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Designing Effective Classroom Assignments: Intellectual Work Worth Sharing

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In fall 2013, the National Institute for Learning Outcomes Assessment (NILOA) launched an ambitious effort to build an online library of assignments designed, used, and peer reviewed by faculty from a range of disciplines and institutional types. The design of assignments is one of the most creative and consequential tasks that faculty undertake in their work as teachers, calling on their knowledge of the field, their understanding of how students learn, and their expert judgment about the kinds of tasks that help students strengthen that learning while also providing evidence of it. But such work is often invisible and insufficiently supported.

In Short

- The National Institute for Learning Outcomes Assessment's (NILOA's) online library of faculty-created assignments that both produce and demonstrate learning makes pedagogical work visible and available for colleagues to learn from, build on, and reward.
- Faculty collaborate in sharing, critiquing, and improving assignments for submission to the NILOA Assignment Library. The assignments in the collection demonstrate what is possible, stimulate further design efforts, and build a community of expert judgment around such work.
- An “assignment template” identifies the critical elements of an assignment: that it specify the central task and indicate how it is to be undertaken and the results communicated, as well as how extensive or evidential the response should be. In good assignment design, high-level outcomes are translated into concrete terms.
- Because learning outcomes become more visible and are understood more deeply, collaborative assignment design can be a powerful kind of faculty development.
- This work can be undertaken both on individual campuses (thereby building a culture of pedagogical improvement and inquiry) and between campuses.

The immediate impetus for the Assignment Library initiative was campus experimentation with the Degree Qualifications Profile (DQP), a framework for what students should know and be able to do at the associate, bachelor's and master's levels. [Editor's note: For more information on the DQP, see the article “The Degree Qualifications Profile: What It Is and Why We Need It Now,” in the November/December 2013 issue of *Change*.] For many campuses, consideration of the DQP included the creation of “signature assignments” (as they were sometimes called) designed to assess students' progress toward the five areas of DQP proficiency (see box).



In our role as harvester of DQP efforts on campus, NILOA saw an opportunity to build on these efforts by making them more broadly available. The fact that faculty's work on assignments is often private—and therefore unrecognized and unavailable for colleagues to learn from and build on—gave additional impetus for the Library initiative. Making pedagogical work visible is a critical condition for its ongoing improvement.

Over the past two years, NILOA has hosted three *charrettes* (a term borrowed from architecture education, denoting a time-limited, collaborative design process) on assignment design. Participants come together for a day to share an assignment they have designed around DQP outcomes, to invite comments and critique from peers within and sometimes outside their discipline, and to then revise the assignment for submission to the NILOA Assignment Library.

Once posted on the site (www.assignmentlibrary.org), each assignment is indexed according to a variety of elements, including the discipline or field and the type of task (a paper, for instance, or a presentation or group project). It is accompanied by a reflective memo that provides information about the course in which the assignment is used, the outcomes it aims to assess, how it builds on students' earlier work and prepares them for future assignments, and how it is assessed.

There are now more than 50 assignments in the collection. The idea is not that they be downloaded and used without modification but that they show what is possible, stimulate further design efforts, and build a community of expert judgment around such work. Visitors to the library can, for instance, find a template for assessing students' ability to reason ethically, given a problem in their discipline or professional field (Bailey, 2014); an assignment from an interdisciplinary course on play that asks students to develop a toy (Robinson & Levinovitz, 2015); and (to name just one more) a capstone performance task on quantitative reasoning (Carmichael, Kelsch, Kubatova, Smart, & Zerr, 2015) [see box on the following page].

Assignments are licensed under Creative Commons, and each appears with a scholarly citation, both in recognition of the intellectual work that goes into assignment design and to make it possible for educators to acknowledge, refer to, comment on, and build on one another's work.

We encourage readers to visit the Library, borrow and adapt what they find useful, report on their experience in the comments section of the site, and submit an assignment of their own through the online submission process. But this article is not about the library itself. Our aim, rather, is to reflect on what we are learning about the power of assignments as a vehicle for faculty collaboration and reflective practice and as an approach to assessment that supports meaningful improvement.

