

**National Institute for
Learning Outcomes Assessment**
Making Learning Outcomes Usable & Transparent

Helping Students Develop Habits of Reflection:

What We Can Learn from the NILOA Assignment Library

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NILOA's Mission

Established in 2008, the National Institute for Learning Outcomes Assessment (NILOA) assists institutions and others in discovering and adopting promising practices in the assessment of college student learning outcomes. Documenting what students learn, know and can do is of growing interest to colleges and universities, accrediting groups, higher education associations, foundations and others beyond campus, including students, their families, employers, and policy makers.

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Helping Students Develop Habits of Reflection: What We Can Learn from the NILOA Assignment Library

Pat Hutchings

Introduction

Many years ago, in an event sponsored by the Carnegie Foundation for the Advancement of Teaching and the American Association for Higher Education, I heard a comment that I frequently find myself replaying in my head. The context was a panel about the role that various stakeholders, including students, can play in improving student learning. “I had a course where we studied learning,” a student on the panel recounted. “It flipped a switch, and once it’s flipped you can never go back.”¹ There’s more to the story (see Werder, Ware, Thomas & Skogsberg, 2010), but what has stayed with me is the student’s switch-flipping metaphor for the power of thinking about learning and about one’s practices as a learner. The concept and practice of that kind of reflection is the focus of this report from the National Institute for Learning Outcomes Assessment (NILOA).

Over the last several years, NILOA has worked with faculty from around the country to build an [online library of assignments](#) that both foster and provide evidence of student learning. A number of those assignments include an explicit requirement that students engage in structured, intentional reflection. As one of the organizers of the library, I was intrigued by the opportunity to explore the meaning of reflection as it’s used in these assignments, and to showcase strategies that faculty are employing to prompt, support, value, and evaluate student reflection in their courses and programs.

There are good reasons for this interest in building students’ capacity for reflection. As argued in a [recent NILOA paper](#), reflection, or reflective thinking, is one of a set of “dispositional attributes” that matter to student success but that have not, until recently, received the attention given to more familiar cognitive outcomes like critical thinking and writing (Kuh, Gambino, Bresciani Ludvik, & O’Donnell, 2018, p. 4-5). When students are put in situations that compel them to step back and reflect on what and how they are learning, they develop important habits for lifelong learning, particularly the ability to monitor their

¹I have, with his permission, quoted this line by then-Western Washington University undergraduate Erik Skogsberg many times over the years, in talks, workshops, and publications. Thank you, Erik! Readers might like to know that he went on to become an educator and now holds the position of senior learning designer at Michigan State University.

What’s needed are reflective prompts that cause the learner to slow down, step back, and pay attention in a way that transforms doing into knowing.

own directions and growth (Bresciani Ludvik, 2017; Cunningham, 2018; Kaplan, Silver, Lavaque-Manty, & Meizlish, 2013). This can occur in course and classroom settings (the main focus of this report), but reflection can also play a powerful role in co-curricular contexts such as internships (Grose, 2017; Grose, Burke, & Toston, 2017) and on-campus employment (see sidebar).

That said, devising ways to engage students in reflective thinking is not a role that all educators come to naturally or find congenial. The word itself can sound “squishy” and uncomfortable. Alternative or related terms, like “metacognition,” can be off-putting as well. In truth, many faculty come to their work as teachers assuming that students know how to learn, and that it is the student’s responsibility to discern coherence and meaning in the disparate elements of their undergraduate experience. But this assumption is increasingly under pressure. Today’s college students are more diverse in all kinds of ways that matter for teaching and learning, and higher education is now faced with the social and ethical imperative to help all students succeed. In short, the search is on for more effective ways to help *all* students thrive (Huber & Hutchings, 2004, 2005), and reflection may well be an important strategy for reaching this goal.

