiences. [Click here for more about the C2L findings related to ePortfolio and social pedagogy.](#)

## Reflection: Theory and Practice

C2L faculty teams developed and tested reflective ePortfolio strategies designed to help students bridge their inquiry into key academic content and to deepen integrative learning. The Catalyst site offers a rich array of [reflective practices](#) from campuses nationwide, in a wide range of disciplines. One way to understand this diversity and the ways reflective ePortfolios help deepen student learning is through a conceptual framework developed by John Dewey scholar Carol Rodgers, which shaped the pedagogical thinking of C2L teams. In her essay “Defining Reflection: Another Look at John Dewey and Reflective Thinking,”<sup>vii</sup> Rodgers identifies four principles for meaningful reflection:

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- *Reflection as Connection:* Dewey saw experience and reflection as the essential elements of learning. As Rodgers writes, “Reflection is a meaning-making process that moves a learner from one experience into the next with a deeper understanding of its relationship with and connections to other experiences and ideas. It is the thread that makes continuity of learning possible.” Reflection is critical to integrative learning – the ability of students to integrate learning across semesters and disciplines, and to see connections between their coursework and their personal, family, and community lives.
- *Reflection as Systematic & Disciplined:* Many people think of reflection as vague and unstructured musing. But Rodgers, drawing on Dewey, argues that “Reflection is a systematic, rigorous, disciplined way of thinking, with its roots in scientific inquiry.” She lays out Dewey’s structure for an ideal reflective process, moving from experience to description, then analysis and finally application of insight to the development of new, experimental actions.
- *Reflection as Social Pedagogy:* Our most familiar image of reflection is individual and solitary, a kind of meditation. But Dewey suggests that meaningful reflection often happens in community, in conversation and interaction with others.
- *Reflection as an Attitude towards Change:* Reflection is not only cognitive but affective, involving attitudes such as openness, curiosity, and a readiness to reconsider long-held ideas about oneself and the world. “Reflection” writes Rodgers, involves “attitudes that value the personal and intellectual growth of oneself and others.”

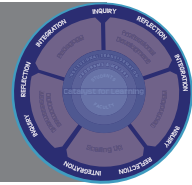
Rodgers’ framework clarifies the kinds of reflective strategies that can be used to deepen ePortfolio practice and enhance student learning. The following sections spotlight each principle, one by one, in order to help clarify their meaning and provide examples of practices that demonstrate their use. These principles do not, however, define distinct categories or strategies -- many practices that highlight reflection in community, for example, are also systematic and scaffolded. Ultimately, skilled ePortfolio practitioners draw on multiple principles in crafting their assignments and activities.

## Reflection as Integrative Connection

The idea that reflection builds meaningful connection is central to Dewey’s theory of learning. According to Dewey, education is a “reconstruction or reorganization of experience, which adds to the meaning of experience.”<sup>viii</sup> Reflective learning is a process through which one makes sense of new experiences in relation to oneself, her environment, and a continuum of previous and subsequent experiences. Reflection makes learning visible to the learner, making it available for connecting and deepening. Carol Rodgers writes:

The function of reflection is to make meaning: to formulate the ‘relationships and continuities’ among the elements of an experience, between that experience and other experiences, between that experience and the knowledge that one carries, and between that knowledge and the knowledge produced by thinkers other than oneself.<sup>ix</sup>

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This principle underscores the critical role that the reflective ePortfolio can play in integration, or integrative learning. Reflection is essentially integrative, helping students make meaningful connections between different types of experiences.

Let's visualize this process. Learning starts with a series of experiences in the classroom and beyond -- reading books, engaging in community service, writing a paper, etc. Reflection helps learners to step away and take a larger view, connecting these experiences to one another, and consider their collective meaning.

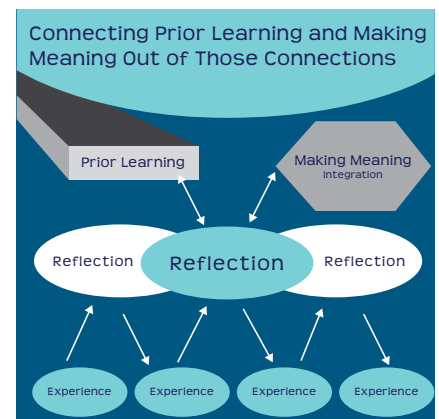
Reflection creates a sense of continuity between seemingly disjointed experiences. Other crucial elements that play a role in meaning-making are connections to prior learning and experiences, earlier reflections, and the ability to make meaning out of these connective reflections as a whole.

Faculty across the C2L network developed and implemented ePortfolio practices that built upon the connective aspect of reflection. Doing so, they strengthened students' abilities to integrate and deepen their learning, and develop more purposeful identities as learners.