**AN ASSIGNMENT ON QUANTITATIVE REASONING FROM THE UNIVERSITY OF NORTH DAKOTA:
(Carmichael, J., Kelsch, A., Kubatova, A., Smart, K., & Zerr, R., 2015)**

A team of faculty at University of North Dakota developed signature tasks to assess undergraduate students' proficiency in the general education program ("Essential Studies" or ES). The assignment below is used for the assessment of Quantitative Reasoning (which the DQP refers to as Quantitative Fluency). It is not specific to any course. Rather, it can be used broadly for undergraduate students at all levels of study. Note that students receive a set of supporting documents (not provided here) to draw on in constructing their response to the task.

SCENARIO

You are about to graduate from college. Congratulations! Although you have accumulated some debt over the years, you received three offers of employment just last week. You have some decisions to make, since your job offers are in Los Angeles, Chicago, and New York. Many factors might influence which job you choose to take. For example, you'll want to optimize your earning potential while factoring in costs of living in the three cities. Your parents, always willing to provide advice, are strongly encouraging you to choose the job in New York. They make the following claims to try to convince you that the New York job makes the most sense!

The New York job pays the highest and, therefore, you'll be happiest with that job.

Home prices in New York are lower than in Chicago and Los Angeles.

Crime rate is lower in New York than in Chicago and Los Angeles.

New York has less rain and cooler temperatures than Chicago and Los Angeles.

New York has better air quality than Chicago and Los Angeles.

You think that they may have some valid points. Nevertheless, you decide to do some research on your own to investigate their claims. You also find additional information that is relevant to deciding which job to accept. All of your research findings are included in the documents provided as part of this performance task.

TASK

Your job is to evaluate your parents' claims and decide which job offer to accept. To do so, please answer the questions that follow using only the supporting documents provided. Your answers should include quantitative summaries of any relevant data drawn from the documents provided to support your position.

You are asked to make calculations and create summary charts or graphs to make your case as strong as possible. A strong response will include relevant data summarized and presented in a format that you create (e.g., text, graph, table). Simply copying and pasting portions of the supporting documents does not demonstrate strong quantitative reasoning skills. Keep in mind that there is no single correct response to the questions! Instead, your ability to interpret quantitative data and make sound conclusions is most relevant.

QUESTIONS

- 1. What are the strengths and/or weaknesses of your parents' claims? Be sure to summarize and present all relevant data derived from the supporting documents as you evaluate their claims.
- 2. Which job will you accept? Make your case by summarizing and presenting all relevant data in the supporting documents. Keep in mind that you should evaluate various factors among the jobs in the three different locations and present a convincing case demonstrating why the job offer you choose is better than the others.

Toward that end, we briefly describe the NILOA charrette process, talk about the benefits of collaborative work on assignment design, illustrate a variety of different approaches to supporting such work on (and sometimes between) campuses, and end with comments about assignments as a focus for reflective practice.

BUT FIRST: WHAT IS AN ASSIGNMENT?

Anyone who has been either a student or a teacher knows what an assignment is. And yet it may be useful to say something about “the genre” as we have defined it for the Library. Wanting to appeal to a broad range of faculty and institutions, we adopted a correspondingly broad view of our topic, explicitly inviting assignments that take very different shapes: tests, writing assignments, individual and group projects, public presentations, work coming out of community and civic engagement, and capstone projects in courses that support integrative learning.

We are very much interested in tasks that *promote* student learning. But given the DQP context and NILOA's mission, we are also looking for summative assignments that faculty design to yield rich evidence of what students know and can do and that can be evaluated for the record. In short, our emphasis is on assignments that can function as assessments.

Toward this end, we have invoked an “assignment template” devised by Peter Ewell (2013) that underscores the importance of addressing three critical elements. First, the assignment should clearly specify the central task that must be undertaken. For example, a central task to demonstrate DQP proficiencies in the area of analytic inquiry might involve comparing and contrasting two or more arguments or points of view on a particular topic.

Second, an assignment should indicate how the required task is to be undertaken and the results communicated. For example, an assignment in the area of quantitative fluency might call for verbal argument but also mathematical algorithms and equations.

Third, the assignment should indicate how extensive or evidential the response should be. That is, students need to know whether the assignment should be two pages or 20 or whether a certain number of examples is required.

