Innovating with Purpose: The Blended Flow Toolkit for Designing Blended/Hybrid Courses

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When faculty at Seattle University asked for additional support designing blended courses that successfully integrate online and classroom learning, instructional designers at the Center for Digital Learning & Innovation created an interactive Blended Flow Toolkit to assist faculty with that request.

Introduction

Higher Education Is Increasingly Blended

The 2015 EDUCAUSE Center for Analysis and Research (ECAR) study of faculty and information technology, with more than 13,000 responses, found that "a majority (56%) of instructors reported having taught at least a few of their courses in the past year using a blended approach, one in which the course was taught partially online and partially face to face."[1] A myriad of factors lead faculty toward blended learning, not least of which is student preference. In another ECAR study, completed in 2017, students reported favoring courses that blend face-to-face and online aspects.[2] Yet faculty are generally not well versed in designing and facilitating interactive online learning activities. Faculty studies from ECAR reveal that instructors' most common use of the learning management system is distribution of course content,[3] which is a noninteractive use of online tools. Clearly, the research supports the hypothesis that many faculty could benefit from assistance with instructional design, particularly in the creation and implementation of online learning activities that move student learning beyond mere retrieval of course content.

Blended Learning: Instructions Not Included

Blended courses are challenging to design. Seamlessly combining the best aspects of online and classroom instruction is more complex than designing a course in any single modality.[4] As Jay Caulfield writes, "the focus must be on designing a student-centered class with heightened interaction despite reduced F2F [face-to-face] time. To achieve a true integration, time must be spent discussing past out-of-class activities in addition to discussing new concepts, identifying critical questions, and preparing for future out-of-class activities."[5] Knowing this, instructional designers at Seattle University's Center for Digital Learning and Innovation (CDLI) struggled to find a comprehensive yet practical set of best practices to share with faculty seeking to implement effective blended learning opportunities in their courses.

Enter the CDLI Blended Flow Toolkit

As instructional designers from CDLI searched for resources to provide a balance of theory and practical guidance, they were left with the suspicion that providing faculty a set of readings wasn't going to address the issue. Given the complexity and variability of blended learning designs, combined with the practical matter of faculty workload, lists of best practices don't provide enough just-in-time guidance for faculty while they are designing activities that effectively blend online and classroom learning.

Instead, designers opted to create interactive and flexible "thinking tools" that move faculty beyond organizing course content to focus on sequencing learning activities for both the online and classroom environments. The resulting Blended Flow Toolkit scaffolds the process of learner-centered backward design,[6] which is foundational to the CDLI Course Design Program. In particular, the Blended Flow Toolkit bases the learning sequence on the Practical Inquiry Model[7] and the Ignatian Pedagogical Paradigm.[8] These two approaches have much in common, and the latter is promoted at Seattle University as a centuries-old, holistic, and particularly Jesuit approach to education.

Background and Context

Digital Learning at Seattle University

Seattle University is a master's comprehensive, nonprofit, Jesuit institution with approximately 7,500 undergraduate and graduate students. Because the average class size is 19 students, the CDLI Blended Flow Toolkit is aimed at faculty teaching smaller classes, but faculty teaching large lecture classes should also find fruitful ideas using these tools.

Since 2013, CDLI has worked with faculty in a community of practice–based course design program. During the 10-week program, faculty learn key instructional design theories and strategies. They also design and build their own online and blended courses; the CDLI instructional designers do little hands-on building of courses.[9] CDLI has achieved success in this model by collegially and collaboratively developing faculty cohorts as self-sufficient online and blended course designers.[10]

Fully online courses at Seattle University must be approved by CDLI before enrolling students. CDLI created course review standards that faculty work toward to demonstrate distance learning designs that are consonant with the high-touch, holistic education put forth in Seattle University's mission. Originally, the main charge for CDLI was to support faculty developing fully online courses. Now CDLI also supports faculty from across campus who are building blended and technology-enhanced courses.