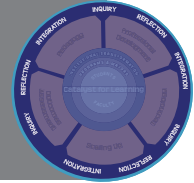
Examining the practices on the Catalyst site reveals different settings and approaches to ePortfolio, reflection and connection, including:

- Reflection that connects experiences within a course;
- Reflection that connects experiences across courses, semesters, and disciplines; and,
- Reflection that builds connection between academic, co-curricular & lived experiences.

**Connecting Experiences Within a Course:** Students in ePortfolio-enhanced courses use reflection to examine their own learning, to explore the meaning of specific course activities, and to see how those activities add up to larger course goals and objectives. On the Catalyst site, practices shared by [Hunter College](#), [Northeastern University](#), [Tunxis Community College](#) and [other campuses](#) provide interesting examples of ePortfolio-based reflection that builds such connections within a single course. In the GeoSciences Department of [Salt Lake Community College](#) (SLCC), students are asked to reflect on particular assignments related to geospatial technology, and to inquire into their learning processes. For example, one activity has students use a professional interpretation framework to examine satellite imagery. They then write in response to this reflective prompt: "Outline the steps you



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took to analyze each image, and tell me about your thinking at each step. Describe any problems you had in trying to interpret these images.”

At [Manhattanville College](#), students in Prof. Sherie McClam’s First Year Seminar, “Sustainability: Creating a Future We Can Live With”, create photographic essays with embedded reflections. They focus on three interrelated aspects of sustainability: 1) environment/nature, 2) social/culture and 3) economy. McClam explains: “...as students seek to capture, reflect on and share their interpretations of nature, culture, economy and the ways in which these concepts intersect, they actively use reflection as a meaning making process.”

Some faculty develop a sequence of staged prompts that scaffold reflection from the beginning to the end of their courses. Teaching English 201, Writing in the Disciplines, at [Pace University](#), Prof. Linda Anstendig weaves reflection throughout the semester’s activities, having students create six reflective postings in their portfolios. In their initial reflection, students preview the course syllabus and respond to prompts such as:

- What assignments or activities look familiar and manageable, and why?
- What assignments or activities look more challenging or difficult for you, and why?
- What parts of your reading, writing, research background and skills make you confident about some parts of the course and hesitant about others?

Over the semester, students collect their work and store it in their portfolios. Prompts ask them to reflect on the challenges encountered and strategies used in particular assignments. Mid-term and final reflections are more synthetic, involving prompts such as:

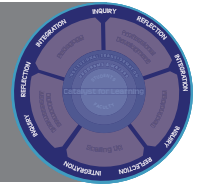
- What have you accomplished as a writer and learner?
- What activities, kinds of feedback and other support have helped you the most? How have your writing and research skills changed and improved?
- What kinds of research and revision strategies did you learn and use?
- What does this portfolio demonstrate about you as a writer, researcher and learner? Use an analogy, simile, and/or metaphor to describe yourself as one of these....

Building on this reflection, Anstendig has students create 3 minute “digital stories,” final videos that capture

“Inquiry, Reflection and Integration permeate students’ “Learning for a Sustainable Future” ePortfolios. They were asked to explore and communicate their understandings of what is nature, what is culture, what is the economy and how these concepts connect in our daily lives. And, we ask, how does this new knowledge help them seek and interrogate solutions for the complex issues of creating a sustainable future.”

Prof. Sherie McClam

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who they are as learners. The writing and video process helps students to integrate and find meaning in the sequence of assignments enacted through the semester. As Anstendig writes, “In compiling their evidence and examining their own learning and development, they build their own academic story.”

**Reflection across Courses, Semesters, and Disciplines:** Using reflection to help students make integrative connections across courses can be challenging for faculty, in part because it requires them to work with learning taking place in settings they may know relatively little about. But this type of reflection is particularly valuable for helping students to develop less fragmented and more integrative understandings of their education.

Settings such as First Year Seminars, Learning Communities, Capstone Courses often intentionally foster integrative learning across time and discipline. For example, in First Year programs at [Guttman Community College](#), [Manhattanville College](#) and elsewhere, faculty often prompt students to reflect on prior learning experiences and to think about what skills, resources, and habits they bring to college. Capstone courses at [Boston University](#), [San Francisco State](#), [LaGuardia Community College](#) and [other C2L campuses](#) provide a powerful opportunity to use the reflective ePortfolio to connect learning and make meaning from multiple courses. At SFSU, as students exit the Metro Health Academy, a two-year learning community, they review a first semester statement they wrote and placed in their ePortfolios; and then write a reflective essay entitled “[Letter to a Future Self](#).”

## Letter to a Future Self

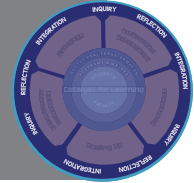
**Imagine** you’re writing to yourself, years from now. What do you want to say to your future self? Think about the type of person you will be, your place in life, what you would have accomplished then, the kind of thoughts and feelings you will experience, and so on. What do you want your future self to be like?