Varieties and Contexts

In our work tracking campus policy and practice in the area of student learning outcomes assessment, NILOA has documented growing interest in embedded forms of assessment—approaches that complement and connect with the ongoing, regular work of teaching and learning and that capture authentic forms of student learning (Jankowski, Timmer, Kinzie, & Kuh, 2018). The most natural and efficient contexts for implementing this approach are the projects, papers, and tasks that faculty regularly assign in the courses they teach (Ewell, 2013; Hutchings, Jankowski, & Ewell, 2014). With this in mind, beginning in 2013, we invited faculty to submit assignments to an online, searchable “assignment library” where their efforts could be accessed by others as intellectual work worth sharing and building on (Hutchings, Jankowski, & Schultz, 2016).

The Library is now approaching 80 entries and growing. Each entry includes the assignment as given to students; a memo by the faculty member who designed the assignment, explaining the context in which it is used, the outcomes it aims to foster and document, and how well it’s working; and the criteria upon which student work is evaluated. The assignments come from a diverse range of fields and institutional types, and include papers, presentations, case studies, group projects, and exams. Submissions are reviewed by peers and NILOA staff, revised in light of feedback, tested out in actual course settings, reviewed one final time, and then posted to the NILOA Library site: <http://www.assignmentlibrary.org>. Library users can also access a wide array of resources about effective assignments, including a [toolkit for campus-based assignment-design work](#).

The Iowa Guided Reflection on Work (GROW) program at the University of Iowa is a good example of reflection in a campus employment context. GROW reflections are guided by four questions: 1) How is this job fitting in with your academics? 2) What are you learning here that’s helping you in school? 3) What are you learning in class that you can apply at work? and 4) What have you learned through your campus employment experience that you think you’ll use in your chosen profession? For more information, see <https://vp.studentlife.uiowa.edu/priorities/grow>.

Additional Resources

Maki, P. (2017, February). *Real-time student assessment: Prioritizing enrolled students’ equitable progress toward achieving a high-quality degree*. Urbana, IL: University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment (NILOA).

Montenegro, E., & Jankowski, N. A. (2017, January). *Equity and assessment: Moving towards culturally responsive assessment*. (Occasional Paper No. 29). Urbana, IL: University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment (NILOA).



Additional Resources:

NILOA has been working to foster the development and use of intentionally designed assignments through faculty-driven collaborative peer review processes. Through the Assignment Library initiative, NILOA has organized and sponsored a series of assignment-design “charrettes” (a term borrowed from architecture education denoting a collaborative design process) for faculty from around the country. This model has been field tested with over 25 different assignment design events involving over 1,000 faculty and staff including the Multi-State Collaborative to Advance Quality Student Learning, institutions exploring transfer focused on student learning, AAC&U VALUE rubric users, and student affairs staff exploring co-curricular assignments. The Assignment Charrette Toolkit can be found here: <http://www.learningoutcomeassessment.org/assignmenttoolkit.html>.



One feature that caught my eye as the collection has grown is the number of assignments that include a significant (and usually explicit) reflective component—which is to say, they have been “tagged,” either by the faculty author or by me or another NILOA staff member, as including a requirement that students reflect.² As of this writing, there are 22 such assignments—approximately a quarter of the collection.

Of these, the largest number, (nine of the 22) are from professional fields such as business and education; five more are from social science contexts. Surprisingly, to me anyway, only two come from courses for arts and humanities majors. No assignments from STEM fields are tagged as including reflection, but this may simply reflect the fact that the number of STEM assignments in the library more generally is quite small. Six of the 22 assignments are from courses that are part of general education or general studies.

Seven of the reflective assignments are intended for upper-level students, some of those (predictably) serving as a capstone experience. Twice as many (15) are offered primarily for students in the first two years of their postsecondary work—an encouraging pattern in that reflection is a learned disposition that can and needs to be cultivated early and often during the undergraduate program.

In the majority of the 22 assignments, reflection is framed as a kind of parallel processing. For example, the assignment might ask students to write a research paper or work with peers to solve a problem. The reflective component sits “alongside” those tasks, taking the form of a set of activities and prompts that students are asked to perform and respond to as they move through the steps in drafting that research paper or solving that problem. Alternatively (or additionally), reflection may come at the end as students are asked to synthesize and summarize their experience with the assignment.

