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Integrating learner-centered design and user-centered design for meaningful instructor onboarding: Supporting large-scale curricular changes to general education

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Abstract

Supporting instructors through large-scale curricular changes to cross-disciplinary programs such as general education is a complex challenge. In this case-based narrative, we describe how one large R1 university in the Southwest United States developed and implemented an instructor support program during a large-scale general education program redesign for a program that had not been substantively revised since 1998. This program typically offers about 500 courses each semester and is taught by roughly 650 instructors. To support the phased rollout of the new program curriculum, we designed and implemented a Quick Start program to support instructors revising courses for the new program, serving over 400 instructors during its first year of implementation.

We discuss our integration of learner-centered design principles (McCombs & Whisler, 1997; Weimer, 2013) to guide the development of the Quick Start program and user-centered design principles (Greer & Harris, 2018; Tham, 2022) to create accessible, useful, and context-driven learning content for the instructors. While these frameworks have been integrated in the past to develop learning materials for students (Jones, 2018; Shivers-McNair et al., 2018), our case-based descriptive analysis

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presents a novel application of this integration for faculty development. We describe how we integrated these principles to design, scale, iterate, and implement instructor onboarding to the new curriculum. Specifically, we offer four guiding pillars: (i) creating an aligned learning experience, (ii) building an instructional community, (iii) foregrounding an asset-based approach, and (iv) creating useful and usable materials to operationalize such an integration of learner-centered and user-centered design approaches for faculty development.

Keywords: learner-centered design, user-centered design, faculty development, general education

Large-scale curricular changes in cross-disciplinary programs such as general education are complex and multifaceted. In this article, we use a case-based approach to describe how one large R1 university in the Southwest United States used learner-centered and user-centered design principles to support instructors through the substantive reform of the general education program during the COVID-19 pandemic.

Our institution, which serves over 9,000 incoming freshmen each fall semester, had not substantively updated its general education program since the late 1990s. The initiative to revise the curriculum, which began in earnest in 2017, stemmed from both an update in requirements instituted by our board of regents and a self-study indicating that students did not see clear connections between their general education experiences and their personal or professional goals. This program revision was rooted in an effort to meaningfully engage students in disciplinary and interdisciplinary perspective-taking, reflection, and metacognition. Additionally, the program aimed to increase student agency in their engagement with the curriculum. The program, which typically offers about 500 sections of courses each semester and is taught by about 650 instructors, underwent the bulk of a large-scale transformation and transition during a global pandemic. As part of this programmatic transition, the Office of General Education

(newly formed in 2020) prioritized instructional support as a key pillar of the initiative. In this article we describe one of the major features of this support: the design and implementation of a "General Education Quick Start program" to support instructors through the transition to a new curriculum.

To support instructors through these large-scale curricular changes, we had three instructional support aims:

1. Teach instructors about the new vision and curricular features of the revised general education curriculum.
2. Provide support to instructors who are revising their courses to align with the new curriculum. This process culminated in the submission of a course proposal, demonstrating course alignment with the new curriculum, to the general education faculty review committee.
3. Create a sense of community and genuine collaboration for instructors as they work to transition their courses, particularly in light of the ongoing global pandemic.

Over the course of 2 years, our team worked to design (Year 1) and deliver (Year 2) the Quick Start for over 400 instructors revising their courses for the new program's launch in Fall 2022. This launch was part of a phased rollout, with the largest wave of course transitions occurring within the 1st year and a slowing stream of courses entering into the new program after that.

In this work, we share the intentional design decisions and framing of a large-scale instructor support program that supported a significant cross-disciplinary curricular change involving multiple stakeholders. Through this case-based descriptive approach, we aim to provide insight into how the intersection of learner-centered design and user-centered design can support the development of meaningful faculty support programs. First, we describe the basic structural and contextual components of our General Education Quick Start instructional support program, providing context regarding the timeline and participant reach. Next, we ground our design decisions and approach

in the theoretical framework of instructors-as-learners, drawing specifically on the intersection between learner-centered design (Weimer, 2013) and user-centered design (Greer & Harris, 2018; Tham, 2021, 2022). Finally, we share our four guiding pillars that ground the design features of the Quick Start structure and implementation. We conclude with a discussion and reflection on lessons learned and propose important takeaways for large-scale instructor support program designs.

Overview of the Quick Start

The General Education Quick Start was designed as a fully online, module-based, multimodal introduction to curricular elements and program requirements for the new general education program at our institution. We created these materials using our institution's learning management system because instructors were familiar with that platform and would not need to learn a new tool to participate.

One Training, Two Modalities

We developed two versions of the Quick Start: (1) the Quick Start Live-Online (QSLO), in which instructors met with us over Zoom twice a week for 2 weeks and engaged with asynchronous materials between sessions, and (2) the Self-Paced Quick Start (SPQS), which was built to be entirely asynchronous and to be completed at instructors' own pace.