The Blended Flow Toolkit

Various Levels of Application

The primary goal of the Blended Flow Toolkit was to provide faculty the greatest flexibility in their use of the tool while maintaining best practices for creating effectively sequenced learning experiences for students. The team decided that an interactive web interface, displaying information at multiple levels of granularity, would best let faculty conceptualize the "flow" of learning between online and classroom modalities. These tools can be used to generate new ideas for a single learning activity or to design a multi-step lesson, a full module, or an entire course (see figure 1).
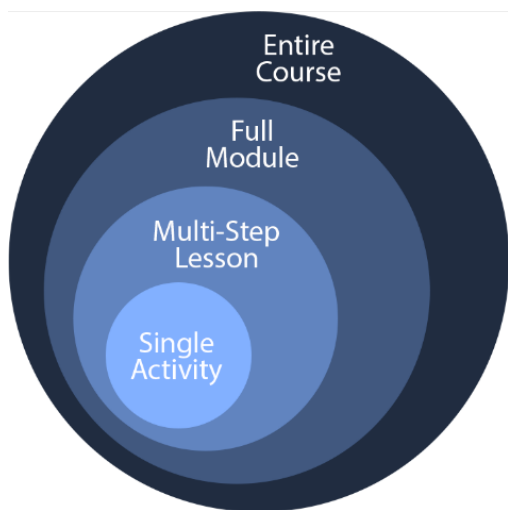
Figure 1. Levels of Blended Flow Toolkit application

What's In the CDLI Blended Flow?

There are two tools in the Blended Flow Toolkit: the Flow Map and the Flow Planner.

Blended Flow Map

The Blended Flow Map is intended for the exploratory, brainstorming stage of course design. In the Blended Flow Map learning activities are categorized in four main stages of learning:

- Set Stage
- Explore
- Dig Deeper
- Wrap Up

Elements are positioned in a circle on the map, emphasizing the iterative nature of learning. We chose Mindmeister to create an interactive map where faculty could explore learning activities at different levels of granularity.

Faculty interact with the Flow Map in a scaffolded, step-by-step manner. They first (1) select a node on one of the four main stages to (2) reveal possible substeps, which (3) can be opened to view learning activities best suited for that step, and then (4) open explanatory texts that contain pertinent considerations for either online or classroom modalities for the chosen activity (see figure 2).
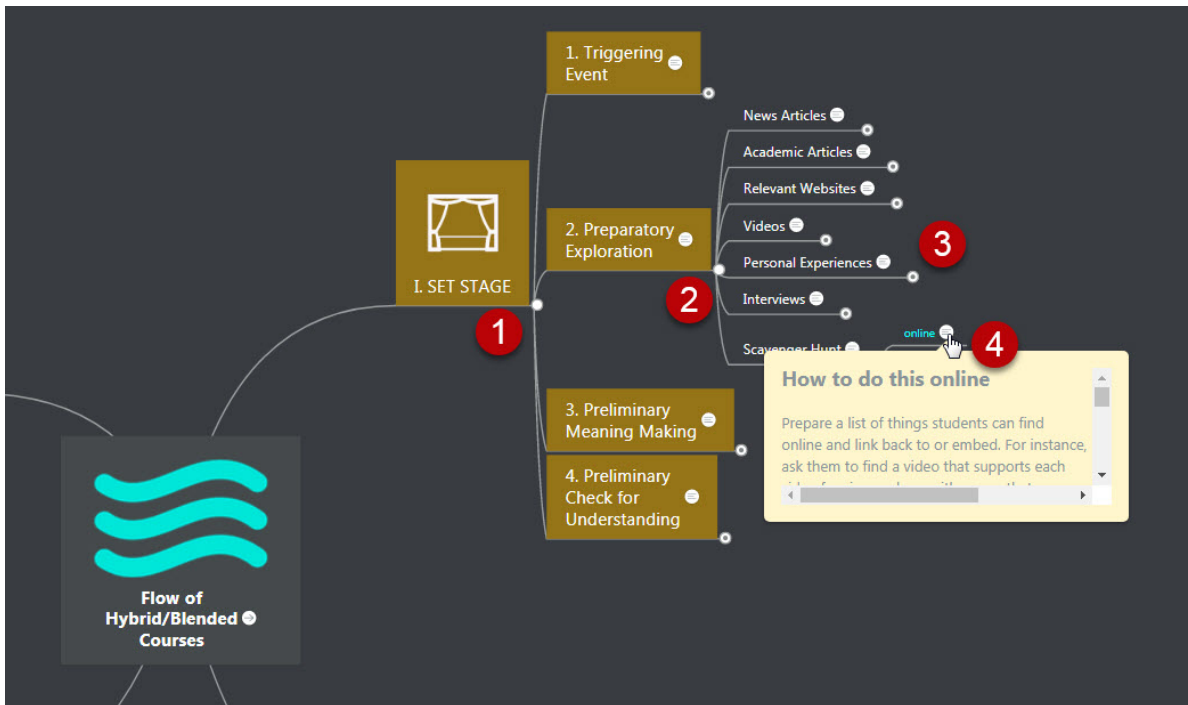