This, in turn, points to one further feature of this set of assignments—the presence of (sometimes) extensive scaffolding. Students are not, that is, simply asked to reflect out of the blue; thinking about one’s thinking is not, after all something that we are born knowing how to do. Thus, the onus is on faculty to provide explicit guidance and prompts for doing so—in the form of questions, for instance, or smaller steps that build toward a larger meaning-making process. Additionally, scaffolding can take the form of a rubric for evaluation that is shared with students and where they can see what is expected of them and how their reflection will be assessed. The articulation of evaluative criteria is critical, in fact, as it signals to students that reflection is not just one more hoop

²Certainly there are other assignments in the NILOA Assignment Library that incorporate reflection, but I am focusing here only on those that are salient and sustained enough to be recognized as a distinct component in the larger assignment.

to jump through. As an essential ingredient in learning and meaning making, it matters and it *counts*—an important message I will come back to.

Notes Toward a Definition

On the one hand, it's hard not to be struck by the wide range of reflective tasks and activities included in the NILOA Library assignments. Several require electronic portfolios. Another asks students to self-assess in a group. Some entail journal-like reflective writing. One asks students to reflect on their learning through video diary entries.

Looking across these different approaches, however, four common features emerge. To be clear, not every assignment includes all of these, and they are not so neatly distinct from one another, and certainly not as sequential, as a numbered list might seem to suggest. And although they echo features identified in more conceptual approaches and theoretical frameworks (Killen & de Beer, 2011; Rodgers, 2002; Schön, 1983;), these four are inductively derived. My method, that is, is to analyze and capture how faculty *actually design and deploy activities* that engage their students in reflective thinking.

1. *Paying attention*

Virtually all of the 22 NILOA assignments requiring reflection ask students to do something that sounds quite simple: to observe and think about their own thinking (and feelings) in real time. But in fact, this is not so simple. Experience—whether it be the experience of writing an assigned research paper or just walking down the street—is not easily or automatically brought into one's awareness. What's needed, then, to bring the experience of writing that research paper (or whatever task the student is called upon to complete) into awareness, are reflective prompts that cause the learner to slow down, step back, and pay attention in a way that transforms doing into knowing.

The NILOA Library assignments accomplish this in various ways. In an assignment on “liberal arts skills in action,” Elon University students are asked to “demonstrate and describe the thought process” they use in identifying a social problem and actively seeking to “contribute to its amelioration” (Namaste, 2015). In a business ethics course at Middlesex Community College, students must produce (as specified in the rubric accompanying the assignment) “a detailed analysis of [their] contribution and thought process for each part of the project” they work on throughout the course (Dottin, Awkward, & Brocatto, 2016). And an assignment from Humboldt State University asks students to engage in “self-analysis and identification of the skills they used” in preparing and polishing a broadcast journalism presentation (Reitzel, 2016).

Looking across the different approaches to engage students in reflection, four common features emerge:

- 1. Paying attention***
- 2. Examining and taking stock***
- 3. Integration***
- 4. Imagining and shaping a future self***

These kinds of “paying attention” assignments can also be framed more broadly, not around a single assignment, that is, but as a way of mapping a larger learning trajectory. Capstone courses and experiences are natural settings for this kind of reflection, as illustrated, for example, by the reflective portfolio that students develop in a capstone course at Nebraska Methodist College aimed at capturing and making sense of their “educational journey” (Curley & Mattson, 2014).

In all of these examples (and more), reflective activity begins with description. The process is one of inducing students to stand aside for a moment, “pausing and pondering,” as Patricia O’Connell Killen, in an essay on theological reflection, puts it (Killen, 2007, p. 144). The aim is to make explicit and visible the elements of meaningful learning embedded in an experience that might otherwise remain unarticulated and therefore unexamined.

2. Examining and taking stock

When experience is made visible and therefore available for examination, the door is open for inquiry and judgment—where the aim is not simply to describe but to take stock, to draw conclusions, to evaluate the significance of the learning, to self-assess. The central question behind this aspect of reflection is some version of “what did you learn from this?” or “what does it mean to you?”

