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Navigating a Transition to Competency-Based Nursing Education With a Systematized ePortfolio Assessment

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As academic nursing transitions to competency-based education, ePortfolio has emerged as an ideal platform to support students' integration of learning and reflective practice. Following Eynon and Gambino's Catalyst Framework (2017), this article outlines the process the University of Rochester School of Nursing used for developing and implementing ePortfolio across undergraduate and graduate programs. School faculty and instructional designers created an assessment infrastructure aligning competency-based program learning outcomes to course learning outcomes and signature assignments. The ePortfolio implementation team facilitated faculty retreats focused on curriculum mapping, assignment redesign, and rubric development to clearly convey competency expectations. The team then incorporated a scaffolded reflection process to support students in analyzing their progress, addressing faculty feedback, building metacognitive skills, and reflecting on competency attainment at critical program milestones. This ePortfolio initiative demonstrates a commitment to competency-based education and improving patient outcomes by preparing practice-ready professionals who can lead the profession forward and navigate the complexities of contemporary healthcare.

The state of healthcare is in rapid flux. To respond to these complex needs, nursing education must ensure that future nurses are competent, critical thinkers capable of applying what they have learned to patient care (Lewis et al., 2022). Nurses practice in complex healthcare systems and serve in a variety of direct care and indirect care roles, managing the mounting healthcare burden of an aging population and persistent health disparities. The emphasis on practice readiness is becoming increasingly important as the demands on the nursing profession across the care continuum are growing. Graduates from undergraduate and graduate nursing programs must be well-prepared to address the myriad challenges of contemporary healthcare.

In the landmark book *Educating Nurses: A Call for Radical Transformation*, Benner et al. (2010) described a gap in what is learned in the classroom and what is needed for professional practice. To address these gaps, the American Association of Colleges of Nursing (AACN, 2021), the national organization that sets quality standards for nursing education, released a competency-based education (CBE) framework for all professional nursing programs (baccalaureate, master's, and practice doctorate) to ensure preparation of practice-ready graduates. AACN's (2021) educational framework, *The Essentials: Core Competencies for Professional Nursing Education,* defines expected competencies (and sub-competencies) for entry and advanced nursing education in 10 domains across four spheres of care—health promotion, restorative care, chronic condition management, and palliative/hospice care—throughout the lifespan and among diverse populations. The paradigm shift to outcomes-based learning challenges traditional educational methods and requires both new ways of thinking and new nursing education models.

CBE is a learner-centered, outcomes-focused approach to instruction, assessment, and program evaluation (Frank et al., 2010; Giddens & Bartells, 2021). Outcome-based education has also been adopted by other health professions, including medicine, pharmacy, and social work, among others (Frank et al., 2010). With a strong emphasis on higher-order thinking skills like clinical decision-making and application of learning to the practice environment, education in a competency-based paradigm "goes beyond knowing to being able to do what one knows" (Mentkowski et al., 2000, p. 57). CBE "is based on students demonstrating that they have learned the knowledge, attitudes, motivations, self-perceptions, and skills expected of them as they progress through their education" (AACN, n.d., para. 1). Furthermore, the CBE model provides a common language around performance expectations within multidisciplinary healthcare teams that is critical for delivering high-quality healthcare (AACN, 2021; Englander et al., 2017; Frank et al., 2010; Giddens & Bartels, 2021).

This shift to CBE provides an important context for our School of Nursing's ePortfolio implementation. To develop competencies, one must understand key concepts deeply, practice in real or simulated clinical settings, and integrate learning through reflective thinking (Mann et al., 2009). However, in lecture-based instruction, students do not reliably integrate learning from one course to the next, apply knowledge in authentic settings, or meaningfully reflect on content. Established as a high-impact practice, ePortfolio is an ideal platform for CBE because it supports integrative learning, reflective thinking, and authentic assessment (Kuh, 2008; Wolf et al., 2022). Moreover, ePortfolio encourages the development of appropriate learning

objectives, critical reflection, and the demonstration of critical thinking and is a tool that supports students' ability to personalize their learning experiences (Collins & O'Brien, 2018; Madden et al., 2019). Furthermore, the use of ePortfolio ensures timely feedback to allow for any necessary changes to student learning experiences (Collins & O'Brien, 2018). Perhaps the most important aspect of ePortfolio is that the practice allows the student more insight into their learning, thereby supporting ownership of their own educational journey (Madden et al., 2019). This paper describes how the University of Rochester School of Nursing implemented a systematized ePortfolio system to guide their transition to competency-based education.

Competency-Based Assessment

The University of Rochester School of Nursing participated in the American Association of Colleges and Universities Institute on ePortfolios in 2023. This year-long mentored engagement experience offered in collaboration with the Association for Authentic, Experiential, and Evidence-Based Learning (AAEEBL) and the National Association of Student Personnel Administrators (NASPA) provides guidance to schools interested in enhancing student engagement and success through the implementation of ePortfolios. Our goal was to create a learning framework (Travers et al., 2019) mapped to core learning outcomes (competencies) to facilitate assessment at the three levels of student, program, and institution to ensure education of the highest order. The seven-person ePortfolio team consisted of senior academic leaders, program directors, faculty, instructional designers, and a project manager as the team lead. We based our implementation on the five integrative principles of Eynon and Gambino's (2017) Catalyst Framework. These principles were designed to enhance best practices in ePortfolio development. The first principle, outcomes assessment, focuses on systematically evaluating student learning to ensure educational goals are met. Professional development, the second principle, emphasizes the continuous growth and skill enhancement of educators, ensuring they are equipped to use best practices. The third principle, integrative social pedagogy, advocates for student reflection within a community of practice to foster deep transformational learning. Technology, as the fourth principle, highlights the integration of digital resources to collect student artifacts and collect evidence of learning. Lastly, the principle of scaling up addresses the expansion of successful educational practices beyond the initial phase, aiming to impact a wider student population across the institution. Together, these principles form a comprehensive framework to improve the quality and effectiveness of launching an ePortfolio. We used this model to create a year-long action plan to guide the pilot of our initiative in two nursing programs: the Registered Nurse to Bachelor of Science (RN-BS) Completion Program and the Doctor of Nursing Practice (DNP) Program.