The purpose of the template is *not* to put constraints on design; indeed, as the assignments in the Library illustrate, the three elements can be addressed in very different ways and look very different, depending on the type and level of the assignment. A capstone project might, for instance, be much more open ended in its specifications than a first-year paper assignment. The point, rather, is to address a common issue in assignment design—one expressed as follows by a NILOA charrette participant:

We all have these things that we're subconsciously looking for when we grade assignments...that we're regularly disappointed with. And then you get to poking around in your assignments and realize that nowhere in there do you ever really ask them to demonstrate those things.

Ewell's template is a valuable starting point in underlining what it takes to ensure that an assignment actually *elicits* the desired outcome. If it does not, it cannot serve as a meaningful assessment. Thus, the template helps to make the implicit explicit.

THE NILOA CHARRETTE PROCESS

To date, we have assembled three groups of faculty: in October 2013, February 2014, and March 2015. These faculty members, 66 in all, applied and were selected based on the assignment they submitted, which is treated as a draft.

In advance of their face-to-face meeting, they read one another's drafts. During the charrette, they worked in discipline-based groups of five or six to provide each member with ideas for improvements before submitting a final version of the assignment to the Library.

This collaborative peer review process unfolded in three steps:

- 1. The assignment author (or authors, since some came with a colleague who co-designed the assignment) introduced her or his assignment to the group (five minutes). This was a chance to remind group members (who have already seen the

assignment) of its context and purpose and to say something about the kinds of feedback and suggestions the author would find most helpful.

- 2. The group then commented on the assignment, asking questions and making suggestions for improvement (15–20 minutes)—comments about the clarity of the directions, for instance, and how students might understand or misunderstand the assignment. Or the group may have had suggestions for tightening the alignment between the assignment and the rubric or criteria used to assess it. But attention often turned to broader matters of curricular context and pedagogy. It is, after all, difficult to evaluate an assignment without understanding where it fits in the “dialogue” of teaching and learning.
- 3. Finally, each group member prepared brief written feedback for the assignment author (who also recorded his or her own summary reflections), aiming to capture the most important points about how the assignment works and how it might be made more effective (5 minutes).

This process, as readers will see, is simple and relatively quick. But participants reported that it moved them in important directions. In brief surveys administered a few months after the charrette, many told us that the experience had affected them in important ways.

We were curious, for instance, about follow-up activities. We found that a significant number of participants (72 percent) had subsequently shared the assignment with others at their institutions, and about a third had also helped to lead a charrette-like experience for colleagues on their own campus.

There were changes in perspective and practice as well. More than 80 percent of respondents noted that the experience “helped me more clearly see my assignment through my students' eyes.” More than half said it made them more aware of aligning assignments with “desired institutional outcomes” and that it gave them a new way to think and talk about assessment. Most important, perhaps, over a third reported that the experience caused them to make changes in their teaching.

WHAT ARE WE LEARNING?

First, good assignments bring student learning outcomes to life. NILOA's 2013 survey of institutional assessment activity reveals that 84 percent of campuses now have institution-wide statements about expected outcomes (Kuh, Jankowski, Ikenberry, & Kinzie, 2014). That's progress, certainly. But those outcomes can often feel very abstract and distant from the classroom and other settings where faculty and staff work directly with students.

Focusing on assignment design provides a mechanism through which high-level outcomes are translated into concrete terms: action verbs (e.g., *compare*, *prioritize*, *sort*, *defend*, *build*) embedded in carefully defined tasks appropriate to different disciplines, settings, and degree levels.

And the translation goes in both directions. As educators work together to design assignments that are carefully aligned with desired, collectively constructed outcomes, those outcomes become more visible and are understood more deeply (and perhaps differently) by both faculty and students.

Accordingly, assignments can be a focus for powerful professional development. While faculty create and grade hundreds of assignments in their teaching careers, structured opportunities to think through the design process are few and far between on most campuses. As one NILOA charrette participant put it, “The assignment design focus is so obviously needed ... but that need doesn't become visible and obvious until brought to conscious attention in the charrette.” Another noted, “Participating in the charrette was helpful in meeting and talking with other instructors about assignments. It made me realize that I never really discussed assignments with other instructors, and listening to their experiences was very helpful.”