For instance, in a communications course at New Mexico State University students analyze an organization’s culture and are then asked to discuss what they learned from completing the assignment (Armfield, 2017). In a psychology course at the University of Massachusetts-Lowell, students must apply the concept of correlation by testing out a hypothesis about the relationship between two variables. The reflection component of the assignment then asks them to “reflect on what your own data findings mean, in terms of the literature you reviewed [and] reflect on what additional variables that you did not measure might be important to examine in a future study” (Frye, 2014).

In these examples the reflective process invites students to distill and articulate meaning from the tasks they complete as part of their course work; that is, thinking about what they are learning is a step toward more and deeper learning. The prompts often sound simple (“What did you learn” from such and such an activity?), but the task can be challenging, as students struggle to cogently articulate in their own words—often for the first time—what and how they are learning and the difference that learning makes for them and their understanding of the domain or proficiency in question.

This kind of process is often inward looking, such as journal-like writing that is shared with the instructor but has no larger audience. But it can also (and some would argue *must*) be a social activity (Eynon & Gambino, 2017; Killen, 2007;

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Rodgers, 2002). Accordingly, some assignments in the NILOA collection ask students to reflect in ways that have *shared* meaning. The broadcast journalism assignment from Humboldt State mentioned earlier (Reitzel, 2016), illustrates this more public orientation. At the end of a challenging multi-part assignment in which students must turn a paper from a previous course in their program into a speech that they deliver on the local TV or radio station, they must draft a three-page essay providing guidance to future students who will grapple with this rather daunting assignment.

This sense of audience and purpose can make reflection more engaging for students (less like yet another task to complete), as illustrated by a second example. In a first-year seminar at Our Lady of the Lake University students move through a variety of activities and tasks that unfold over the semester. The reflective component comes toward the end as they work in groups to create PowerPoint or video presentations that provide advice, based on their own experience in the course, about how to prepare to succeed in college. The target audiences for these presentations are graduating high school seniors, parents of incoming first-year students, or high school teachers. This is “one of the most fun assignments I’ve ever created,” the assignment’s faculty author says, and “students LOVE it” (Cuevas, 2016). Enthusiasm is not always a marker of significant learning, but reflection that matters to those doing it—in part because it matters to others—is surely more likely to be consequential.

3. Integration

The integrative function of reflection is probably the one that most faculty are most likely to see as congenial and familiar—even if the language of reflection is not. Many fields expect students to connect theory to some aspect of practice, after all, and many faculty (though they do not always signal this expectation explicitly) expect students to apply what they learned in one context to problems posed in another. Opportunities for reflection can help students meet these expectations more successfully.

The move toward integrative reflection can take various shapes. In a communications course at New Mexico State, the assignment asks students to reflect on organizational culture through the lens of a specific conceptual framework from the field (Armfield, 2017). In a historiography course at Utah State University, reflective activity focuses on the practices of the field: which arguments are most compelling, what new perspectives might be considered, what might the students’ own historical analysis have missed or left out (Duncan & Lundstrom, 2014). As these examples suggest, the focus of reflection is not the student (no navel gazing here) so much as the student’s understanding and evaluation of the methods and interpretive frameworks of the field. In short, integrative reflection is framed as an expected intellectual practice, and a step in students’ growing facility with academic discourse.

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But integrative reflection can also be turned to broader purposes, helping to connect academic learning with personal development—head and heart, if you will. The example from Elon University (Namaste, 2015), noted earlier, is relevant here: inviting students to explore and document a social issue that matters to them and that they hope to help ameliorate. According to Susan Albertine (2018), Namaste’s “liberal arts skills in action” assignment exemplifies what the Association of American Colleges and Universities (AAC&U) has called “signature work,” (2015) in which the student tackles an authentic, unscripted problem in a way that bears her metaphorical signature because she cares about it and is engaged by it not only intellectually but personally, ethically, and emotionally.

4. Imagining and shaping a future self

In many of the examples shared thus far, reflection is in large part retrospective: a looking back at some task or experience that is already well underway or finished. But reflection can also have a *prospective* focus—one that is future-oriented and identity-shaping. Indeed, this focus is highlighted in AAC&U’s Integrative and Applied Learning VALUE Rubric, which, at the highest, or capstone level, points to work that “envisions a future self” (AAC&U, 2009).