Outcomes Assessment

Developing a plan for outcomes assessment is considered a necessary step for both CBE and ePortfolio (Competency-Based Education Network, 2021; Eynon & Gambino, 2017; Leblanc, 2021). Using principles of backward design, faculty and instructional designers started with professional competencies to develop program learning outcomes (AACN, 2021). These were used to inform the development of rubrics and signature assignments to assess students' competency development throughout the program of study. Upon reviewing signature assignments, our team found that some faculty struggled to create assignment guidance documents and competency-based rubrics. Therefore, we required additional meetings with instructional designers focused on strengthening assignment design to accurately reflect learning outcomes. These changes directly benefited students, although we also found that more faculty development in this area is needed in our transition to competency-based education.

Although this planning process was time-consuming, it was a critical step to ensure that observable, measurable learning assessments were intentionally aligned with identified professional competencies. This process involved broad stakeholder input from school leaders, program directors, faculty, assessment personnel, information technologists, and instructional designers. As Collins and O'Brien (2018) noted, taking time to consider all stakeholders during the implementation process is vital to success. Our process resulted in a learning framework that accurately captured students' incremental progress toward achieving competencies as they worked through a program curriculum, affording us a reliable, direct measure of student performance.

Professional Development

Continuing with the Eynon and Gambino framework (2017), we focused on developing a plan for faculty development. Collins and O'Brien (2018) posited that faculty expertise and attitudes can impede implementation. Moreover, faculty need extensive training, as ePortfolio, for many faculty, is a paradigm shift in their pedagogical approach to teaching (Garrett et al., 2012). Tasked with evaluating and improving the existing course and program learning outcomes (PLOs), directors of both programs led faculty retreats focused on curriculum mapping, verifying that all PLOs aligned

with the requirements of our accreditors and were sufficiently mapped throughout the program. Our focus during these sessions was on the process of continuous improvement via the establishment of ePortfolio assessment. The ability to see, in real-time, how improved learning outcomes and course mapping could help faculty better state their intentions for student work, plus the ability to workshop with peers, resulted in a positive, productive experience for faculty who attended these sessions. Ultimately, the chance for faculty to gather in smaller groups to refine competencies (PLOs), consider a course's place within the overall program, and exchange ideas was vital to securing faculty buy-in and establishing the knowledge base required for a successful competency-based ePortfolio implementation.

Technology

Our next consideration in the Catalyst Framework was technology. The School of Nursing elected to use our university's assessment management system package, which includes an embedded ePortfolio system. The package has required many personnel hours of defining organizational nomenclature for the institution, school, and program levels, building the learning framework consisting of curriculum maps and outcomes (typically via manual input), linking to various accreditation standards, and building rubrics. Additionally, we faced the task of managing integrations with Learning Management Systems (LMS) and Assessment Management System (AMS) technology, continually updating and maintaining the assessment management site, dealing with bugs and learning tool interoperability (LTI) updates, and running reports. We found that consulting information and educational technology experts in the early stages of the ePortfolio process were critical to understanding the backend and frontend tools needed to organize the digital components of the ePortfolio. Our school is fortunate to have these personnel as part of our cross-functional implementation team.

Scaling Up

In the context of the Catalyst Framework, our approach to scaling up started with ensuring that we built a strong foundation for ePortfolio with a plan for outcomes assessment, faculty development, pedagogy, and technology. We developed these principles as a team and then intentionally implemented them via a year-long action plan, starting with two of the nine academic programs within our school as pilot initiatives. This allowed us to start small, revise learning frameworks for CBE, test technology, garner faculty and student support, and learn from our experiences before bringing ePortfolio to scale across the entire school. Later in this paper, we will discuss our experiences within these pilot projects, including lessons learned.