What are the different dreams and goals you would want to be realized by then? What do you hope to be doing or have achieved with respect to your education, career, or community? What specific steps will you need to take or obstacles will you need to overcome to achieve these goals? Remind your future self of what you learned in your time in college and think about what else you may want to do to reach your goals academically.

This reflective assignment asks SFSU students to use the connective capacity of the ePortfolio to review artifacts from their entire College experience, and to make reflective meaning by distilling lessons that they want to remember for the rest of their lives. The “Letter to a Future Self” construct helps them think forward and backward in time and gives their “lessons learned” a greater sense of purpose and value.



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Other capstone assignments demonstrate variations on this theme. In a Liberal Arts capstone course at [LaGuardia](#), Prof. Max Rodriguez asks students to review artifacts and reflections from multiple courses to write a learning philosophy that describes who they are as learners and how they learn best. At [Virginia Tech](#), in the Dietetics capstone, students go over documents from four years of portfolio work and write a statement that spotlights “the connections between experiences” and “how you intend to transfer what you’ve learned to new complex situations beyond graduation.” At [Manhattanville](#), students create a final portfolio intended to represent and support reflection on their entire time in college.

**Reflection that Connects Learning In and Out of the Classroom:** Across higher education, there is growing recognition that learning is not confined to the classroom, that it also takes place in co-curricular activities, advisement and a range of other settings. A reflective ePortfolio can not only document these processes, but also integrate them into a larger whole. The professional practicum, study abroad, internships, community service and volunteer work, and even personal hobbies can offer rich experience. Through reflection, students can see how these valuable learning instances fit with key academic concepts and competencies, and how their entire experience is shaping their growth as learners.

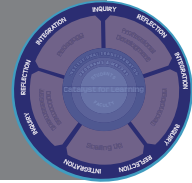
Faculty nationwide use ePortfolio-based reflection to help students link course-based learning to learning in other settings. At [Rutgers University’s Douglass Residential College](#), students connect their academic pathways to co-curricular programs and service learning, building leadership skills. At CUNY’s [Guttman Community College](#), ePortfolio supports experiential learning. First year students explore city neighborhoods in teams and complete a small research assignment; then they use ePortfolio to reflect on what they have learned and their group work experience. At [Salt Lake Community College](#), students use ePortfolios to document Study Abroad experiences and reflect on the implications for their everyday lives.

In a second-semester Nursing course at [Three Rivers Community College](#), faculty use ePortfolio-based reflection to help students connect theory and practice, classroom learning with clinical application. One TRCC student wrote in her nursing portfolio:

I chose this patient to connect to the geriatric presentations for a few reasons. She ties into my group’s presentation of discharge planning and caregiver role strain as well as another group’s topic of polypharmacy... In completing the geriatric presentations, and watching the other groups present their topics, I was able to learn effectively about the care of the elderly. Caring for a geriatric patient in the hospital helped to reinforce this content since I feel that I learn best by actually seeing the situation in person.

At [Rutgers](#), [Guttman](#), [Three Rivers](#), and elsewhere, the ultimate goal is to help students not only assemble diverse experiences, but to examine the connections between them, and in so doing, help students come to new understandings about key concepts and, perhaps more importantly, about themselves as learners. Data from the C2L Core Survey discussed in [“What Difference Can ePortfolio Make? A Field Report from the Connect to Learning Project”](#) suggests that students in such classes develop new insights into such connections and into their own learning and growth.

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For example, students were asked to use a four-part scale to agree or disagree with the statement, “Building my ePortfolio helped me to make connections between ideas”-- 75.6% “Agreed” or “Strongly Agreed.” Similarly, 69.3% “Agreed” or “Strongly Agreed” that, “Using ePortfolio has allowed me to be more aware of my growth and development as a learner.”

C2L’s quantitative data is flanked by a rich body of qualitative evidence, based on open-ended questions answered by students. While this data is still being fully analyzed, it is clear that it extends patterns demonstrated in the quantitative data. Sample responses include:

- “E-Portfolio has supported my growth and learning because I was able to bring my ideas together. I learned that I have accomplished a lot throughout my college career.”
- “ePortfolio has introduced me to my hidden goals in my life. Jotting down my goals in a place helped me work on them.”
- “I got to show who I was. While creating my ePortfolio, I learned more about myself.”
- “The best part was to be able to apply my own work into it... I love how it links to assignments that you have done because these assignments can help other students continue their education. I also enjoy that I grew from a learner and I developed skills that I didn’t know before. It helped me connect between new ideas and old ones.”