In our role as organizers and facilitators of the charrettes, we have been struck by the fundamental but far from simple questions that the process raises: What is your most important purpose in this assignment? What do you want to see from students and what is the difference between a strong performance and a less developed one? How is this assignment related to other

assignments—in the course and in courses that precede or follow it? Addressing questions like these strengthens the assignment in question and encourages greater instructional intentionality in a broader way.

When faculty explore these questions together in the process of sharing assignments and collaborating on their design, issues of connection and integration move front and center. How do students experience assignments and how does an assignment in, say, an introductory course set the stage for success in subsequent courses and ultimately in a capstone project? Questions like these can help move teaching from an individual and sometimes quite private activity to one that is understood as collective and connected in ways that powerfully scaffold student learning across courses and over time. Thus, at a time when education is increasingly at risk of fragmentation, a focus on assignments can help to promote the kind of integrative and applied learning captured in the notion of “signature work” advocated by the Association of American Colleges and Universities (AAC&U) and identified by employers as critical to success in the workplace (Schneider, 2015).

Assignments are also one of the best ways to get direct, concrete evidence of learning. As such they provide a powerful mechanism for improvement-driven assessment by putting judgments about student achievement in the hands of faculty.

In contrast to forms of assessment that are “added on,” the design of tasks that allow students to demonstrate what they know and can do is already a regular feature of faculty work. Many spend significant amounts of time and energy designing assignments, honing them by adding supportive elements and activities, developing rubrics to assess them more clearly, and providing feedback to students. In short, faculty are invested in student performance on assignments in ways that are unlikely when assessment depends on externally designed instruments or standardized tests (especially those administered only to a sample of students who have no motivation to do their best work).

This bodes well for using the evidence generated through classroom assignments to make improvements, and it also responds to the perennial chorus of concern that what assessment needs if it is to be more than a compliance-driven reporting activity is greater faculty engagement. Assignments are a route to such engagement and to using evidence for improvement. Indeed, results from the 2013 NILOA national survey indicate that provosts believe that some of the most valuable and useful information about student learning comes from classroom-based assessments that take the form of well-designed assignments (Kuh, et al., 2014).

Finally, the most compelling reason to increase the focus on assignments is that they are not only a source of rich evidence about student learning but pedagogically powerful—sending signals to students about what the institution expects and what faculty value. At their best, assignments pose interesting, fresh problems—a “Task as Intriguing Problem” (or TIP), as composition scholar John Bean puts it (2011, p. 98)—that capture students' imagination and motivate them to produce their best work.

Faculty who have been part of the NILOA Assignment Library initiative or of similar campus-based efforts report that they have not only improved their assignments; they have also improved the course and the way it is taught—allowing students to both develop and showcase the knowledge and skills the assignment asks them to demonstrate.

One person noted, for instance, “The assignment has led the revision of the associated course so that the course design supports the learning outcomes and provides sufficient scaffolding that leads up to and builds toward the signature assignment.” Another reported having “more conversations with colleagues about how our assignments might sync across the curriculum to ensure students will have learning experiences that lead to achievement of the program goals and outcomes.”

CATALYZING ASSIGNMENT DESIGN WORK ON CAMPUS

As suggested above, some of the most powerful benefits for both assessment and pedagogy accrue when faculty look at assignments *together*, across settings, and with an eye to examining the connections among them. Many of the most meaningful and actionable questions about student learning are not, after all, at the level of the individual course. Real improvement means looking across the diverse elements of the educational experience and asking about their cumulative impact on what the student knows and can do.

In this sense, one of the distinctive contributions of assessment is to counter what literary scholar Gerald Graff (2010) calls “coursecentricism ... a kind a tunnel vision in which we become so used to the confines of our own courses that we are oblivious to the fact that our students are taking other courses” (p. 157). This may leave them with something far short of a coherent, integrated educational experience.

If assignments are to be part of the solution to this problem, an important step is to design and deploy them in ways that create coherent pathways for students and that reinforce connections across courses. Careful attention to the design of individual assignments in the context of a particular course is time well spent. But if they are to serve the most important purposes of assessment—improving the educational experience of students—they must also be connected to one another and aligned with broader curricular and co-curricular experiences in ways that yield cumulative effects and deepen learning over time. Thus, there is much to be gained when faculty come together on campus—or within a system or state—to explore and strengthen the connections among the assignments they give.