Figure 2. Blended Flow Map

Each activity, whether online or in the classroom, contains an explanation of how the activity may work within the modality, pros and cons for delivering the activity in the particular modality,[11] and tool suggestions for the modality. Here is an example of the online scavenger hunt explainer:

Preparatory Exploration: Scavenger Hunt

How to Do This Online

Prepare a list of things students can find online and link back to or embed. For instance, ask them to find a video that supports each side of an issue, along with a map that geographically charts where people fall on the spectrum, websites slanted one way or the other, or evidence of "Wikipedia revision wars" around the issue. Students can turn in the links they have found via Canvas assignment or share their links/embeds in a Canvas discussion. Scavenger hunts also make good group projects. Groups can share their findings with the rest of the class via a summary or presentation posted in a discussion or on a Canvas Wiki page.

PROS: Can improve students' online source evaluation skills. Provides a rich trove of material that can be accessed by all the students.

CONS: With large classes and long scavenger hunt list, student contributions can be unwieldy when posted.

Tools you could use:

- Canvas Discussion
- Canvas Assignment
- Canvas Wiki Page
- Padlet

Blended Flow Planner

Once we started building the Flow Map, we realized that faculty needed a way to move beyond exploring and into a more concrete process of selecting and sequencing learning activities for their courses. During testing we received feedback from faculty asking whether the tool could more closely resemble Seattle University's Canvas LMS modules interface. This feedback was an "aha" moment for us, and we began feverishly looking to build an alternative interface.