Integrative Social Pedagogy

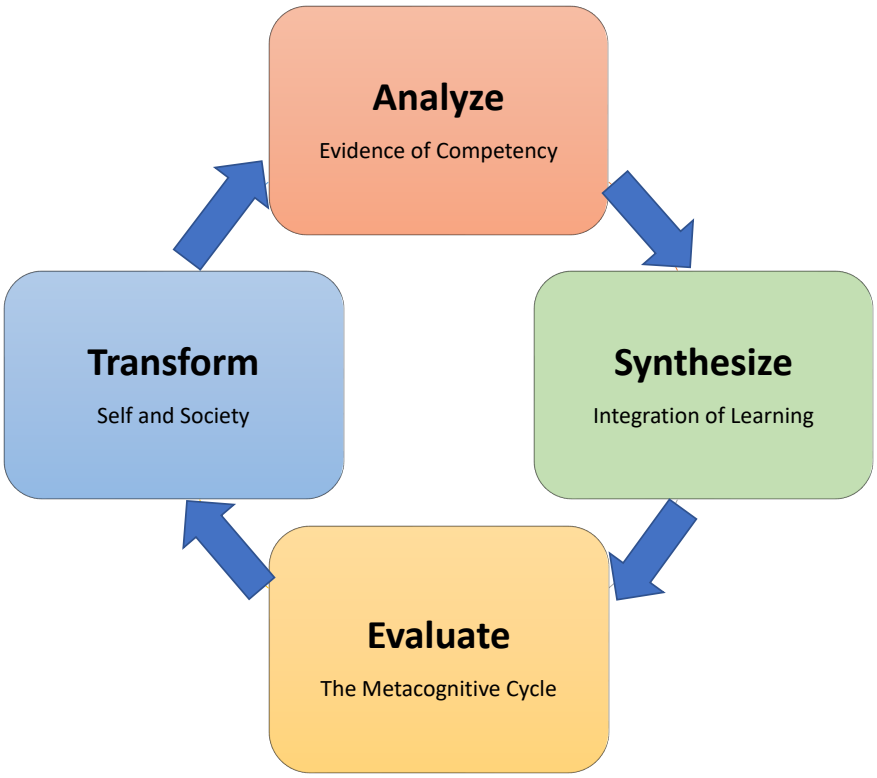
We used concepts of metacognition and reflective practice to implement the final element of Eynon and Gambino's framework—integrative social pedagogy. Integrative social pedagogy is a teaching approach that combines the collection, discussion, and reflection of learning artifacts in an ePortfolio (Eynon & Gambino, 2017). This practice enables students to make learning visible and connect diverse learning experiences within a supportive social context. For nurses, this reflection can occur with an advisor, within a class, in a clinical context, or in a professional community of practice. Integrative learning and guided reflection with social support are crucial in the formation of professional identity and the development of core nursing competencies like clinical judgment (Vabo et al., 2022). Wakimoto and Lewis (2014) found that the ePortfolio facilitated professional development by allowing students to reflect on their learning, ultimately providing an understanding of their own growth trajectory over time.

Metacognition Requires Reflection

Simply stated, metacognition is the consideration of one's learning or thinking processes. Metacognition guides learning by helping students assess what they know and do not yet know as "[i]t regulates thinking and learning and consists of three self-assessment skills: planning, monitoring, and evaluating" (Medina et al., 2017, p. 1). This metacognitive cycle is iterative and guides students through a personal process of continuous improvement, requiring active self-evaluation that connects factual knowledge to experience. Reflection is central to developing metacognitive awareness by helping learners become conscious of their cognitive processes. Through reflection, learners gain insights into their learning, enabling them to monitor their progress, problem-solve to overcome challenges, and adjust strategy usage to reach their goals. In the context of CBE, reflection supports a conscious and goal-oriented approach to attaining competencies. Without reflection and metacognition, learners may remain unaware of how they learn, hindering the development of critical thinking, problem-solving, and self-regulation skills.

Through a series of logically placed signature assignments within an established learning framework, students can continuously evaluate what they have learned throughout a program of study via ePortfolio

Figure 1
The ASET Reflection Model



Note. The ASET Reflection Model. Reprinted from "Integrating Competency-Based Education with ePortfolio Practice: The ASET Reflection Model," by R. R. Wolf and A. B. Wolf, 2025, *International Journal of ePortfolio, 15*(1). Copyright 2025 by the American Association of Colleges and Universities. Reprinted with permission.

milestones. Periodic and structured reflection helps the student understand their personal development as well as their individual strengths and weaknesses (de Jager, 2019; Whitmore & Thacker, 2021). Moreover, the self-directed learning embedded in the metacognitive cycle ultimately encourages learners to seek information that addresses known knowledge gaps (Wolf et al., 2022). To best achieve this, Harrington and Luo (2016) suggested that reflection exercises must include intentional prompts to reflect on current and previous learning.

Although reflective practice is vital to becoming a self-directed, life-long learner, the explicit teaching of reflection and metacognition is often overlooked. In Patel and Metersky's (2022) concept analysis of reflective practice, they note a need for reflection models and strategies in nursing education. After searching for a system to guide nursing students' development of reflective practice and metacognition, our ePortfolio team lead created a structured reflection model tailored to healthcare students and ePortfolio assessment (Wolf & Wolf, 2025).

ASET Reflection Model

The ASET Reflection Model (Figure 1) includes four elements: analysis, synthesis, evaluation, and transformation. Although each pilot program chose its own program milestones and methods of supporting students through ePortfolio reflection, they both incorporated the four components of the ASET Model. These touchpoints reinforce critical reflection as a core nursing skill that develops over time through guided practice. In the analyze step, students are asked to review signature assignments and faculty, peer, or clinical instructor feedback from the previous semester(s). They are prompted to analyze their performance for strengths, weaknesses, and evidence of competency development. The second step is synthesize. Students are asked to make sense of their learning and connect course content with clinical practice, scholarly texts, life experiences, and global issues with patient populations (e.g., social determinants of health, population health). The third step is to evaluate based on the metacognitive cycle

(plan, monitor, evaluate, and adjust goals). Students are asked to review their progress toward their previously established personal and professional goals, making revisions based on their academic performance and learning needs. The last step is to transform the self and society. Students are encouraged to reflect on the development of their professional role identity, leadership acumen, and expertise within an interprofessional community of practice. This element of reflection also prompts a closer examination of societal problems concerning ethics, values, sensitivity to different perspectives and cultures, unconscious biases, and systemic issues such as health equity, patient advocacy, and social justice. Recognition of one's growth, personal power, core values, life goals, and civic responsibility are integral for nurses to become influential change agents at the organizational, regional, political, and national levels.

To fully enact integrative social pedagogy, faculty must serve to guide students' reflective work. Using a cognitive apprenticeship approach (Collins et al., 1991), faculty can prompt structured reflection activities while gradually encouraging students to take ownership of their reflective processes over time. Reflection milestones, recorded as part of the ePortfolio, also provide documentation of students' growth as independent, reflective learners, problem solvers, and practice-ready professionals. Because students are at different levels of reflective skill, prompts within the four areas of the ASET Model can be adapted to a wide range of programs, learning outcomes, milestone benchmarks, and individual student needs. Faculty may also choose to introduce each reflection element separately across a program. Further details regarding the ASET Reflection Model's development can be found in a separate article in this issue by Wolf and Wolf (2025).