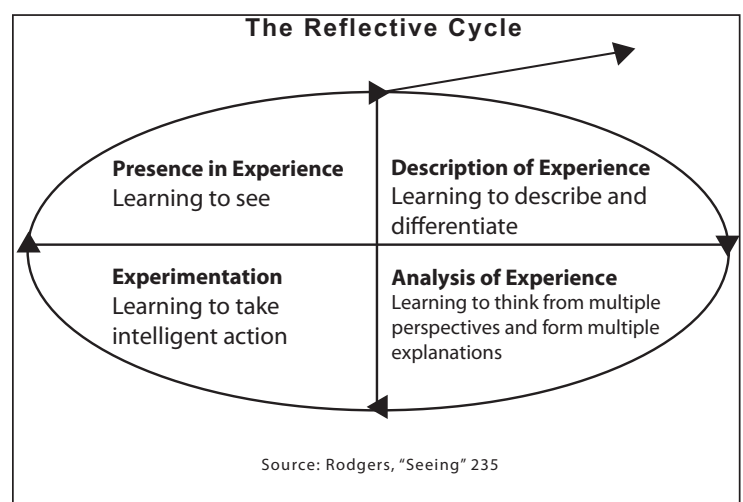
This data suggests that, guided by reflective pedagogy and practice, the ePortfolio experience helps students to make integrative connections in and out of the classroom, and to build more holistic self-portraits as learners. ([Click here for more about C2L findings.](#))

## Reflection as Systematic and Scaffolded Inquiry

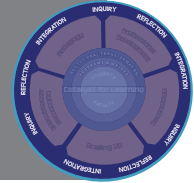
Reflection is central to ePortfolio pedagogy, but it does not always happen easily. “Students don’t know how to reflect” is a common faculty complaint. Knowing this, C2L teams focused on developing effective reflective prompts. As they did so, they considered Rodgers’ principle that meaningful reflection embodies a systematic and disciplined inquiry process.

Drawing on Dewey, Rodgers defines reflection as a structured and rigorous way of thinking, based on scientific inquiry. Experience marks the first stage in the reflective cycle; carefully prompted reflection moves from description to analysis, experimentation, and back again to a more meaningful experience.

*Presence in Experience:* Reflection begins with experience, our physical, mental, or virtual interaction with the world. As we can perceive only that which we pay attention to, Dewey urges us to slow down and be more present in experience.



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*Description of Experience:* Learners describe experience in detail, including affective responses. Thorough observation is key. One of the most challenging aspects of reflection is to ensure that one grounds description in specific evidence.

*Analysis of Experience:* The next stage of the Cycle is generating explanations while paying close attention to details and complexities. The learner goes to sources of ideas beyond herself to deepen her understanding of the experience itself. Synthesizing information and deriving meaning from the interplay between theory and practice are essential tasks

*Experimentation:* The fourth stage in the cycle is experimentation. This stage cannot be overlooked, Dewey suggests, as “reflection must include action.”<sup>x</sup> For him, the notion is that reflection must lead to responsible action and experimentation.

While theorists have posited diverse Inquiry cycles, Rodgers’ is notable for highlighting the linkage of inquiry and reflection. She spotlights reflection’s value for deepening students’ inquiry into key academic concepts and issues. Moreover, reflection can engage students in recursive inquiry into the nature of learning and their own development as learners.

C2L faculty used diverse approaches to engaging students in reflective inquiry. Many used a step-by-step process that adapted parts of Rodgers’ reflective cycle. Some used structured reflection prompts asking students to observe, describe, connect, and apply their learning. One example of this is [IUPUI’s Service Learning project](#), in which an assignment leads to action and back to reflection. Guided step-by-step, students gain insight into their career goals and learning processes.

The six steps in this assignment scaffold student reflections. The process begins with self-examination, followed by an introduction to relevant theory (Steps 1 - 3.) This preparation helps students be more focused

## Indiana University Purdue University at Indianapolis (IUPUI)

### Service Learning Reflection at First Year Psychology

**Step 1.** Students participate in a strengths assessment exercise, followed by reflection on it.

**Step 2.** Information about the service learning project is distributed among the students, which leads to a class discussion about the students’ goals for their education and career.

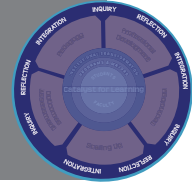
**Step 3.** A peer service-learning assistant leads a session utilizing the Bonner Leadership Compass, which is an exercise in learning about leadership styles and effective ways to work within groups.

**Step 4.** As the next step, students participate in their service experiences. Upon completing these tasks, they prepare written reflective essays about those experiences, connecting them with the leadership theory and their own self-assessment. Then they post their reflections in their ePDPs (ePersonal Development Plans) on their ePortfolios.

**Step 5.** Students then have a chance to meet with the faculty members to discuss their overall ePDP and how the service experience fit in it. Peers provide feedback on each others’ reflective essays.