While both offerings of the Quick Start had the same learning materials and goals (see Figure 1), the QSLO offered a more intensive, cohort-based experience for instructors to collaborate with peers and partner with our office for support and feedback. In live-online workshops, instructors could ask questions, troubleshoot, and workshop materials with colleagues who were knowledgeable about the new curriculum. The QSLO encompassed 2 weeks with four synchronous meetings (on Tuesday and Thursday each week) and daily asynchronous

At the completion of the Quick Start, you will be able to:
1. Recognize the key elements of the General Education Refresh vision, curriculum, and key features
2. Align course components with GE curriculum components according to fit
3. Articulate components of courses that align with GE requirements and those that may need re-tooling or additional support
4. Identify key elements of the signature assignment and reflect on ways to meaningfully incorporate it into course structure
5. Apply learning to transitioning course design elements and submitting your course through the new GE course proposal form

Figure 1. Quick Start Learning Goals

materials on other weekdays (Monday, Wednesday, and Friday). Participants also had the opportunity to attend drop-in office hours for individualized synchronous support with members of our team.

The SPQS included flexible levels of engagement. Participants self-registered and could work through the course at their own pace. The SPQS course design included a guidebook where instructors could interactively curate materials, answer reflective questions, and draft course proposal components in a structured and aligned format. Participants were also provided with opportunities to attend optional office hours, supplemental synchronous workshops, and other support offerings of their choosing.

The culminating product of instructor participation in the Quick Start (in either modality) was the generation of a course proposal form. In this form, instructors created an argument for alignment between their course(s) and the new curricular elements. The course proposal form was then submitted to the general education reviewing committee for review and approval for integration into the new general education program. This course proposal form prompted instructors to select and provide rationale for alignment with the new curricular categories, student learning outcomes, course objectives, assignments, and their pedagogical approach. (See Appendix for the course proposal form outline.)

Timeline and Participation

Prior to the launch of the Quick Start, our design process included two main phases: first, collaborative design with faculty collaborators (August 2020–March 2021) and, second, beta testing with several stakeholder groups (March 2021). We beta tested with the following stakeholders:

- faculty who had knowledge of the new general education curriculum and could provide feedback on the design and experience of the training;
- faculty who did not have knowledge of the new general education curriculum (representative users) and could provide feedback on clarity of learning materials; and
- members of the faculty reviewing body for general education course proposal forms, who provided feedback on accuracy of program descriptions and definitions, alignment with the new course proposal form, and guidance for submission nuances.

The Quick Start (both modalities) launched in April 2021. We offered 11 live-online cohorts from April 2021 to March 2022, as detailed in Figure 2. Additionally, the SPQS remained open for asynchronous engagement throughout that period.

Between April 2021 and March 2022, the QSLO served 197 registrants (177 unique individuals, several participating more than once). As of June 2022, roughly 450 individuals registered for the SPQS with 230 of those individuals considered "active users" (> 30 minutes spent in content) (see Figure 2). At the time of writing this article, over 300 course proposal submissions are under review by the general education reviewing committee. Each proposal was created by a faculty member who participated in one of the two modalities.

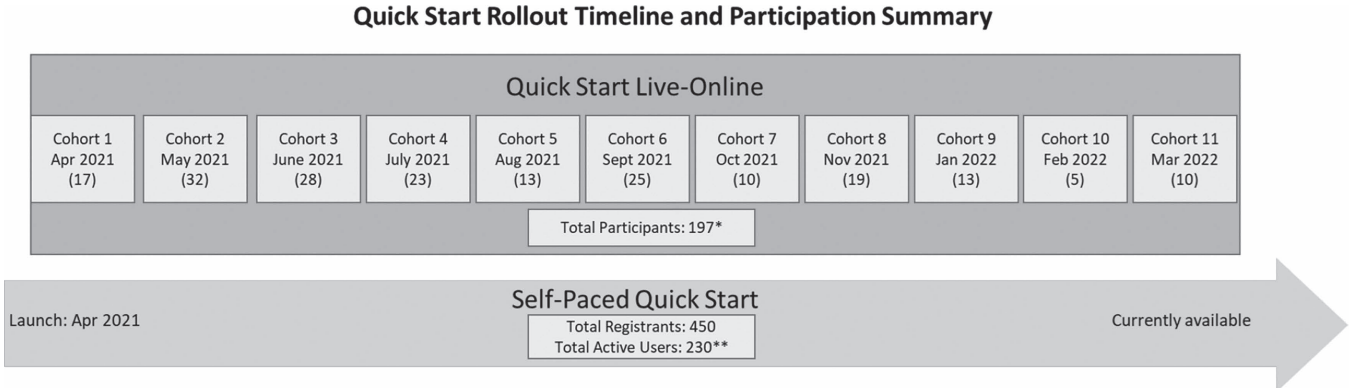

Figure 2. Quick Start Rollout Timeline and Participation Summary

**Includes repeat participation from individuals who returned to participate in additional QSLO cohorts. Of the 197 participants, 177 were unique individuals, with several opting to return and participate in multiple cohorts.*

***Active users defined as individuals who spent more than 30 minutes in the content materials.*

Design Frameworks for Quick Start

Our Quick Start audience was primarily instructors, but more fundamentally they were learners exploring new content and seeking to transfer knowledge gained into useful personal frameworks. As with any group of learners, Quick Start participants brought a diverse range of ideas, experience, and knowledge to the training. Acknowledging faculty participants as "learners" within a teaching-and-learning professional development context has long grounded faculty development (Borko, 2004; McDaniel, 1987; Shulman, 1986). As a result, we as educational developers in higher education often work to integrate and embed learning theory into the foundations of our programs, offerings, and support for faculty (Stewart, 2014; Sunal et al., 2001).