Implementation in an Undergraduate Nursing Program

The RN-BS program at our school provides an online pathway for registered nurses (RNs) with a nursing diploma or associate's degree to obtain their baccalaureate degree in four semesters (University of Rochester School of Nursing, 2024). With the AACN's focus on competency-based education, enabling students to demonstrate authentic learning is a crucial program goal. When the opportunity arose to pilot an ePortfolio system, the program director eagerly opted into this high-impact practice shown to increase students' knowledge and critical thinking via self-reflection on current and prior work (Eynon & Gambino, 2017; Oermann & Gaberson, 2014).

In early 2023, the RN-BS program director and the ePortfolio team developed the initial implementation plan. The first RN-BS cohort began in the fall 2023 semester with students entering RN/BS Transition: Reflective Professional Practice, the first core course. Because advisors are a consistent figure for students throughout the program, the director suggested these faculty meet with their students during pre-determined milestones. Faculty advisors were shown how to use the ASET model to guide student reflection on prior work samples, monitor progress toward program and course learning outcomes, and evaluate achievement of competencies.

To obtain buy-in from the RN-BS faculty and advisors, program faculty meetings were used to introduce the ePortfolio project and elicit feedback in the spring of 2023. Faculty and advisors were agreeable to the concept but apprehensive about the work required. In the summer of 2023, the ePortfolio team lead and the RN-BS program director presented a plan to the RN-BS advisors to address concerns. They shared goals and objectives for the student meetings and the four elements of the structured reflection model. Reflection milestones were set to occur over the four semesters of core nursing courses. The first meeting would start at the beginning of semester one and introduce students to the ePortfolio and personal goal setting. Milestones 1, 2, and 3 would occur at the beginning of semesters two, three, and four, when students would reflect on signature assignments from the prior semester with their advisor. The final reflection is slated for the end of the capstone course in semester four to serve as a culminating reflective activity for the program.

The RN-BS program director led a full-day faculty retreat in the summer of 2023 to establish a learning framework. Members of the ePortfolio team, including the program director, gave a detailed presentation of the ePortfolio project. After the overview was presented, faculty were asked to identify signature assignments for each core course. Once the assignments were identified, faculty mapped each assignment to the assessed course learning outcomes (CLOs) and program learning outcomes (PLOs). Following the retreat, the faculty worked with the program director and an instructional designer from the ePortfolio team to revise assignment guidance documents and rubrics to ensure all assessments were aligned with their identified competencies. Results of this process can be seen in the Curriculum Map for RN-BS Program Signature Assignments (Figure 2). The first cohort of 21 RN-BS students was introduced to the ePortfolio system in the fall of 2023, while a second cohort of 18 students joined in the spring of 2024. The inaugural RN-BS cohort is on track to graduate in December 2024, marking a significant milestone in their academic journey and our ePortfolio implementation. Anecdotally, the program director has heard positive reviews from students and advisors about the

Figure 2

University of Rochester School of Nursing Curriculum Map for RN-BS Program Signature Assignments

Program Learning Outcomes (PLOs) → / RN-BS Courses ↓	PLO 1 Patient- and Family-Centered Care	PLO 2 Clinical Judgment	PLO 3 Interprofessional Teamwork	PLO 4 Care Delivery in Complex Systems	PLO 5 Population Health	PLO 6 Professional Identity	PLO 7 Informatics
INTRODUCTION TO THE EPORTFOLIO AND COMPREHENSIVE LEARNER RECORD (CLR)							
RN/BS Transition: Reflective Professional Practice	Career Planning and Professional Identity Paper (CLO 1, 4)					Career Planning and Professional Identity Paper (CLO 1, 4)	
Biopsychosocial Health Assessment	SOAP Note (CLO 1, 4, 5, 6)	SOAP Note (CLO 1, 4, 5, 6)			SOAP Note (CLO 1, 4, 5, 6)		
REFLECTION MILESTONE 1							
Principles and Application of Evidence for Nursing Practice		Clinical Practice Guideline (CLO 1, 3, 4)			Clinical Practice Guideline (CLO 1, 3, 4)		
Patient and Population Care Management	Case Study Analysis Paper (CLO 1, 2, 3, 4, 5)	Case Study Analysis Paper (CLO 1, 2, 3, 4, 5)		Case Study Analysis Paper (CLO 1, 2, 3, 4, 5)	Case Study Analysis Paper (CLO 1, 2, 3, 4, 5)		
REFLECTION MILESTONE 2							
Nursing Leadership and Management of Care			Quality Improvement Project (CLO 3, 4, 5)	Quality Improvement Project (CLO 1, 2, 4, 5, 6)			Quality Improvement Project (CLO 2, 3, 7)
Health Care Policy, Finance, and Regulatory Environments	Social Disparities of Health (CLO 6, 8)			Social Disparities of Health (CLO 1, 3, 6, 8, 9)	Social Disparities of Health (CLO 2, 3, 4, 5, 6, 7, 8, 9)		
REFLECTION MILESTONE 3							
Population Health	Health Promotions Planning Project (CLO 1, 2, 3, 6, 7, 8)	Health Promotions Planning Project (CLO 1, 2, 3, 6, 7, 8)	Health Promotions Planning Project (CLO 1, 2, 3, 6, 7, 8)		Health Promotions Planning Project (CLO 1, 2, 3, 6, 7, 8)		
Capstone	Population Health Project/ Capstone (CLO 1, 2, 4)	Population Health Project/ Capstone (CLO 1, 2, 4)	Population Health Project/ Capstone (CLO 1, 2, 4)		Population Health Project/ Capstone (CLO 1, 2, 4)	Population Health Project/ Capstone (CLO 1, 2, 4)	Population Health Project/ Capstone (CLO 1, 2, 4)
CAPSTONE REFLECTION							
PROGRAM COMPLETION (following student's achievement of Program Learning Outcomes/Competencies)							

Note. The actual Program Learning Outcomes (PLOs) and course names have been adapted or condensed for this visual display.

introductory and milestone one ePortfolio reflection activities. Students have expressed an appreciation for the time dedicated to this reflective activity, which helped them identify and verbalize personal and professional growth by connecting prior academic work to their current healthcare practice. Ultimately, the ePortfolio can help RN-BS students consider the application of theory to practice as they are prompted to make connections between their classroom and clinical learning experiences (Cordie et al., 2019).