**Step 6.** Finally, each student creates a presentation using peer and instructor feedback and shares their ePDP with the other members of the class. They showcase how they connected their service to course materials and to their career goals, and how they changed throughout this process.

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and present in the serving learning experience. Describing and analyzing their experience (Step 4), students reflect on its implications. Sharing reflective learning in discussions with faculty and peers (Steps 5 & 6) provides a supportive social community that helps students consider implications for future action.

[Lehman College's](#) C2L team provides another example of a reflective cycle that guides students in structured inquiry. In the Graduate Childhood Education program, faculty ask students to create an ePortfolio with an educational philosophy statement and a selection of artifacts linked to the national INTASC (Interstate Teacher Assessment Support Consortium) standards. Students select and describe artifacts (such as lesson plans, student work, and written assignments), reflect on learning tied to the artifact, and analyze its relationship to the standards. The instructions prepared by Prof. Alexandria Ross lay out a step-by-step reflective inquiry process:

- *Describe* (information gathering): What is the artifact? When was it collected? In order to ensure confidentiality do not use student or teacher full names anywhere.
- *Analyze* (alignment): How does this artifact relate to the standard? Address the standard specifically
- *Appraise* (evaluation): How does this artifact demonstrate your personal and professional growth? How does it demonstrate your impact on student learning? (if applicable)
- *Transform* (goal setting): Based on your answers to the first 3 reflection steps, are there specific ways you intend to use what you have learned to improve your teaching?

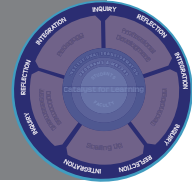
These prompts guide students as they engage in reflective writing. While students are provided with the INTASC standards, they are not told which assignments to associate with any given standard. “The decision to place artifacts is determined wholly by the student,” write Prof. Ross. The combination of structure and choice works well for students. “In this way,” she continues, “they are able to affirm that they are indeed prepared for teaching in classrooms. The ePortfolio is not only a chance for students to reflect on their learning throughout the program but also to showcase their work and ability to think reflectively.”

Carefully scaffolded prompts help students engage in reflection as a connective meaning-making process. Some scaffolding is even more extensive than Lehman’s and IUPUI’s. In the Nursing program at Three Rivers Community College, for example, the scaffolding reaches across and connects six nursing courses. In a recent article, entitled “Reflection Builds 21st Century Professionals,” the Three Rivers team wrote:

Our systematic, step-by-step ePortfolio assignments support growth and change from the initial semester to graduation, advancing the development of nursing professionals.... Scaffolding of weekly reflections and assignments weave the creation of a nurse who can reflect in a systematic, disciplined, social, integrative and personal way.<sup>xi</sup>

The practices cited here may be exceptional in the extent to which they structure students’ reflective process. But most of the C2L pedagogy practices involve scaffolding designed to enhance the value of reflection for

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student learning.

## Reflection in Community

Reflection is often thought of as a quiet, meditative activity that one does alone. However, drawing on Dewey, Rodgers suggests that reflecting in community adds value and deepens the impact on learning. The process of communicating about an experience, she argues, can be understood to incorporate reflection. As Dewey notes, “the experience has to be formulated in order to be communicated,”<sup>xii</sup> and the formulation process can be metacognitive. Rodgers lists three factors generated by reflection in community:

- First, collective reflection processes affirm the value of one’s own experiences. Getting feedback from others validates our reactions and thoughts.
- Second, reflecting in a group can offer new ways to see things, present alternative meanings, or broaden our perspectives. The more people are involved, and the more diverse the group is, the better our chances are to be challenged, to be questioned, and to compare alternative perspectives.
- Third, collaborative reflection maintains the growth of the reflective practice. Reflecting within a supportive community serves as testing ground for one’s ideas and understanding, while helping all members of the community to grow and gain insight.

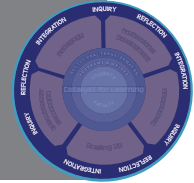
As our collaboration began, most C2L teams did not envision reflection as a social process. Discussing Rodgers prompted us to explore this approach in theory and practice. Teams read an unpublished white paper by Randy Bass and Heidi Elmendorf on social pedagogy. “We define social pedagogies,” Bass and Elmendorf wrote, “as design approaches for teaching and learning that engage students in authentic tasks that are communication-intensive, where representation of knowledge for an authentic audience is absolutely central to the construction of knowledge in a course.”<sup>xiii</sup>

According to Bass and Elmendorf, social pedagogy can engage students in learning beyond the classroom via co-curricular activities and other informal learning environments. They point to the participatory culture of Web 2.0 social media, which opens new dimensions for listening to, communicating, and collaborating with people and groups who have different perspectives, values, and voices than students. The community aspect of social pedagogies provides venue for both formal and informal communication, a feedback loop that prompts students’ intellectual growth. It broadens their viewpoints and opens doors for interdisciplinary exchange.