By considering the process of pedagogical reform as a learning phenomenon, we gain insight into the affordances and barriers of the learner and learning process (Mulnix, 2016). Through this approach, "how people learn is the content. Faculty members and administrators are the learners. Moving from novice to expert in understanding and applying learning theory is the learning goal" (Mulnix, 2016, p. 2). Furthermore, helping faculty see the parallels between their own learning processes and their students' learning experiences in the classroom can strengthen pedagogical reform efforts (Mulnix, 2013, 2016).

Learner-Centered Design

In sync with this tradition, we were inspired by scholarship in the domain of learner-centered design (McCombs & Whisler, 1997; Weimer, 2013), which includes practices such as instructional design and backward design (Wiggins & McTighe, 2005). It opposes traditional teacher-centered methods of instruction that involve a unidirectional flow of information from an authoritative teacher to passive students. According to Weimer (2013), learner-centered teaching involves five key principles: (i) it changes the role of the teacher from an authority to a facilitator; (ii) it challenges the balance of power in the classroom;

(iii) it uses content instead of covering it; (iv) it encourages students to become responsible for their learning; and (v) it is mindful about the purposes and processes of evaluation.

We focused on principles i, iii, and iv in Quick Start development to facilitate live sessions, to create interactive materials that were process focused instead of product focused, and to encourage instructors to take ownership of the new curriculum and make it their own through their course proposal form. Additionally, many of our design decisions highlighted alignment between the instructors' work in the course and the review criteria for the general education reviewing committee, addressing Weimer's fifth principle.

User-Centered Design

Additionally, we are also cognizant that our faculty were not just learners but also "users" of our materials. This perspective enabled us to draw from user-centered design scholarship (Greer & Harris, 2018; Tham, 2021, 2022), which helped us recognize that each design decision created by our team, both intentional and unintentional, could substantially impact the learning environment and learner outcomes (Creative Reaction Lab, 2018). As such, we found it essential to bring in user-centered design principles to our design process, ranging from the ways we empathized with users, the ways we ideated and prototyped our materials, and how we tested and refined the product (d.school, 2018). User-centered design values audience-centeredness, accessibility, reflexivity, and iteration in design practice and provides a useful framework for iterating on and improving our materials throughout this 2-year process.

In alignment with these user-centered design best practices, we worked to approach all design decisions and iterations by partnering with our users to center the user experience, gather feedback, and continually refine our materials. By focusing on actual participants' experiences, we were able to adopt a user-centered framework that emphasized how instructors navigated and experienced the Quick

Start in context. It was also highly important to our team to adopt a flexible and sensitive approach, avoiding a rigid or enforcement-based delivery approach (Harrington et al., 2019). We wanted, as best as possible, to be sensitive to the needs, desires, and constraints of our main audience—the instructors who would use our instructional materials.

While these frameworks have been integrated in the past to support learning material design for students (Jones, 2018; Shivers-McNair et al., 2018), we present a novel application to support the development, implementation, and iterative revisions of a large-scale instructor support program. We describe our integration of learner- and user-centered design using a three-pronged structural organizer: begin with an evidence-based learning goal and then apply learner-centered and user-centered design to meet that goal. To assist such an application, we offer four guiding pillars that supported our efforts to address the aims of our faculty support program through the Quick Start (see Figure 3). Using these guiding pillars, we share four key design features that shaped the Quick Start: backward design; a collaborative, multivocal design process; inclusive practices; and iterative design and revisions.

Guiding Pillars for Integrating Learner- and User-Centered Design

To address our three instructional support aims for instructors during the general education redesign, we drew from learner-centered and user-centered design elements and focused on four guiding pillars (see Figure 4).

First, it was highly important to us to create an aligned learning experience for instructors, from the Quick Start outcomes to the activities and the final submission of the course proposal form. By applying backward design to our training materials, we modeled how to create alignment across learning materials. We also offered multiple learning pathways for instructors to choose how they engaged with the