The good news is that a growing number of campuses are taking steps in this direction, cultivating interest in sustained collaborative work on assignments (Hutchings, Jankowski, & Ewell, 2014). Their efforts take different forms, depending on campus context and culture.

A good place to start is with a general conversation about assignments and what makes them effective. At the University of Massachusetts Amherst, for instance, assignment design was connected to the institution's "Integrative Experience" (IE) requirement designed to stimulate integrative and reflective thinking in upper-level courses.

Because the goals of the requirement presented new challenges, faculty began by focusing on the learning objectives and discussing the types of assignments (e.g. blogs, reflective essays, charting, short-answer tests) that were likely to be most useful for prompting integrative and reflective work. This set the stage for a focus on specific assignments.

Some campuses have employed a model very similar to NILOA's to generate such conversations. Stella and Charles Guttman Community College, for instance, organized an event during one of the College's assessment days to which 30 faculty each brought an assignment they planned to use during that semester.

Working in interdisciplinary groups of four, each participant read and took notes on the other three assignments and then moved into a "carousel," modeled after the NILOA charrette process described above. At the end, leaders had everyone complete a short reflection identifying two or three concrete changes they would make to their assignment, based on feedback they had received.

A second segment of the event included a rubric-design exercise based on the work of Stevens and Levi (2012). According to Laura Gambino, who organized the event, faculty appreciated having dedicated time to focus on strengthening an assignment.

Going forward, the institution is creating its own Open Education Resources repository, which will include the products of this work—although some of them can also be found in the NILOA Library. The focus on assignment design will also be built into plans for future assessment days as the college looks to increase the use of signature assignments across the curriculum.

Other institutions have created their own model for this work, as Cabrini College has done with the signature assignments its faculty have been creating for their general education program. A "signature assignment," as Cabrini uses the term, refers to an assignment that meets a set of broad specifications for a particular area of its core curriculum.

In the "Individual and Society" area, for instance, the signature assignment guidelines specify that all courses should have at least one writing assignment that is three to four pages in length; requires students to collect, analyze and interpret data that draws their attention to the relationship between individuals and their society; and applies a common evaluation rubric for this area of core learning. Thus, faculty in a wide range of fields, from English to social work, have developed assignments which comport with their own course focus but share common features that connect them to one another across courses as well.

In events and conversations like these, an important consideration is who should be at the table. Some campuses have involved employers in the process of shaping (and assessing) assignments. And while student affairs staff are not typically thought of as giving "assignments," they can contribute important perspectives about the arc of the student experience and how in-class learning can complement or be integrated with out-of-class experiences to stimulate more coherent, powerful learning.

One college found that the data collected by career services in mock interviews identified where students thought they had learned a particular concept or skill. This information was fed back into curriculum planning. But some of the skills were picked up out of class, including in on-campus jobs. Thus students were able to develop multiple curricular and co-curricular examples of their knowledge and skills that could be used in real-life interviews.

Librarians can be key partners in assignment design as well, especially for goals related to information literacy and research skills (Lippincott, Vedantham, & Duckett, 2014). At Utah State University, librarians work with academic departments to craft assignments that support program goals in these and other areas.

Bringing together educators from different campuses can yield benefits as well. One of the most important efforts in this regard has been the AAC&U's Quality Collaboratives (QC) initiative—one of several projects funded by Lumina Foundation to support institutional engagement with the DQP. Focused primarily on using the Profile to improve transfer, QC paired two- and four-year institutions committed to creating better pathways between institutions. Along the way, many of them saw that this meant looking at (or creating new) assignments.

In Massachusetts, for instance, faculty from QC institutions have worked together on assignments focused on civic learning, critical inquiry, problem solving, and quantitative reasoning. In contrast to the NILOA process, which begins with an existing assignment, their efforts sometimes began with samples of student work seen through the lens of the AAC&U's VALUE rubrics or with the identification of relevant elements from the rubrics as mapped to programmatic goals. [Editor's note: See the article by Pat Crosson and Bonnie Orcutt in the May/June 2014 issue of *Change*, "A Massachusetts and Multi-State Approach to Statewide Assessment of Student Learning."]