Teams across C2L found that a social pedagogy for ePortfolio could deepen students’ integrative reflections. ePortfolios can serve as collaborative spaces, platforms for social media interactions. And they can be situated as intermediate spaces, somewhere between entirely private and totally public. Guided by faculty, students rehearse what it means to connect with an audience and consider what their ePortfolio looks like to others. Designing practices in which ePortfolios serve as sites for communication, collaboration, and exchange can be an exciting and productive task across the ePortfolio field.

Because this aspect of the Catalyst site is so salient, we have devoted a full essay to it. In “[Social Pedagogies in ePortfolio Practices: Principles for Design and Impact](#),” Randy Bass discusses the social pedagogy practices

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shared by C2L campuses. Here we provide an abbreviated review of practices and associated data.

In the C2L practices that combine reflection and social pedagogy, faculty used ePortfolio with a range of different approaches:

1. Sharing ePortfolios with and getting comments from faculty
2. Sharing & engaging in interactive ePortfolio commentary with other students
3. Sharing ePortfolios with and getting comments from external groups
4. Linking ePortfolios to other students' ePortfolios
5. Using ePortfolios as a site for collaborative projects with other students

[Catalyst Practices](#) illustrate some of these possibilities. For example, in [Pace University's](#) introductory course in Public Administration, students use blogging to connect specific experiences to their broader education. According to the Pace C2L team:

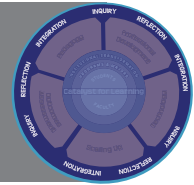
The instructor provides feedback through rubrics and by directly commenting on each students' ePortfolio through the feedback feature. Students are required to provide peer feedback. ePortfolios are also presented orally in class and verbal feedback is also received. Students are asked to think of the audience as peers and professionals. ePortfolio accounts are linked between students and faculty when they join the class, and groups are created in the ePortfolio system which allows students to 'friend' each other and faculty.

At [San Francisco State University \(SFSU\)](#), the ePortfolio practices of the Metro Academy embody social pedagogies. Students at the end of their tenure with Metro make their ePortfolios public and present portions of them to faculty in their final class. They do a prior peer review process, where classmates look at their portfolios and give them oral and written feedback. Faculty of Health Education 120 look at students' personal statements on the ePortfolios and give them a grade as a course assignment. The Health Education 450 instructors use the reflection they do in the Letter to a Future Self to have a conversation with students before the end of the semester. Instructors work with students to make a plan and identify support the student needs in achieving their goals.

The capstone course of the Business and Technology department at [Tunxis Community College](#) weaves social pedagogy throughout the semester. In their ePortfolios, students reflect on artifacts that demonstrate the College's General Education competencies and program outcomes, include a write-up of their internship experience, and present a resume. Tunxis faculty monitor the portfolio-building process and provide regular feedback through face-to-face conversations and the commenting feature of Digication. Using a structured peer-critique process, students participate in a weekly dialogue about their portfolios. In groups of four, students use Digication's commenting feature to provide peer feedback and assistance. Portfolios are then shared with program Advisory Board members. In a final

Social pedagogies engage students in authentic tasks where representation of knowledge for an authentic audience is central to the construction of knowledge.

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showcase, Advisory Board members sit with each student to review the portfolio and provide detailed feedback, creating for students a powerful experience of communicating their understandings to an authentic audience.

Data from our C2L Core Survey suggests that social pedagogy deepens the impact of students' reflective ePortfolio experiences. Helen Chen developed a set of questions to determine whether students received high, low, or moderate amounts of peer feedback on their portfolios. This data shows that, when students get high levels of feedback on their ePortfolios, the value of the reflective experience deepens ( $\alpha = .81$ ). For example, 87.1% students who reported high levels of student feedback "Agreed" or "Strongly Agreed" with the statement "Using ePortfolio has allowed me to be more aware of my growth and development as a learner." The comparable figure for students who received low levels of student feedback was 31.6%. This striking pattern

has been repeated across multiple semesters of C2L Core Survey data. And it is similar with a crucial question for integrative learning, "Building my ePortfolio helped me make connections between ideas."

This data suggests that community engagement deepens the impact of reflection, helping students understand connections and make meaning from their learning experiences. [Click here for more about the C2L findings related to ePortfolio and social pedagogy.](#)

"Students provide peer feedback on ePortfolios. ePortfolios are also presented orally in class. Students are asked to think of the audience as peers and professionals."

## Reflection as an Attitude Towards Change – Inquiry and Integration

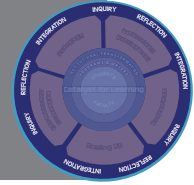
The last of Rodgers' four Deweyan principles is reflection as an attitude towards change. In Rodgers' framework, this principle highlights the role of the affective in reflection as well as the integrative connection between reflection and personal change.