A number of the NILOA assignments point in this direction. An assignment from a Durham College interdisciplinary course on disasters aims to support students in becoming “more aware of transferable skills (i.e., critical thinking, communication, and problem solving) they are developing and how those will help them in the future.” This is not easy: “I enjoy reading the self-reflections,” writes course instructor Alexandra Penn (2015), “because it is a rare chance to hear students talk directly about the skills they are developing. It has become clear to me that students often lack the language needed to talk about their skills and they find it difficult to clearly express how skills developed in the classroom can be applied...” Penn’s goal in asking students to reflect on those skills is, therefore, “to create well rounded global citizens with the tools they need to be successful in the 21st century.”

A similar aspiration shapes student work in a Washington DC internship program. As part of that experience, students interview a professional in a field of interest to them. As the assignment’s faculty authors explain, “internships are often highly unscripted experiences in which the learning is often emergent” and challenging to assess. The interview assignment, along with its reflective components, is intended to help students “explore the idea of a pathway, particularly as it relates to career development. This in turn can help students reflect on their own experiences in their internships and the meaning it might hold for their futures” (Grose & Williams, 2017). In support of this goal, the

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interview assignment, and students' reflections on it, become part of a capstone assignment and culminating portfolio designed to prompt students to reflect on their learning over the course of the full academic semester in which they complete their internship (Grose, Burke, & Tolston, 2017).

Portfolios can be especially powerful in harnessing reflection to a forward-looking, identity-shaping function. That function shapes the portfolio required of students at Nebraska Methodist College, mentioned earlier. Positioned at the end of their second year of study, the portfolio is structured around and in support of three outcomes in the institution's Educated Citizen Core Curriculum: effective communication, becoming a reflective individual, and working as a change agent (Curley & Mattson, 2014). In this sense, portfolios enable students, through documentation and reflection, "to understand the ways they are developing into self-directed life-long learners" (Kuh, et al., 2018, p. 17).

Evaluating and Valuing Reflection

In her excellent discussion of Dewey's conception of reflection, Carol Rodgers (2002) argues that without greater clarity about its distinguishing features, reflection may be *devalued*.

Accordingly, as I worked my way through the assignments featured in this report, I was particularly interested to see whether and how reflection is valued, and how that value is expressed to students who may not be naturally inclined to slow down, think about their learning, make connections, and reflect on their experience as a learner in ways that shape their future. Indeed, it's easy to imagine that assignments prompting reflection (even the most thoughtful, carefully scaffolded assignments) may look, to students, like mechanical exercises rather than the kind of "pausing" and "pondering" invoked by Killen (2007): "Pausing gathers and refocuses attention," she notes, while pondering "involves a quality of attention that is alert, open, patient, expectant, and sustained" (p. 144). These features are likely to sound appealing to many academics, but they may also be at odds with the world we (and our students) live in—"the age of acceleration," Thomas Friedman (2016) has called it—where the norm is multi-tasking, sound bites, and high-velocity communication cycles that are in many ways antithetical to the notions of slowing down and paying attention that characterize meaningful reflection.³

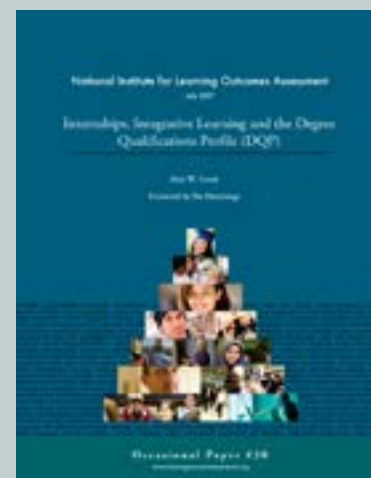
How, then, do faculty who care about helping students develop a disposition for reflective learning and thinking signal the value and importance of such activity? How are the kinds of tasks and activities featured in this report framed

³In *Thank You for Being Late*, Friedman tells the story of waiting for a colleague who arrives late for lunch and then being grateful for the time to just sit back and think (2016, p. 5).