In the first scenario, faculty identified what the proficiency in question actually entailed and then worked backward in creating assignments that would elicit such work. In the second scenario, assessment rubrics were used formatively for assignment design prior to their summative use to determine student outcomes. This QC work has, in turn, helped to shape the Multi-State Collaborative (see box below and also Pike, 2014; Ewell, 2015), an effort by institutions in ten states to use faculty-designed assignments to assess written communications, quantitative literacy, and critical thinking.

THE MULTI-STATE COLLABORATIVE TO ADVANCE LEARNING OUTCOMES ASSESSMENT

The MSC is an initiative designed to provide meaningful evidence about how well students are achieving important learning outcomes. The initiative foregrounds a distinctly different form of assessment than the traditional standardized test. Instead of producing reports about average scores on tests, the project is piloting the use of common rubrics applied by teams of faculty to students' authentic college work—including such things as projects, papers, and research.

The MSC is designed to produce valid data summarizing faculty judgments about students' own work, and it also seeks to aggregate results in a way that allows for benchmarking across institutions and states. The primary goal of the initiative is to provide assessment data that will allow faculty and institution leaders to assess—and improve—the levels of student achievement on a set of cross-cutting outcomes important for all disciplines. (Excerpted from www.sheeo.org/projects/msc-multi-state-collaborative-advance-learning-outcomes-assessment.)

BUILDING A CAMPUS CULTURE OF INQUIRY AND IMPROVEMENT

This essay focuses on emerging developments related to assignment design. But “assignment design” can open up other possibilities. When faculty come together to think and talk about assignments—and discuss how to craft and use more effective ones—they are engaging in the kind of reflective practice and improvement-oriented inquiry that characterizes the scholarship of teaching and learning at its best.

The latter, as many *Change* readers will know, is a term denoting a set of practices and products in which faculty bring their habits and skills as scholars to their work as teachers and to their students' learning (Huber and Hutchings, 2005). It means seeing the classroom (and other learning contexts, including those online and in the community) as sites for inquiry, collaboration, and knowledge building.

Such work can take the shape of a formal study, with findings published in a peer-reviewed journal. But it can also entail participation in campus-based learning communities where faculty reflect together on their students' learning to make—and document—improvements in their programs, courses, course activities, and, yes, their assignments.

Indeed, assignment design, as we suggest in this essay, is an especially useful focus for such work, generating critical questions about educational purposes and methods and inviting the kind of collaborative inquiry in which faculty move from seeing teaching as “my work” to seeing it as “our work.” Imagine, for instance, a group of faculty testing out different versions of an assignment in a multi-section course to understand what elements do the best job of eliciting strong student performances, or a group of faculty interested in metacognition creating and testing out assignments that have a prominent reflective element.

Thinking beyond the campus, imagine an analysis of the various genres being employed in assignments in writing-across-the-curriculum offerings (see D. Melzer, 2014, for the findings from such a study), or a study by historians or mathematicians (or any field) of the characteristics of capstone project assignments in the major and what they reveal about students' ability to integrate and apply their learning from prior courses.

Seen in this way, as a stimulus and context for faculty reflection and collaborative inquiry, the focus on assignment design is not only valuable in its own right. Such efforts can be useful to accreditation. They can catalyze other changes—opening up and informing course-transformation work, the development of course and program portfolios, and the use of student e-portfolios. And making the process and products of assignment design visible is a step toward creating greater recognition for the intellectual and scholarly work that faculty do as teachers.

Finally, as a key element in NILOA's core business—generating consequential evidence for improvement through assessment (Kuh, et al., 2015)—assignments provide actionable data to guide improvement for individual students, for the faculty member's own course, and, when seen across courses, for programs and institutions.

Assessment has been plagued by a sense that the investment in data gathering and analysis has generated few actual improvements in learning and teaching [Editor's note: See “Beyond Compliance: Making Assessment Matter,” in the September/October 2015 issue of *Change*; also “Closing the Assessment Loop” in the January/February 2011 issue]. Putting assignments at the center of assessment activity can help to close that gap by providing rich evidence of learning that both faculty and students care about and pay attention to.

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