Drawing on Dewey, Rodgers suggests that deep reflection shapes the learner's self-understanding, and that affective responses can aid or obstruct this reflective process. Being open-minded towards change, having curiosity, and accepting the possibility of error are valuable aids to meaningful reflection. Conversely, reflective activities can help develop a learner's confidence and sense of self. The courage to face uncertainties and accept difficulties is a cornerstone of the deepest reflective processes. Dewey wrote that meaningful learning requires the learner "to consider the consequences." Learners must examine "the meaning of what they learn, in the sense of what difference it makes to the rest of their beliefs and to their actions."<sup>xv</sup>

Change requires one to leave the comfort of the known. Reflection can play a valuable role in guiding students through changes: personal, academic, professional, or otherwise. Reflection can deepen the planning process, helping students critically examine past experiences, evaluate goals and options, make educated decisions, and get feedback.

Rodgers' discussion of Dewey's fourth principle resonates with growing interest in "educating the whole student" and learning theory related to identity-formation, transformative learning, and self-authorship. Richard Keeling, Jack Meizrow, and others have argued that reflection is transformative when it involves a fundamental

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questioning or re-ordering of how one thinks and acts. Marcia Baxter-Magolda, a leading expert on purposeful self-authorship, has studied the relationship between learning and an evolving sense of self. She has developed a respected framework for helping learners develop “an internal set of beliefs that guide decision making about knowledge claims, an internal identity that enables them to express themselves in socially constructing knowledge with others, and the capacity to engage in mutually interdependent relationships to assess others’ expertise. Her strategies for promoting self-authorship in the classroom include:

- Provide opportunities for students to reflect on and express their learning experiences.
- Have students reflect on how they learned in addition to what they learned.
- Help students set attainable but challenging goals, visualize and plan for potential obstacles, and reflect on outcomes.

Purposeful self-authorship extends beyond the academic realm, helping students develop an inner voice and the internal commitments needed to function as an empowered individual. In building a stronger sense of self, reflective self-authorship speaks to capacities for initiative and self-direction, risk-taking and resilience, critical empathy and engagement with difference. These habits of heart and mind are critical not only for college success, but for intentional life-long learning and students’ capacity to shape society and their own lives.

The Catalyst site includes multiple ePortfolio practices associated with reflection as attitude towards personal change. These practices help students articulate educational and career goals and trace their evolving educational plans. They prompt students to consider their evolving personal relationships to learning and their changing identities as learners and emerging professionals. Some practices incorporate the ePortfolio into advisement or peer mentoring; others link formal learning to co-curricular activity and life experience.

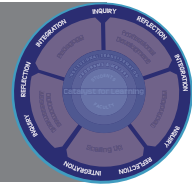
Many of the practices discussed above demonstrate this principle. For example, the initial reflection in [Pace’s Writing in the Disciplines](#) course asks students to critically examine their feelings and expectations about the course; and the final reflection asks them to trace how they’ve changed. The Nursing program at [Three Rivers Community College](#) asks students to observe their own biases, building the self-awareness needed to be effective professionals. Reflections in [Manhattanville’s](#) First Year Experience, [SFSU’s](#) Metro Academy, [LaGuardia’s](#) Liberal Arts Capstone, and [Lehman’s](#) Early Childhood Education program all ask students to consider the implications of their learning for an evolving sense of identity.

Other activities on the Catalyst site demonstrate new facets of this principle. At [IUPUI](#), ePortfolio leaders developed a reflective planning tool, the Personal Development Plan (ePDP). Used in IUPUI’s First Year Experience program, the ePDP provides a structure for helping students engage in a sustained reflective inquiry into their goals and their learning.

The ePDP includes seven sections, including: About Me, Educational Goals and Plans, Campus and



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Community Connections, and My College Achievements. Each section includes prompts to guide students in considering their lives and developing a more purposeful approach to their education. Sample prompts completed in the initial semester include:

- Describe yourself so that someone who doesn't know you gets a good sense of who you are as a person. Include information about your interests, skills, values and personality.
- What is your major (or what majors are you considering)? Why did you select it?
- Give examples of the academic skills, strengths, and/or personal qualities you will need to be successful in this major. Considering your personal characteristics and strengths...why is this major (or possible major) a good fit for you? Or not?

[IUPUI](#) uses the ePDP for advisement, helping students reflect in order to develop a clearer sense of purpose and pursue what they want from their college experience. Year by year, students complete more of the ePDP. Each section asks students to include artifacts and reflect on key learning experiences.

What were the most important things you learned in this course? Be sure to think about and also beyond the course content; think about skills you may have developed, such as the ability to analyze complex problems or the ability to work in groups. Why is what you learned in this course significant or important to you? How does this learning contribute to your academic and career goals?