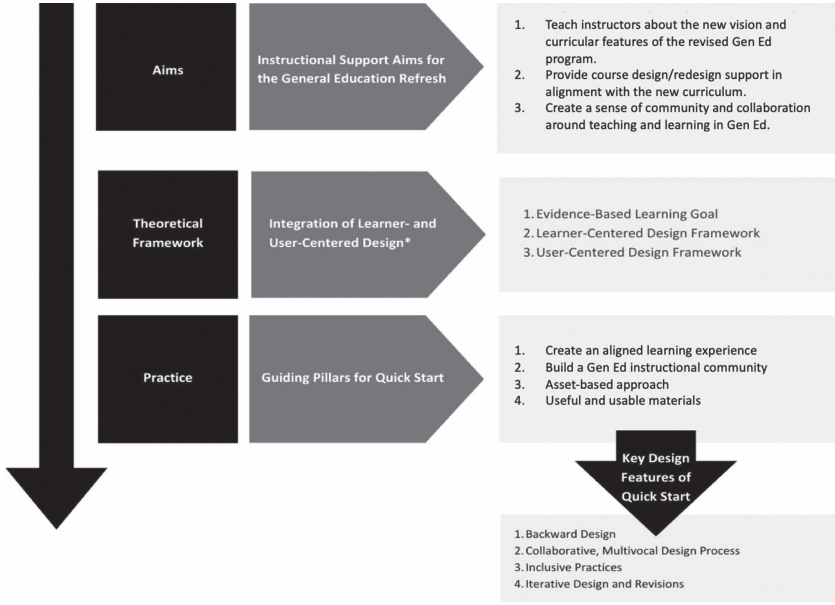

Figure 3. Conceptual Model for Theoretical Approach to the Design and Implementation of the Quick Start Instructor Support Program

**These three approaches are used as a structural organizer for presenting the key design features.*

1. **Create an aligned learning experience:** Apply backward design to create and model aligned learning experiences for instructors in the Quick Start.
2. **Build a general education instructional community:** Create community within a previously disparate and siloed general education program (Eddy & Garza Michell, 2012).
3. **Asset-based approach:** Encourage instructors' ownership of the new curriculum by promoting an asset-based approach across our work with the instructors, and retaining instructor autonomy in their goals for student learning (López, 2017).
4. **Useful and usable materials:** A soft touch to participation requirement and a focus on creating useful materials to welcome instructors into the partnership.

Figure 4. Quick Start Guiding Pillars

materials and ensured both the self-paced (fully asynchronous) and live-online (both synchronous and asynchronous) pathways aligned in terms of outcomes and activities.

The second and third practices were in response to the previously de-centralized general education program at our institution. Prior to January 2020, general education was managed through individual colleges, without a central office for support. Because general education is so large, many instructors felt disconnected from the program and described a lack of connection between their courses and the rest of the curriculum as a result (Horton et al., 2021). As such, we wanted to create community in a disparate program while also increasing motivation among instructors to engage with and take ownership of the new curriculum. To create community within the Quick Starts, we encouraged interactive collaboration throughout the QSLO sessions. Additionally, we designed sessions to include time to share and workshop ideas in small groups through the breakout room feature in Zoom, modeling an asset-based approach. In these workshops, we drew from instructors' experiences and wisdom in teaching general education and paired our discussions with instructional resources about the new curriculum.

The fourth practice helped us meet our institutional need to get as many successful proposals through the approval process as possible to meet general education enrollment needs. We focused on making the learning materials not only useful but also usable in instructors' processes completing their course proposal forms. We prioritized usefulness and usability through an iterative feedback process that centered instructors' needs and allowed us to continually improve our materials.

Designing the Quick Start

With the four guiding pillars in mind (Figure 4), we began prioritizing design features for the Quick Start in our learning management system based on the following assumptions and values we brought to the training:

- We knew that a new cross-campus curriculum refresh should invite learners into the learning process by drawing on their experiences, expertise, and values for teaching and learning.

- We knew that we wanted this professional development to be a collaborative integration between instructors' personal goals, values, approaches to instruction within their disciplines, pedagogical approaches, and course context, as well as the redesigned curricular structure of the new general education program and curriculum.
- We knew that we wanted instructors to see working with our office as a partnership. We hoped they would view materials and training as helpful guidance first and foremost, with useful materials that helped them get their course proposals approved.

Following the collaborative and inclusive faculty partnerships in the curriculum design process, we aimed for a continuation of this mentality into the onboarding support process for instructors who were transitioning courses into the new program or proposing new courses.

Our key design features included:

- applying **backward design principles** to all onboarding and training content materials;
- establishing a **collaborative design and content creation** process that incorporated many voices at each stage;
- using **inclusive design processes** to serve instructors with many abilities and backgrounds; and
- **iterative revisions** based on user-centered design practices.

We organize our descriptions of the four key design features using the following structure:

1. **Center an evidence-based learning goal** or rationale for each design, implementation, and iteration decision during educational development. These goals were aligned with evidence-based teaching practices for two primary reasons: to foster instructor learning and to model teaching practices for instructors to use in their courses.
2. **Learner-centered design** informed how we implemented the goal and shaped the learning experiences associated with that goal.