The current version of the Blended Flow Planner features a drag-and-drop module builder,[12] where faculty (1) open one of the four main stages and (2) open an appropriate sub-step. Next, they click the name of any activity to view a PDF of the explainer described in the Flow Map above. Then faculty (3) drag the desired activity over to the modules column to begin planning their module sequence (see figure 3).
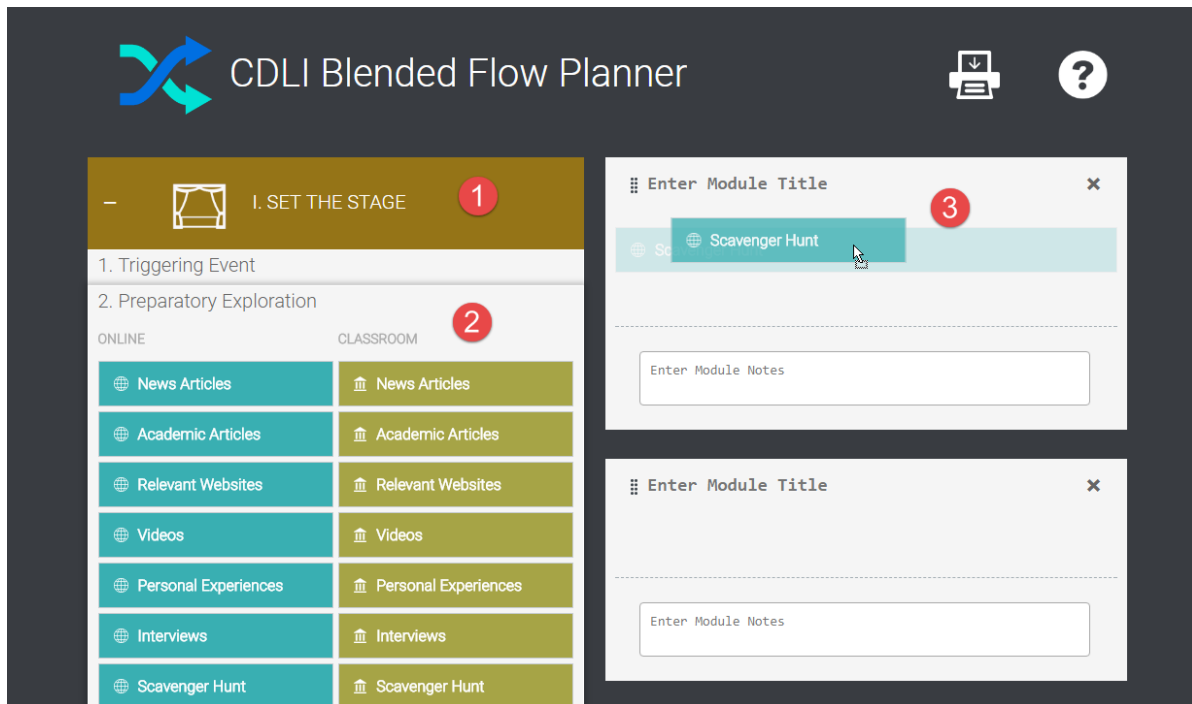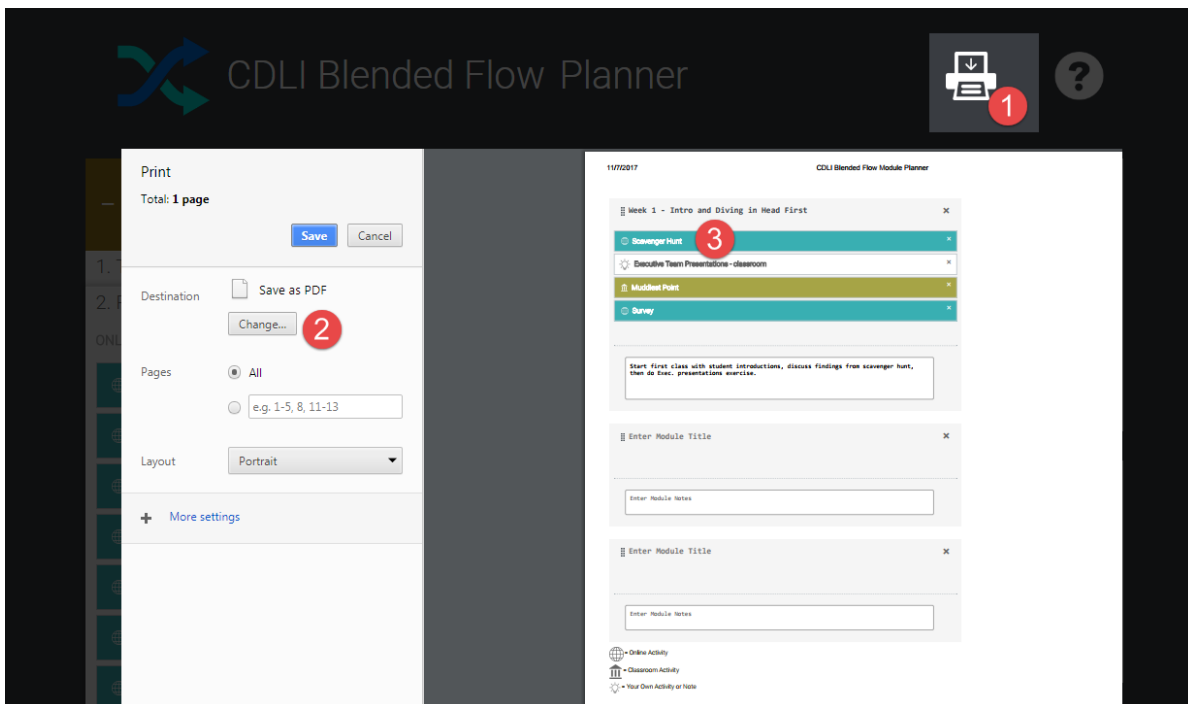