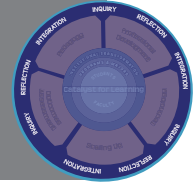
As students complete the ePDP, writes IUPUI's Cathy Buyarski, "reflective prompts assist them in bringing narrative to their lives and aspirations." The content of the ePDP, she argues, is "in essence the students' self and understanding of self...The student is firmly at the center of this narrative." And the conceptual structure of the ePDP, she suggests, resonates with both Baxter-Magolda and the Catalyst design principles:

Students...use reflection as a form of connection in developing their capacity for integrative learning across curriculum, co-curriculum, and lived experience. Reflection in response to the ePDP prompts is systematic and inculcates a disciplined approach to reflection and learning. And certainly the ePDP uses reflection to support growth and personal change as a core element of student development.

The [Douglass Women's College at Rutgers University](#) also uses reflective ePortfolio processes to help students develop a clearer sense of themselves and their direction. Guided by a feminist pedagogy, Douglass educators use ePortfolio to help their students develop a sense of identity, voice, and agency. They explicitly address life experiences and affective dimensions, helping students "write about and validate the kinds of personal experiences that are so often discouraged in 'objective' academic settings."

The Douglass ePortfolio process starts in a required first semester course, "Knowledge and Power: Issues in Women's Leadership." Students introduce themselves, define their interests, and articulate an issue that engages them. They select "an object, piece of music, drawing, picture, spoken word or poem," to put into their ePortfolio and discuss its relationship to their goals and interests. One student selected "The Mistress of

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Vision,” a poem by Francis Thompson, and discussed it in relation to her own education.

“I find that a ‘neuronal forest,’ that is, the concept of interconnected neurons in the nervous system, is an appropriate metaphor for the interdisciplinary nature of my academic interests,” the student wrote. Discussing her family background, she noted that “my Chinese name literally means ‘to admire the forest,’” and used this to frame her interests in literature, biology and quantum physics. “Essentially all studies are interdisciplinary,” she wrote. “Similar to the neurons in the brain’s forest, I am finding connections among my diverse interests so as to develop a cohesive plan of action for my education.”

In this first semester course at Rutgers, students meet with advisors and peer mentors “to think more about the issues they care about, to connect those issues to academic pathways and to co-curricular programs...whether leadership, service learning, study abroad, or research.” Moving forward, students develop an ePortfolio section called “My Path,” where they place artifacts and consider ways their experiences are shaping, changing, or deepening their goals and commitments. Discussing their learning with others, Douglass Dean Rebecca Reynolds writes, helps them develop their voice, and their identity, their ability to see themselves as individuals living and interacting within community.

The ePortfolio becomes most compelling as students are asked to allow their inner lives to become outer lives – to incorporate their selves in their studies, their personal, subjective, social, academic, and disciplinary experiences – that is, to develop a public self.

*The Mistress of Vision*  
 All things by immortal power,  
 Near and Far,  
 Hiddenly  
 To each other linked are  
 That thou canst stir a flower  
 Without troubling a star

Francis Thompson

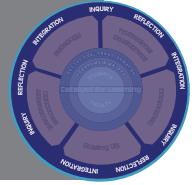
It is from that intersection or integration of inner and public self, Reynolds suggests, that students develop a more purposeful and empowered sense of themselves as learners, leaders, and agents of social change.

## Conclusion

Educators across the country are using reflective ePortfolio practices to help students bridge inquiry and integration and deepen their learning. Guided by the work of Carol Rodgers, C2L faculty developed and shared a rich array of classroom-tested practices designed to scaffold reflective activity into the ePortfolio-building process. They structured these practices to help students understand and make meaning from the connections within and across courses, to incorporate and to find integrative meaning in their life experiences. Discovering the value of reflection in community, they moved away from reflection as an isolated, private activity and instead began using the ePortfolio as a site for reflective communication, collaboration, and exchange.

As thinkers and educators nationwide consider ways to understand and address the needs of the whole

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student, reflective ePortfolio practice can play a powerful role. Catalyst reflective practices aim to help students link cognitive aspects of learning to the affective and the social, develop new dispositions, and deepen their identities as learners. Drawing on the work of thinkers and scholars from John Dewey to Marcia Baxter-Magolda, Catalyst practices use ePortfolio to not only help students become more successful in individual classes, but also to build vital capacities for integration and purposeful self-authorship, advancing students' potential for shaping society, community, and their own personal lives.

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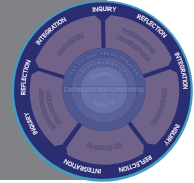
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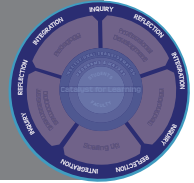
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