Table 1. Relationship Between Guiding Pillars, Pillars in Practice, and Design Features for the Quick Start Design

Guiding pillars	Pillars in practice	Design features
Create an aligned learning experience.	Align outcomes, activities, and the course proposal form for learners. Integrate instructors' goals and the goals of the curriculum in workshop-style sessions.	Apply backward design principles to all onboarding and training content materials.
Build a general education instructional community.	Establish a partnership between instructors and our office; create a collaborative integration between instructors' goals and curricular goals; and invite learners into a collaborative learning experience with their peers.	Establish a collaborative design and content creation process with many voices.
Foreground an asset-based approach.	Invite learners into a learning process that draws on their experience, expertise, and values.	Incorporate inclusive design processes to serve instructors with many abilities and backgrounds.
Develop useful and usable materials.	Establish a partnership between instructors and our office and create materials that help instructors achieve their goals.	Make iterative revisions based on user-centered design practices.

3. **User-centered design** informed how we implemented the goal in the design of our online platforms and tools we built as part of instructors' learning environments.

The following sections each begin with an overview of the learning goal, followed by discussion of how learner-centered design and user-centered design were applied toward that goal.

Backward Design

Goal: Create and model an aligned learning experience. By using backward design in our Quick Start materials, working from overarching outcomes to daily activities, we aimed to model aligned course

Table 2. Summary of Backward Design Application

Goal	Learner-centered design	User-centered design
Create and model an aligned learning experience.	Support instructors in revising their course and getting it approved for the new program.	Minimize obstacles transitioning from learning about the program to proposing a course.

design for our instructors-as-learners. Through these activities, we focused on applying ideas from the "curricular tour" to an instructor's specific course context.

Learner-centered design: Support instructors in revising their course and getting it approved for the new program. The primary goal of instructors completing the Quick Start was to successfully propose their course for the new general education program. Broken down into manageable stages, this included (1) learning about the new general education requirements and curriculum, (2) revising their existing course materials, and (3) completing a course proposal form that needed to be approved through the appropriate channels. In the previous curriculum, this process was facilitated through a syllabus review. For the new program, we updated the process with a course proposal form completed online, with details about learning outcomes, major assignments, course objectives, related attributes, and other details about the course. We used the course proposal form as a key driver for the Quick Starts, as this form was the final deliverable instructors had to create to propose their courses (see Figure 1 for Quick Start learning goals).

After instructors completed their course proposal form, the form was reviewed by the general education reviewing committee made up of cross-disciplinary faculty charged with the review and approval of general education courses. To make this process learner centered, our instructional team partnered with the committee as advocates for instructors. This included attending committee meetings to understand the stated values, goals, and expectations of the review committee and acting as a support resource and collaborator in the creation of the course proposal form. This new document encompassed all

course design elements that required review by the committee and replaced the traditional process of syllabus review. (See Appendix for the course proposal form outline.)

User-centered design: Minimize obstacles transitioning from learning about the program to proposing a course. We applied user-centered design in this process by focusing on minimizing differences between learning content in the Quick Start modules and the sections of the course proposal form. Quick Start modules were designed to parallel the course proposal form: walking learners through each element of the curriculum and allowing them to make decisions, create rationales, and curate materials as they progressed through the Quick Start. See Table 3 for parallels between the course proposal form and Quick Start modules.

Table 3. Course Proposal Form Sections With Corresponding Quick Start Modules

Section of course proposal form	Corresponding Quick Start module(s)	Details
Course details: Select course category and attributes and share rationales.	Module 2: Choosing a Curricular Category Module 3: Choosing Your Attribute(s)	Readings, videos, and handouts provide details and examples of curricular categories and attributes in Modules 2–3.
Student learning outcomes (SLOs) & proposal additional SLOs	Module 1: Overview of the New Gen Ed	Student learning outcomes from each curricular category are introduced in Module 1, and more detail is provided in Modules 2–3.
Course objectives	Module 4: Creating Effective and Aligned Course Objectives	Includes videos, readings, and FAQs about course objectives
Signature assignment(s) details	Module 5: Creating Signature Assignments	Includes videos, readings, a handout, a signature assignment design checklist, and a brainstorming resource for designing signature assignments
Pedagogical approach and contextualizing teaching strategies/activities	Module 6: Tips, Examples, and Resources	Includes a video and handouts for creating an effective course proposal

Table 4. Summary of Collaborative, Multivocal Design Process

Goal	Learner-centered design	User-centered design
Build a general education instructional community for faculty.	Create opportunities for peer collaboration and mentoring.	Make iterative updates collaboratively.

Collaborative, Multivocal Design Process

Goal: Build a general education instructional community for faculty. We began building community by incorporating faculty voices and expertise from the start of this process. Our team established Faculty Coordinators as cross-disciplinary faculty (hired at 0.4 full-time equivalency) for their contributions and expertise to the development of the new general education curriculum refresh. Faculty Coordinators participated in the Quick Start content creation process and helped to create readings, videos, and supporting resources to introduce instructors to each component of the new curriculum. By partnering with faculty, we created a Quick Start experience of faculty informally talking to faculty, instead of a top-down training approach.