Figure 3. Blended Flow Planner

Faculty can also (1) add their own activities or notes, which can be included in a module sequence. In addition, as in Canvas, they can (2) add module titles and (3) remove any elements or modules during planning. They can also (4) add overall module notes to further explain the flow of learning between online and classroom modalities (see figure 4).
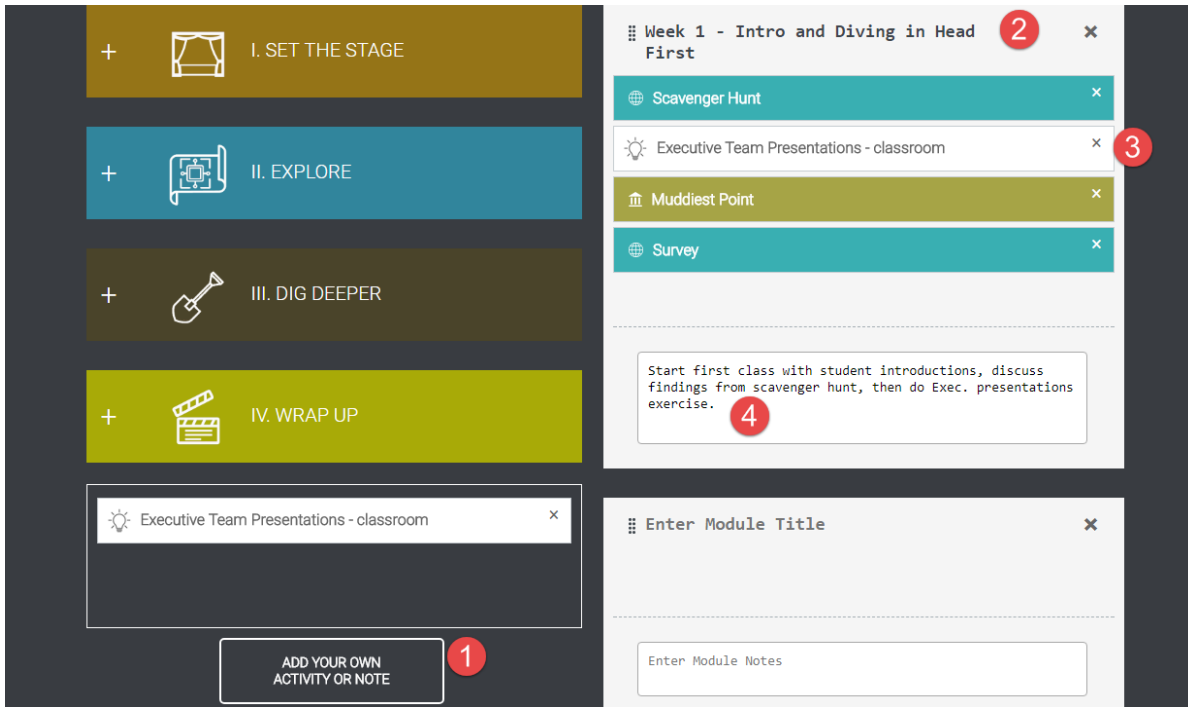
Figure 4. Specific features of Blended Flow Planner

When they're ready, faculty can (1) print their flow plan. The Flow Plan help tutorial encourages faculty to (2) change the print destination to PDF so they (3) retain hyperlinks to the activity explainers (see figure 5).

Figure 5. Printing a flow plan

Faculty Use Cases and Future Development

The examples below demonstrate how faculty have used the Blended Flow Toolkit in their blended designs, including instances in which the tool didn't meet their needs. The faculty are alumni of the CDLI Course Design Program, and they used the tools with minimal intervention from instructional designers. In-person consultations were available upon request, but most faculty ended up using the toolkit on their own.

Case #1: Organizing Learning

The first case is from an instructor in the Digital Cultures & Technology program, in a newly formed School of New & Continuing Studies. This instructor wanted to revise an existing blended course to be offered in the upcoming term. He primarily used the Flow Planner, citing the four stages (Set the Stage, Explore, Dig Deeper, Wrap Up) as particularly helpful for sequencing online and face-to-face lessons each week. This instructor noted that the tool helped him understand why he would incorporate new learning activities and instructional technologies into his course design. "Ultimately, I can feel assured that I am not having my students do some activity simply because it's 'fun' or because it's 'flashy.' Rather, I am choosing activities, and by consequence, particular tools and technologies, with purpose." The instructor stated that the tool also helped him analyze the existing activities that were already in his course. He was able to eliminate recurring activities when they didn't have a clear purpose. He found himself asking, "Is this [quiz] supposed to help set context for students? Or, do I want them to apply their knowledge by making something?"