Implementation in a Graduate Nursing Program

During the Doctor of Nursing Practice (DNP) program's annual faculty retreat in July 2023, the program instructional designer presented background information about reflection and ePortfolio. We used an informal slide presentation to spark discussion among program faculty to gain buy-in for the proposed methodology and the timeline. To ensure that all faculty participants had similar knowledge, the instructional designer started by providing foundational information: (1) the purpose, uses, and benefits of a learning framework; (2) ePortfolio as a high-impact practice; (3) examples of content typically included in an ePortfolio; and (4) how to map program learning outcomes to specific courses to facilitate competency-based education. The assistant dean for education was in attendance and provided valuable insights gleaned from working with the undergraduate RN-BS program faculty during the planning phase of their journey. After the presentation, faculty expressed unanimous support and enthusiasm for the ePortfolio project, noting the importance of reflection, professional identity formation, CBE, and teaching students how to disseminate their work. Faculty then had a robust discussion wherein we solidified ideas, decided on student milestones, and re-examined signature assignments for alignment with program and course learning outcomes.

During this working session, the need for dedicated time for student reflection became apparent. Faculty observations and discussions with current and former students indicated that students at the graduate level typically have full-time jobs and family responsibilities in addition to completing coursework, making it particularly difficult to set aside quiet time for meaningful reflection. Furthermore, faculty expressed concerns that students may lack experience with the reflective process, which aligns with the findings of Landis et al. (2015). As a result, we decided to connect the reflective activities within the specific courses that aligned with the timing of each reflective milestone rather than as a stand-alone student-academic advisor activity. Faculty members in each course agreed to dedicate time at the beginning of the semester for students to reflect on the previous semester(s) and set goals for the upcoming semester. We also decided to include faculty facilitators and a workshop-style educational session for the initial roll-out because most students and faculty have little to no experience with structured reflection activities.

The group of DNP students we targeted for the initial reflection workshop were the nine enrolling in the first of three practicum DNP scholarly project courses during the fall 2023 semester—Reflection Milestone 2, as shown in Figure 3. The assistant program director and instructional designer collaborated with the course faculty to confirm the dedicated time for the reflection workshop during the first classroom session of the practicum course at the end of August 2023. The facilitated workshop, Purposeful Reflection for DNP Practicum Students, was created and delivered by workshop faculty who adopted the ASET model (Figure 1) to guide students through structured reflection and goal development. Workshop faculty began with a review of the session's objectives with students: (1) Describe the benefits of reflective practice on a DNP student's professional identity, capacity, and competency as a leader and scholar; (2) Employ the metacognitive cycle to reflect on the previous semester's signature assignments; (3) Create a SMART goal, at least two immersion experiences (activities), and the corresponding DNP Essential Domains for a given scenario; and (4) List possible objectives with planned activities to address individual academic goals and reflections on personal growth. Students drafted initial responses to a series of reflection prompts during the session. They then refined their answers and submitted final versions within two weeks after the workshop. Facilitated pair-and-share activities enhanced peer discussion. For example, students paired up with a classmate to share their reflective thoughts about the prompt: How has this knowledge, plus faculty feedback, helped you develop ideas for your collaborative partnership team?

The process of guided reflection was repeated for the second of the two pre-DNP practicum courses taken the previous semester, followed by a final reflection on (a) students' motivation to enter the DNP program and (b) why earning a DNP degree was important to them. Next, workshop faculty helped students transition from reflecting on the previous semester to planning for the upcoming semester by reviewing the current course's learning outcomes and the DNP program learning outcomes. Students then drafted their responses to a set of questions designed to help them self-evaluate their performance related to achieving program milestones. An example of a prompt we used during the metacognitive cycle (evaluation phase) included: "As

Figure 3

University of Rochester School of Nursing Curriculum Map for DNP Program Signature Assignments