Learner-centered design: Create opportunities for peer collaboration and mentoring. We partnered with Faculty Coordinators for Quick Start design primarily for their content expertise and deep knowledge of the curriculum and policy development. However, we had several additional goals with this partnership. First, it was important that the content delivery highlighted many voices and perspectives. Second, it was important that faculty members have the opportunity to hear from peers undergoing the same conceptual shift and transition within the general education program to build rapport and a sense of instructor community. Finally, it was important to situate the learning environment within a support structure that understood faculty experiences.

In alignment with these goals, Faculty Coordinators worked collaboratively with the instructional support team to create and film introductory videos to the content topics. They also developed readings that

provided additional details and rationales for the curricular elements within their areas of expertise. Finally, several Faculty Coordinators created additional support materials (e.g., worksheets, "tips and tricks," and supplemental resources) to augment their content areas. For the QSLO sessions, the Faculty Coordinators and instructional support team adapted these materials into workshops that balanced content coverage, learning transfer activities, and space for questions and discussion.

User-centered design: Make iterative updates collaboratively. The collaborative effort between the educational developers on the instructional support team and the content-expert Faculty Coordinators occurred as an iterative process while the new curricular components of the new general education program were finalized. Developing materials mirrored the structural developments in the general education curriculum, which in turn provided a conceptual space to flesh out the nuances of the curriculum in real time. As a result, the Quick Start became the central location for the most up-to-date curricular descriptions, requirements, and policies for general education.

Inclusive Practices

Goal: Center inclusion through asset-based teaching. One of the foundational goals in the design and implementation of the Quick Start was a commitment to designing an inclusive and equitable learning environment. Most importantly, we focused on the learner experience and contexts for engagement with the Quick Start. As the general education program rollout happened during the COVID-19 pandemic, it was critical to prioritize safety, flexible choices, and an asset-based approach to our partnership with instructors. As a result,

Table 5. Summary of Inclusive Practices

Goal	Learner-centered design	User-centered design
Center inclusion through asset-based teaching.	Allow instructors to self-select level of engagement based on their needs.	Provide multiple modes for engagement.

the Quick Start was designed for fully online learning offered in two modalities to provide instructors with multiple pathways to engagement. Finally, designing the Quick Starts as a supportive guide for aligning instructors' previous experiences and course goals with new curricular requirements communicated our asset-based approach.

Learner-centered design: Allow instructors to self-select level of engagement based on their needs. The Quick Start prioritized learner autonomy by providing multiple options for instructor engagement. First, instructors were asked to evaluate based on their learning needs and time constraints whether they would prefer a fully self-paced, asynchronous learning experience or a cohort-based, guided learning experience that included live-online workshops. For the SPQS, instructors were provided suggested pathways through the materials that maintained full autonomy over their exploration process. They also had the opportunity to attend supplemental workshops and consultations with instructional support team members or Faculty Coordinators, if desired. For the QSLO, instructors were always provided with two options for live session meeting times to accommodate busy schedules. When instructors were unable to attend the live sessions, they had the option of watching a recording of the live session.

User-centered design: Provide multiple modes for engagement. Both modalities of the Quick Start (Self-Paced and Live-Online) provided multimodal content delivery in order to create an inclusive learning environment for the instructor participants. These content delivery modes included:

- short videos with closed-captioning and timestamp labels to set time-investment expectations;
- readings with HTML headers, screen reader accessibility, external-opening links, and timestamp labels to set time-investment expectations;
- websites and web pages set to open as external links for easy navigation;
- infographics and Quick Sheets to provide visual representations of written content information; and

- contact information for content creators for each curricular area to follow up with specific questions.

In addition, instructors had multiple options for selecting additional support from our team during the Quick Start process. Instructors could ask questions during the QSLO workshops, drop by open office hours with someone from our team, schedule with us using Calendly, or email us with questions about their course proposals.

Iterative Design and Revisions

Goal: Create useful materials for instructors to achieve their goals. Creating both useful and usable materials required iterative revisions based on user—in our case, instructor—feedback (Rose & Reimar, 2022). To prioritize iteration, we created multiple channels for feedback from a variety of stakeholders in the Quick Start. Our process involved three key feedback mechanisms. First, we developed a brief survey strategically linked in each module that encouraged participants to provide anonymous, optional, section-specific feedback about their experience. A member of our team was responsible for monitoring these responses and kept a tracking sheet of the feedback and necessary follow-ups. Second, we regularly gathered global feedback from learners in feedback sessions (see "Learner-centered design" below). Third, we collected navigation and usability feedback throughout the learning modules (see "User-centered design" below).

Learner-centered design: Regularly gather and address global feedback from learners. We gathered global feedback on instructors'

Table 6. Summary of Iterative Design and Revisions

Goal	Learner-centered design	User-centered design
Create useful materials for instructors to achieve their goals.	Regularly gather and address global feedback from learners.	Collect feedback and evaluate usability to improve navigation and overall experience.

learning experience and uptake of our materials through the above feedback survey, as well as meeting with other cross-campus stakeholders. For example, we also met with the general education reviewing committee, Faculty Coordinators, and the Office of General Education team to gather feedback throughout the 18+-month period of the Quick Starts. By triangulating feedback, notes, and observed patterns, we were able to make responsive changes to our materials, such as clarifying curricular terms, adding additional high-touch support opportunities, or revising our course proposal form.