Additional Resources:

Nina Namaste's assignment is part of the NILOA Assignment Library collection but it is also one of three "featured assignments" through which users can access further materials, including examples of student work and commentary by peers about the character and quality of the assignment. AAC&U Senior Scholar Susan Albertine provides one of the commentaries to Namaste's featured assignment. See <http://degreeprofile.org/featured-assignment-description/>

Grose, A. W. (2017, July). *Internships, integrative learning and the Degree Qualifications Profile (DQP)*. (Occasional Paper No. 30). Urbana, IL: University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment (NILOA). See <http://learningoutcomesassessment.org/occasionalpaperthirty.html>



in ways that are not hoops to jump through but part of an ongoing reflective process that gives shape and meaning to experience?

One step in this direction is the kind of transparency about purpose advocated by Mary-Ann Winkelmes in her research on powerful assignments. Be clear and explicit with students, she tells us, about why the assignment matters and how they will benefit from doing it. Doing so is a simple but important strategy (along with transparency about task and criteria) toward increased student success (Winkelmes, et al., 2016).

Several of the NILOA assignments provide models in this regard. The capstone portfolio at Nebraska Methodist College comes with a clear statement to students about the “opportunity to review your experience while at NMC and identify events that have impacted your understanding of your profession and yourself” (Curley & Mattson, 2014). In the teacher education program at Longwood University, the required portfolio is introduced to students as a mechanism for developing a reflective, professional body of work (Townsend, 2016). The title of the assignment—My Future Classroom Project—underscores this prospective orientation.

The value of reflection and reflective assignments is reinforced by these kinds of clear, explicit statements of purpose, which help to establish a tone and space in which such work is taken seriously. At the same time, students are very good at inferring what really matters. If reflection (like, say, class participation) is invoked as an expectation but not evaluated, the message is clear: it doesn't count, it doesn't really matter. What, then, is the role of evaluation in the NILOA reflective assignments? That is, how is reflection assessed?

One answer is that reflection is so thoroughly embedded in the larger context of course work that it does not make sense to evaluate it separately. Thus, what is being assessed is not the reflection per se but the learning it produces. And this may indeed be the approach toward which higher education should be moving—a more integrated, multifaceted vision of learning, and assessments matched to that vision, in which reflection, and other “dispositional” attitudes and skills (Bresciani Ludvik, 2017; Herman & Hilton, 2017; Kuh, et al., 2018, p. 6) are not compartmentalized and treated separately from other aspects of learning.

On the other hand, we may not “be there” yet. Dispositional attributes of learning and success, whether in academic or professional settings, have only recently begun to be cultivated and systematically explored, and assessment can play a role in advancing that work by providing evidence about what strategies are most effective for achieving the purposes reflection can serve. This, then, argues for more targeted forms of assessment, and that is what we see in

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many of the NILOA assignments. About one-third of them include a rubric that explicitly focuses on and invokes reflection. In truth, those rubrics are often rudimentary, with fairly general descriptors of what effective reflection looks like (often expressed mainly in terms of following directions). Indeed, Bresciani Ludvik (2017) worries that if students are told that a rubric will be used to evaluate their reflection they are “just going to ‘write to fit the rubric’ instead of reflecting, writing, and then using the rubric to self-asses before reflecting and writing some more.” That said, even the existence of a rubric, be it locally revised or borrowed and adapted (for instance from AAC&U’s VALUE Rubric on Integrative and Applied Learning, which includes explicit attention to reflection), is a powerful signal to students that reflection is not some kind of frosting on the cake but a habit of mind that matters, is expected, and, yes, evaluated. Additionally, explicitly evaluating reflection helps students “cultivate awareness of their reflection abilities” (Bresciana Ludvik, 2017, n.p.), an important step toward greater ownership and facility.

Finally, reflection may be assessed by the student. Indeed, part of the value of reflection is to move students toward the capacity to evaluate their *own* work: to take ownership and authorship of their learning (Baxter Magolda & King, 2004; Baxter Magolda & King, 2012); to become “self-directed learners” (Ambrose, Bridges, Di Pietro, Lovett, & Norman, 2010); to learn how to learn (Cunningham, 2018); and to engage in “self-assessment” (Allen, 2016; Alverno College Faculty, 2000). And the good news—as argued here—is that this focus, whatever the language, is now showing up in assignments that ask students to describe, judge, and integrate their learning in ways that promote meaning-making and lifelong learning.