Program Learning Outcomes (PLOs) → / DNP Courses ↓	PLO 1 Person-Centered Care & Population Health	PLO 2 Quality, Safety, & Value in Healthcare	PLO 3 Leadership & Collaboration	PLO 4 Informatics & Healthcare Technology	PLO 5 Systems Thinking, Change, & Advocacy	PLO 6 Professional Identity, Knowledge, & Scholarship
PROGRAM ENTRY (students may take up to 2 courses prior to matriculation)						
Quality, Safety, Informatics	Final Presentation (CLO 2, 3, 4, 5)	Final Presentation (CLO 2, 3, 4, 5)	Final Presentation (CLO 2, 3, 4, 5)	Final Presentation (CLO 2, 3, 4, 5)	Final Presentation (CLO 2, 3, 4, 5)	Final Presentation (CLO 2, 3, 4, 5)
Population Health	Experiential Learning 1 (CLO 1, 3, 6)	Experiential Learning 3 (CLO 5, 7, 8)		Experiential Learning 2 (CLO 2)	Experiential Learning 4 (CLO 4)	Experiential Learning 4 (CLO 1-8)
Clinical Data Management	Final Presentation (CLO 2, 3, 4, 5, 6)	Final Presentation (CLO 2, 3, 4, 5, 6)		Final Presentation (CLO 2, 3, 4, 5, 6)	Final Presentation (CLO 2, 3, 4, 5, 6)	Final Presentation (CLO 2, 3, 4, 5, 6)
Interprofessional Partnerships			Final Paper (CLO 4, 5)		Final Paper (CLO 5)	Final Paper (CLO 4, 5)
Theory/ Conceptual Thinking	Application of Theory Project (CLO 1, 2, 3, 4)	Application of Theory Project (CLO 1, 2, 3, 4)	Application of Theory Project (CLO 1, 2, 3, 4)	Application of Theory Project (CLO 1, 2, 3, 4)	Application of Theory Project (CLO 1, 2, 3, 4)	Application of Theory Project (CLO 1, 2, 3, 4)
REFLECTION MILESTONE 1 (following completion of foundational courses in early Evidence Appraisal and Synthesis)						
Evidence Appraisal and Synthesis	Final Presentation (CLO 2, 3, 4, 5)	Final Presentation (CLO 2, 3, 4, 5)		Final Presentation (CLO 2, 3, 4, 5)		Final Presentation (CLO 2, 3, 4, 5)
Needs-Based Problems / Local Context	Synthesis Paper with Logic Model (CLO 1, 2, 3, 4, 5)	Synthesis Paper with Logic Model (CLO 1, 2, 3, 4, 5)	Synthesis Paper with Logic Model (CLO 1, 2, 3, 4, 5)	Synthesis Paper with Logic Model (CLO 1, 2, 3, 4, 5)	Synthesis Paper with Logic Model (CLO 1, 2, 3, 4, 5)	Synthesis Paper with Logic Model (CLO 1, 2, 3, 4, 5)
REFLECTION MILESTONE 2 (transition from foundational courses to pre-project coursework in early DNP Practicum I)						
DNP Practicum I Evidence Synthesis	Literature Synthesis (CLO 2, 3, 4, 5)	Literature Synthesis (CLO 2, 3, 4, 5)	Literature Synthesis (CLO 2, 3, 4, 5)	Literature Synthesis (CLO 2, 3, 4, 5)	Literature Synthesis (CLO 2, 3, 4, 5)	Literature Synthesis (CLO 2, 3, 4, 5)
Healthcare Policy	Policy Analysis & Policy Brief (CLO 2, 5)	Policy Analysis & Policy Brief (CLO 2, 5)	Final Presentation (CLO 1, 2, 3, 4)		Final Presentation (CLO 1, 2, 3, 4)	Final Presentation (CLO 1, 2, 3, 4)
MINI-REFLECTION (post DNP Practicum I in early DNP Practicum II)						
DNP Practicum II Project Design	Scholarly Project Proposal (CLO 3)	Scholarly Project Proposal (CLO 1)	Scholarly Project Proposal (CLO 4)	Scholarly Project Proposal (CLO 1)	Scholarly Project Proposal (CLO 2)	Scholarly Project Proposal (CLO 5)
Healthcare Finance		Business Plan (CLO 1, 2, 4, 5)		Business Plan (CLO 2, 3)	Business Plan (CLO 1-6)	
REFLECTION MILESTONE 3 (following student's scholarly project proposal presentation in either DNP Practicum II or III)						
DNP Practicum III Project Implementation	Scholarly Project Implementation (CLO 1-6)	Scholarly Project Implementation (CLO 1-6)	Scholarly Project Implementation (CLO 1-6)	Scholarly Project Implementation (CLO 1-6)	Scholarly Project Implementation (CLO 1-6)	Scholarly Project Implementation (CLO 1-6)
DNP Practicum III Project Evaluation	Scholarly Project Completion (CLO 1-6)	Scholarly Project Completion (CLO 1-6)	Scholarly Project Completion (CLO 1-6)	Scholarly Project Completion (CLO 1-6)	Scholarly Project Completion (CLO 1-6)	Scholarly Project Completion (CLO 1-6)
REFLECTION MILESTONE 4 (following student's scholarly project presentation in DNP Practicum III course)						
PROGRAM COMPLETION (following student's achievement of Program Learning Outcomes; PLOs)						