We also held feedback sessions with instructors on the course proposal form to uncover opportunities to clarify and adjust the form. In these sessions, we gathered insights as to what was working well with the form, what needed clarification, and how the design of the document and the learning materials that preceded it were working for participants. For example, the original course proposal form included a section where instructors described their pedagogical approach and contextualized teaching activities in their course. We received feedback from instructors that these prompts were vague, and we heard from the general education reviewing committee that these sections were often not filled out with enough detail to assess the course effectively. To address these gaps in our training materials and workshops, we created a guidance video for the Quick Start modules and added guidance to the course proposal form itself. See Figure 5 for the revised section of the form.

User-centered design: Collect feedback and evaluate usability to improve navigation and overall experience. By collecting feedback about navigation/usability of the modules and written content, we could make changes quickly, between and during iterations of the Quick Start cohorts. For example, one instructor requested examples of course proposal forms representing each curricular category. In addition to adding examples to the modules, we incorporated those examples into our workshop discussions. In terms of user-centered design, we focused on user experience indicators throughout 11 cohorts of the QSLO and SPQS participation. We considered

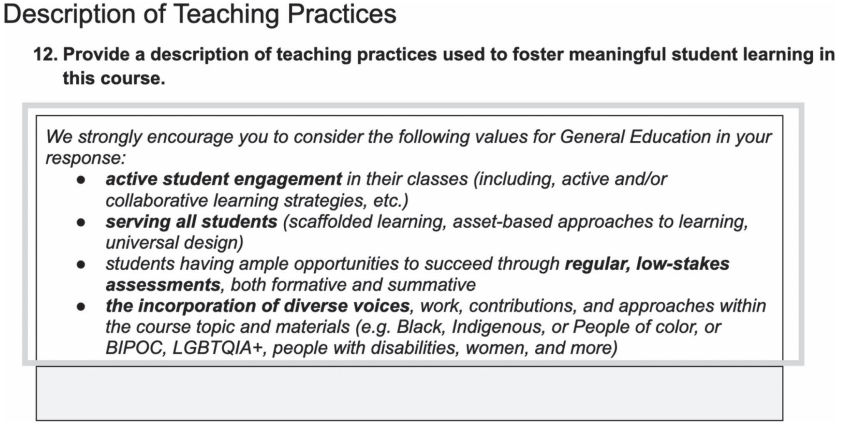

Figure 5. "Description of Teaching Practices" Section of the Course Proposal Form

Note. Added guidance highlighted by the box.

usability, or as the ISO (0241–11) defines it, "the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use," and focused on efficiency, clarity, and feasibility of access (ISO, 2018). See Table 7 for some examples.

Finally, our team applied user-centered design principles to evaluate the usability of the Quick Start through a heuristic evaluation. A heuristic evaluation applies standardized guidelines to evaluate a design, and we used Nielsen's (1994) usability heuristics for user interface design to prioritize design changes. Key recommendations and how they were implemented have been listed in Table 8.

By continually gathering feedback from multiple stakeholders, including participants, facilitators, content experts, and the general education reviewing committee members, we aimed to create a responsive, iterative environment for Quick Start development and revisions. This process allowed us to make thoughtful changes over time, which allowed iterations to be scalable to a large program with many needs and types of participants.

Table 7. User Experience Indicators, Design Parameters, and Evidence

User experience metric	Design parameter	Evidence
Efficiency	Course completion time	Stakeholders had concerns about the amount of time our users would take for task completion. We had fairly consistent completion rates ranging between 4–8 hours, which indicates our design was efficient for our target users.
Clarity	Information architecture	Participants regularly commented on the clear organization and ease of use of the Quick Start modules. Example: "I feel things are clearly laid out and I know exactly what I am supposed to be doing. Thanks for an organized approach to helping refresh my course."
Feasibility of access	Content available in multiple modalities	Survey feedback indicated participant needs for additional Zoom sessions, asynchronous materials, and time to ask questions were met by our varied materials and opportunities for engagement. Example: "I really enjoyed the mix between online asynchronous activities and live sessions—I feel the live sessions helped me the most in brainstorming, troubleshooting, or getting inspiration from others."

Table 8. Activated Insights From Our Usability Heuristic Evaluation

Recommendations from the heuristic evaluation	Revision(s) made to the Quick Start
Match content with users' mental models of what they would be *doing* in each module. Reword modules to make them verb-centric to clarify their purpose.	We updated module titles to clarify their purpose as suggested. Examples: • Module 2: Choosing a Curricular Category • Module 3: Choosing Your Attribute(s) • Module 4: Creating Effective and Aligned Course Objectives
Divide text into manageable chunks to reduce cognitive load: it is difficult to read long texts on single web pages.	We revised the readings throughout the modules to use headers, chunked the text to be skimmable and navigable, and aimed for less than 300 words per page.
Make navigation easy: Include an "Important Links" tab in the navigation bar that has everything that users might need easy access to, such as the guidebook, course proposal submission form, who to contact for help, etc.	Added "Introduction and Important Links" to the "Start Here" module at the top of the course. This serves as a simplified landing page for downloadable documents such as the course proposal form and the interactive guidebook.