Related Developments and Synergies

But assignments are not islands unto themselves; they are part of a larger learning ecology, which includes a diverse set of improvement initiatives and innovations underway in teaching and learning today. And this is good news. Efforts to foster and assess student reflection through carefully designed assignments can both contribute to and benefit from these other developments.

For starters, and as noted at the beginning of this report, work on reflective assignments is part of a larger movement (if that is not too grand a word) to focus on assignment design. NILOA’s own work in this arena—hosting day-long “charrettes”⁴ where faculty come together to peer review one another’s draft assignments—has helped to catalyze and facilitate a wider circle of campus-based professional development opportunities focused on assignment design. A

⁴The term “charrette” comes from architecture education and denotes a process of collaborative design. It has now been picked up by the growing number of campuses that are organizing local assignment-design events modeled on the NILOA process. For materials and resources for organizing such events, view the [NILOA Assignment Design Toolkit](#).

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particularly promising development within this work is attention to the design of assignments *across* courses: linking an assignment in a first-year setting to one that students will encounter later in the program, such as a culminating capstone, and aligning both with larger, cross-cutting outcomes for student learning (Hutchings, 2016; Jankowski & Marshall, 2017). When faculty share assignments across the curriculum in this way, the stage is set for building on one another's work in ways that create more coherent pathways for students. In this sense, collaborative work on the design of reflective assignments becomes a building block for curriculum reform, and curriculum reform, in turn, becomes a context for further exploration of reflective assignments.

A second development that may provide synergy for further work on reflective assignments is growing interest in ePortfolio, as this innovation is sometimes called (Eynon & Gambino, 2017). Portfolios provide a structure that allows students to map their educational journey and to integrate its diverse and often fragmented experiences. Reflective assignments can play an important part in helping students construct such maps. In turn, portfolios can create a larger integrative context for individual reflective assignments that might otherwise remain disconnected from the whole of the student's experience. As noted by its practitioners and scholars, ePortfolio is not simply a container or technology; it is also "a process that, when done well, deepens reflection and dispositional and integrative learning..." (Kuh, et al., 2018, p. 16).

Portfolios, in turn, bring us to High-Impact Practices (HIPs), which include (to name just a few of the eleven) internships, undergraduate research, learning communities, and (yes), as a kind of meta-HIP, ePortfolio (Kuh, et al., 2018; Kuh, O'Donnell, & Schneider, 2017). All of these are occasions that evoke learning that is not only cognitive but also personal, affective, and "neurocognitive" including reflection (Bresciani Ludvik, 2017). Thus, as they become more broadly available to all students, HIPs are a context for further innovation and inquiry into the place of reflection in the more complex, social, and unscripted forms of learning that today's students need to succeed and thrive.

Another promising context for work on reflective assignments is the development of alternative ways to document student learning. These include new kinds of comprehensive student transcripts that feature co-curricular experiences as well as the traditional list of courses and grades; competency-based transcripts that specify what students know and can do; narrative models; and, once again, ePortfolio in which students themselves document and provide evidence of their learning and development. These new approaches, and others under development, may create a more prominent space to document the habits of mind and dispositional attributes of which reflection is an example.

Portfolios provide a structure that allows students to map their educational journey and to integrate its diverse and often fragmented experiences. Reflective assignments can play an important part in helping students construct such maps.