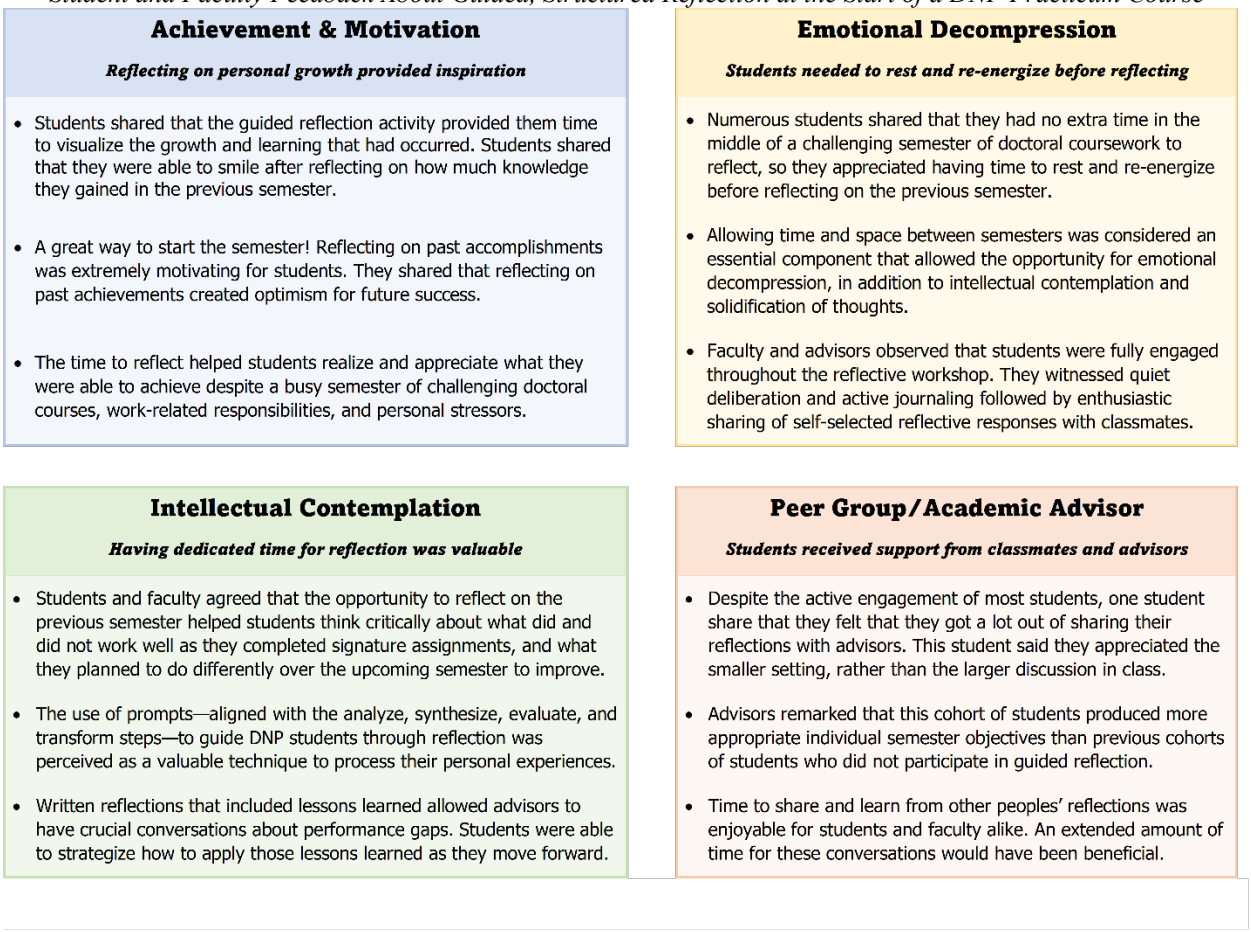
Note. DNP = Doctor of Nursing Practice. The actual Program Learning Outcomes (PLOs) and course names have been adapted or condensed for this visual display. Used with permission.

you think about the course expectations, what steps will you take to improve your literature search process and synthesis work throughout this semester?"

The final activity in the Purposeful Reflection workshop was setting individual semester objectives and planned activities. Workshop faculty and course faculty worked together to help students get started with drafting semester objectives. Workshop faculty had intended to begin the final activity with an overview of SMART goals (The Coaching Tools Company, 2020), but time constraints prevented in-class completion. Each student refined their individual objectives and planned activities in the two weeks following the workshop through formal consultation with their DNP Project Advisor (who was, intentionally, either workshop or course faculty).

Figure 4

Student and Faculty Feedback About Guided, Structured Reflection at the Start of a DNP Practicum Course



Despite running out of time, the facilitated workshop, Purposeful Reflection for DNP Practicum Students, and the subsequent consultation with DNP Project Advisors were overwhelmingly positive experiences for faculty and students alike. We asked participants to share their feedback using an online platform where they could post their favorite part(s), least favorite part(s), areas for improvement, and other suggestions for consideration. We also captured faculty and advisor feedback and observations through informal debriefing sessions. Figure 4 visually depicts the four themes that emerged when we examined student and faculty feedback following the workshop: (a) achievement and motivation, (b) emotional decompression, (c) intellectual contemplation, and (d) peer group/academic advisor. The feedback was overwhelmingly positive; for example, numerous students shared that reflection was a great way to start the semester. The prompted reflection allowed students to begin the semester with intention, focusing on expected competencies as they set goals for themselves. During consultation about individual semester objectives and planned activities, advisors noted that it was less awkward to discuss performance gaps when students had already identified steps for improving on a selected competency (e.g., literature review and synthesis). Based on the pilot semester using guided, structured reflection, DNP faculty and students agreed that (a) reflecting on personal growth provided inspiration, (b) students needed to rest and re-energize before reflecting, (c) having dedicated time for reflection was valuable, and (d) students received support from classmates and advisors.

We will continue to offer the workshop for future DNP practicum students and include modifications based on their suggestions. Seven students participated in the mini-reflection milestone in the spring of 2024. Lessons from facilitating these reflection activities revealed variability in individual and cohort achievement of milestones. Witnessing student stress in transitioning to the practicum courses highlighted potential gaps in supporting project specificity. Consequently, we can make informed curriculum revisions regarding the timing and content

of required courses. As Landis et al. (2015) suggested, the process of guiding student reflection within an ePortfolio can help improve overall faculty understanding of curricula, fostering a culture of continuous improvement. Ultimately, this experience has proven to be beneficial to program faculty as well as to current and future students alike.

Lessons Learned and Next Steps

We recognize that our ePortfolio implementation in a healthcare professions school is qualitatively different from liberal arts schools. Professional organizations and accrediting bodies hold nursing to exacting standards, with good reason. Clear competencies, including learning outcomes and authentic assessment to guide instruction, are indeed essential to ensuring the preparation of practice-ready nurses. Although signature assignments are pre-selected for students, ePortfolio still offers the benefits of guided, structured reflection of learning artifacts within a social context. Once the ePortfolio technology is running at full capacity, students will be able to select additional artifacts to supplement their required clinical and didactic coursework. Despite these differences, our systematized ePortfolio design has effectively combined CBE, scaffolded reflection, and integrative learning within a robust assessment framework.