Case #2: Managing Workload

This scaffolded approach to discovering new activities and technologies in the Blended Flow Toolkit can have unintended consequences. A professor from the College of Education, Department of Counseling and School Psychology, used the Flow Planner to design 30–40 minute online "mini classes" while he was teaching his blended course. As with our previous case, the organization of his online classes improved: "When I began using the flow plan template, several students immediately remarked that they liked the organization for the mini courses and found the progression to be reasonable and less confusing than my previous pages." However, perhaps with the excitement of all the new ideas presented in the toolkit, the professor found himself drowning in grading as the course

proceeded. "It seems to me I try to cover too much sometimes rather than focus on a salient learning outcome and approach that learning outcome from different points of view." In this case, the activity ideas distracted from designing toward learning outcomes.

Looking Ahead

The use cases above demonstrate a tension we've encountered when using the Blended Flow Toolkit with faculty. How do faculty find the right balance of activities when moving their course designs beyond content distribution? The four stages in the toolkit show promise for helping faculty sequence and progress student learning. But how can the toolkit help faculty prioritize learning activities to maintain practical workloads for themselves and for students?

This is an area we're looking into. We already mentioned our commitment to backward design—designing course outcomes, then designing activities, and later content, to align the course toward outcomes. Before more in-depth testing, our team had received feedback from the CDLI Faculty Interest Group (FIG) asking for the ability to tag chosen activities on the Flow Planner with corresponding course outcomes. Feedback in the use cases provides additional evidence that this is a valuable path forward.

We are also researching feasibility on the Flow Planner for the ability to save a work in progress and return to it. This will likely take a lower priority because there is already the ability to download a PDF. As long as faculty don't need to close their browser or restart their computer, their plans will remain intact.

CDLI is also interested in feedback from readers of this brief. What do you find useful, and why? Are there different instructional design support models that are better suited to use this tool? Let us know at cdli@seattleu.edu.

Notes

1. D. Christopher Brooks, with a foreword by John O'Brien, _ECAR Study of Faculty and Information Technology, 2015_, research report (Louisville, CO: ECAR, October 2015).

2. D. Christopher Brooks and Jeffrey Pomerantz, _ECAR Study of Undergraduate Students and Information Technology, 2017_, research report (Louisville, CO: ECAR, October 2017).

3. Jeffrey Pomerantz and D. Christopher Brooks, _ECAR Study of Faculty and Information Technology, 2017_, research report (Louisville, CO: ECAR, October 2017).

4. D. Randy Garrison and Heather Kanuka, "Blended Learning: Uncovering Its Transformative Potential in Higher Education," _The Internet and Higher Education_ 7, issue 2 (2004): 95–105.

5. Jay Caulfield, _How to Design and Teach a Hybrid Course: Achieving Student-Centered Learning Through Blended Classroom, Online, and Experiential Activities_ (Sterling, VA: Stylus Publishing, 2011).

6. Grant Wiggins and Jay McTighe, "What Is Backward Design?," in _Understanding by Design_, 1st edition (Upper Saddle River, NJ: Merrill Prentice Hall, 2001): 7–19.

7. D. Randy Garrison, Terry Anderson, and Walter Archer, "Critical Thinking, Cognitive Presence, and Computer Conferencing in Distance Education," May 2004.

8. Jesuit Institute, "Ignatian Pedagogy: A Practical Approach," 1993.

9. For further evidence of the value of cohort-based online course design models, see Mark Lieberman, "Trial and Error: Online Course Development, Better Together," _InsideHigherEd_, November 8, 2017.

10. This work was recently documented in an Intentional Futures report entitled "High Tech, High Touch: Serving Student Needs at Scale," 46–48.

11. Idea for listing pros/cons of activities in online or classroom settings: Jared Stein and Charles R. Graham, _Essentials for Blended Learning: A Standards-Based Guide_ (New York: Routledge, 2014).

12. The interface uses an open source JavaScript library called Sortable.