Finally, a focus on reflective assignments and experiences can also be seen as part of a larger shift (one that runs through all the others noted here) toward making students more active and effective agents in their own learning. This effort has a significant history (see for instance Baxter Magolda, 1999; Baxter Magolda & King, 2004) but recent work on active learning, assessment, and the scholarship of teaching and learning has given it new energy as campuses have found ways to make students authentic partners in pedagogical inquiry, innovation, and improvement (Cain & Hutchings, 2015; Cook-Sather, Bovill, & Felten, 2014; Werder & Otis, 2010). It is now possible to find research and practice around a wide range of models for seeing students as more active agents of their own learning: working with a faculty member to help revise a course taken the previous semester (Delpish, et al., 2010); serving as co-inquirers in scholarship of teaching and learning projects (Healey, Flint, & Harrington, 2016; Werder & Otis, 2010); or, as part of a campus assessment team, conducting interviews with their peers in order to more deeply probe the institution's questions about the learning experience. (Baker, 2012; Truncale, Chalk, Pelligrino, & Kemmerling, 2018), or creating action plans based on assessment findings (Damiano, 2018). These kinds of involvement appear in some of the NILOA assignments, such as the one at Our Lady of the Lake University (Cuevas, 2016), in which first-year students provide advice to incoming students about how to prepare to succeed in college, inquiring into and reflecting on their own experience and translating that into terms that connect them with a larger community of conversation and practice. What all of these examples have in common is that they offer students the opportunity to think in more sustained ways about the process of learning.

Conclusion: Faculty Reflection

Finally, what's good for students is also good for faculty—particularly when it comes to improving teaching. A meta-analysis of pedagogical reform initiatives in STEM settings (Henderson, Beach, & Finkelstein, 2011) shows that the most successful strategies include a prominent place for faculty reflection. And many of the most promising professional development programs today, be they on a campus or through a national initiative of some kind, make extensive use of teacher reflection—most notably through faculty learning communities (Beach & Cox, 2009), which create occasions for faculty to share ideas and practices, and to see teaching as intellectual, scholarly work that is, like other forms of scholarship, strengthened through participation in a community of practice and inquiry (Boose & Hutchings, 2015). That's a potent recipe for improvement and knowledge building.

This kind of reflection has been central to NILOA's work on assignment design. Bringing faculty together to talk about and peer review one another's draft assignments (and all assignments are, after all, drafts, in that they are always a

Additional Resources:

With funding from Lumina, NASPA—Student Affairs Administrators in Higher Education, in partnership with the American Association of Collegiate Registrars and Admissions Officers or ACCRAO—provides leadership for a national initiative aimed at creating “digital records that will help students describe the depth and breadth of their learning.”

The comprehensive learner record allows for enhanced student agency in their own learning and digital documentation of their learning over time.

To learn more visit: <https://www.naspa.org/rpi/comprehensive-learner-record>

work in progress) has resulted in assignments that are more transparent, more intentional, clearer to students, more aligned with shared goals for student learning, and, as we've seen, in some cases more reflection-prompting for students.

But reflecting together with peers about assignment design has also turned out to have a powerful ripple effect. In addition to improving the target assignment, educators participating in this collaborative work reported⁵ that the process caused them to be more aware of how their pedagogical work—and their assignments—fit into the larger vision for student learning in their program or on their campus. Following a two-day workshop on assignment design at Washington State University, 89 percent of participants reported that they expected the experience to impact their teaching in other courses (beyond the one for which they contributed an assignment) and how they would grade student work (Green & Hutchings, 2018). Participants in NILOA-sponsored charrettes (more than half of them) reported that the experience gave them a new way to think and talk about assessment (Hutchings, Jankowski, & Schultz, 2016)—as a process intimately connected to teaching itself and a valuable source of insights for improvement. For some it was a chance to see themselves and their pedagogical work (which has often been private and invisible) as part of a larger community of practice and inquiry, experiencing colleagues as helpful thought partners and themselves as professionals with important insights to share in return.

In short, reflection is powerful for students and for faculty alike. And it turns out that assignments can be a powerful stimulus for both. For students, reflective assignments can help scaffold the development of dispositional habits of integrative, lifelong learning. For faculty, thinking together about the assignments they design and require of students is an opportunity to step back and see their work as a process of ongoing, purposeful professional growth which, coming full circle, may even, sometimes, flip a switch for our students in ways that deepen and extend learning.

Reflection is powerful for students and for faculty alike. And it turns out that assignments can be a powerful stimulus for both.

⁵The outcomes reported in this paragraph (with the exception of those from Washington State University) come from a survey of participants in NILOA-sponsored charrettes. A fuller set of findings appears in Hutchings, Jankowski, & Schultz, 2016.

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