Through implementing an ePortfolio to support competency-based education, we have gained valuable insights that will be useful as we scale up and share our experiences with others. First, structuring the curriculum around professional competencies required considerable effort in realigning program and course learning outcomes, assignments, and rubrics, as other implementers of ePortfolios, such as Morreale et al. (2017) and Wescott and Schwartz (2022) have learned. Additionally, the paradigm shift to competency-based assessment necessitated substantive faculty development. Annual retreats facilitated a deeper understanding of the instructional design process for establishing the learning framework and helped garner faculty buy-in for the ePortfolio initiative. However, adopting a competency-based mindset of "not yet" as opposed to grade-based, time-bound assessment remains an ongoing pedagogical challenge. Another issue involves supporting faculty's own reflection and mentorship skills and how to measure students' reflective skill development throughout the program.

The development of structured reflection processes and milestones elicited positive responses from faculty and students, who appreciated dedicated time for metacognitive skill building. However, variability among students' competency development necessitates further continuous improvement in curricular design and pedagogical strategies that scaffold learning across a wide range of abilities. This disparity was observed during the Purposeful Reflection for DNP Practicum Students activity. Furthermore, as we scale the ePortfolio throughout the school, intentionally integrating reflective practice across programs could enhance students' lifelong learning capacities and professional identity formation.

Our next steps involve collecting data on ePortfolio impacts and challenges from all stakeholders through surveys, focus groups, and assessment platform analytics. Then, once the learning framework for each program is completed in the electronic assessment system, our school will essentially have a comprehensive learner record—giving access to assessment data at the student, program, and institution levels—to track students' development of essential competencies, guide continuous improvement, and satisfy accreditation reporting (Wolf et al., 2022). Scaling participation in our ePortfolio initiative across the school and developing interprofessional collaborations is a benefit we can offer to other educational institutions within the healthcare professions. We have created an "Implementation Guide for a Systematized ePortfolio to Assess Competency-Based Education" in the Appendix as a resource for others to use. Despite requiring investments in establishing a learning framework, professional development, technology, and integrative social pedagogy, the ePortfolio pilot has enabled our school to leverage competency-based education's potential to transform nursing education and better prepare our students for the ever-evolving landscape of contemporary healthcare.

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Appendix

Implementation Guide for a Systematized ePortfolio to Assess Competency-Based Education

A. Designing Integrative Social Pedagogy

1. Describe learners in each program and identify their needs.
2. Explain how learners will benefit from ePortfolio reflection and assessment.
3. Define the reflective ePortfolio practice, including:
    - How reflection connects experiences at the course, program, and student levels (Review the ASET Model as a framework).
    - How the reflective practice will facilitate students' growth and professional identity development.
    - How the student reflection process will be scaffolded and systematized (In specific courses? With advisors?).
    - How to integrate social pedagogy by identifying audiences for students to share their ePortfolios with and determine who will provide feedback.
4. Design activities to guide how learners will document their learning in the ePortfolio based on answers to question 3.
5. Develop reflection milestone assignments that scaffold students' competency development across the program of study.
6. Design a system for ePortfolio assessment (gathering, evaluation, and feedback) within the program.

B. Outcomes Assessment and Comprehensive Learner Record (CLR) Design:

1. Identify/develop one signature assignment in each course, aligned with Program Learning Outcomes (PLOs), so all competencies are assessed.
2. Develop rubrics that measure student achievement of PLOs.
3. Enter course maps, assignments, and rubrics into the CLR.
4. Set up the CLR backend, including data entry, user testing, and building connections between course maps and rubrics.
5. Review and analyze assessment data regularly to inform program improvements and demonstrate the impact of ePortfolio on student learning outcomes.

C. Faculty Development:

1. Create a program-specific ePortfolio team and engage faculty in ePortfolio planning.
2. Employ an assignment charrette peer review process to help program faculty revise signature assignments, assignment guidance, and rubrics across the program.
3. Provide training and professional development opportunities for program faculty to build their skills and knowledge of reflection activities and ePortfolio assessment.
4. Create a tiered faculty development plan to deepen faculty knowledge of ePortfolio assessment, foster student reflection and metacognition, and use CLR data for evaluation at the student, course, and program levels.
5. Encourage faculty to create their own ePortfolios to model reflective practice and demonstrate the value of ePortfolios for professional development.

D. Technology, Data Management, and Program Evaluation:

1. Ensure the chosen ePortfolio platform is user-friendly, accessible, and compatible with existing institutional systems and technologies.
2. Develop an assessment cycle and timeline for continuous improvement of curriculum and retention.
3. Collaborate with the IT team to develop a technology plan and provide ePortfolio support to students and faculty within the program.
4. Set up the front end for the program, including data entry, user testing, and building connections between course maps and rubrics.
5. Integrate achievement data with an early alert system/advising for the program.
6. Regularly share aggregated program data with advisors, program directors, faculty, and student affairs.
7. Collect, analyze, and share evidence of ePortfolio's impact on student achievement of program-specific PLOs/competencies for dissemination.

E. Considerations for Communication Plans and Scaling Up:

1. Develop a student orientation program and ePortfolio guides.
2. Create faculty and advisor guides for ePortfolio processes tailored to the program.
3. Engage students in learning showcases and build support with various stakeholders.
4. Create an external-facing showcase of select student ePortfolios from the program (optional).
5. Develop an internal and external communication plan for ePortfolio assessment.
6. Establish a plan for scaling up ePortfolio implementation across the institution, including identifying resources, support, and timelines.

Note: The Catalyst Framework (Eynon & Gambino, 2017) was used as a structure for this guide.