Discussion and Reflection

What the Quick Start Helped Us Accomplish

The Quick Start helped us accomplish key learning/onboarding goals for instructors during a large-scale and rapid transition of the general education program to a new curriculum during a pandemic. First, the Quick Start provided a fully online, self-directed pathway to learning about the new general education vision, curriculum, and requirements. Second, it provided a guided structure for instructors to curate the materials and mindsets necessary for creating a successful course proposal form. This guided structure underwent iterative updates based on user feedback and review committee conversations. Finally, it created movement toward building a foundational community around teaching and learning in general education through relationship building with individuals, co-teachers, and participant cohorts.

In addition to helping us accomplish these three original instructional support goals, the Quick Start also helped to accomplish several relationship-building goals. Our design approach and user-centered iterative redesign created a supportive learning environment that aimed to foster creative freedom over mandated compliance during a very large curricular restructuring at our institution. It also supported relationship and trust building between the educational developers in a brand-new office (the Office of General Education) and faculty from across disciplines. It also allowed us to bring a pedagogy of care (Cavanagh, 2016; Gupta, 2021; Owusu-Ansah & Kyei-Blankson, 2016) to our academic community during a global pandemic with participants juggling overfilled schedules, responsibilities as faculty members, and public health concerns.

Success Indicators

Several indicators can speak to the effective reach and impact of elements of the Quick Start program. Most notably, the Quick Start

served roughly 400 instructors over a 1-year timeframe in the rapid transition of general education at our institution. The scale of this type of instructional support offering was unique at our institution. For example, QSLO resulted in a 87.8% course proposal submission rate by participants who completed the training. This number was both higher than anticipated and a testament to the usefulness of the program in supporting the proposal development process. Finally, the team received many positive testimonials regarding participant experience during the Quick Start. Some of these testimonials are provided below.

Organization and materials:

- "What a great start to the training! I feel things are clearly laid out and I know exactly what I am supposed to be doing. Thanks for an organized approach to helping refresh my course. :)"
- "The Quick Start was a wonderful course. Very well organized, well explained and instructors willing to help us. I learned a lot of important information very well-delivered."

Live sessions and workshops:

- "This training was so helpful to learn the new Gen Ed program and to get the course proposal in good shape needed to get approved. I really enjoyed the mix between online asynchronous activities and live sessions—I feel the live sessions helped me the most in brainstorming, troubleshooting or getting inspiration from others."
- "I have taken the live online multiple times and each time I get something new out of it. This process has helped me in so many ways to reimagine possibilities for the courses I teach. The team that have led these courses are professional and dedicated and should receive a medal, as should everyone who is charged with getting this major initiative up and running. Kudos to all!"

Key Lessons Learned

As we reflected on this process of design and implementation, several key lessons emerged that we would like to pass along to this community of readers. First, we found that the benefits of flexible engagement informed by user-centered design principles extended beyond the cognitive aspects of learning and into the social, emotional, and affective spaces. Instructors engaged with the Quick Start during a tumultuous time of the COVID-19 pandemic and during a large-scale redesign of the general education curriculum that hadn't been revised in over 20 years. As an initial design priority, flexibility aligned with our core value of inviting instructors into this process as colleagues and collaborators. However, we found that flexibility additionally helped with the social and emotional aspects of this process by creating an environment for fostering creativity, trying out new ideas in a dedicated safe space, and reinvigorating a passion for teaching and innovating among peers in an energizing and supportive atmosphere. In contrast with a compliance-based approach to alignment with the new curriculum, our flexible approach encouraged buy-in and taking ownership of the new requirements and fostered creative thinking.

In a similar vein, our asset-based approach also aligned with learning-centered design principles as well as pedagogies of care practices (Cavanagh, 2016; Gupta, 2021; Owusu-Ansah & Kyei-Blankson, 2016) to help ease this transition during the pandemic and a radical change to the program and how we wanted our instructors to think about teaching. Our approach moved beyond the instructor-as-coach or instructor-as-facilitator roles, and we were able to create vulnerable and trusting relationships with many instructors by sharing our experiences as instructors alongside our training materials and activities. These approaches were not only rooted in learner-centered teaching but also proved especially essential during the pandemic and because we were asking so much of these instructors in terms of rethinking

their course designs and teaching approaches for the new program. By creating a reciprocal relationship of sharing, questioning, and brainstorming new ideas, instructors could think creatively in a supportive, collaborative environment.

We reinforced these first two lessons learned with our collaborative and iterative approach to design, which emphasized active listening and centering instructors' voices in design choices. Collaboration in all elements of the Quick Start content and learning materials was essential to this process. From a strategic standpoint, Faculty Coordinators were integrated into the content design and delivery from the beginning, providing depth of experience and breadth of perspectives that allowed us to be responsive in our collaborative design work. From a relational perspective, this partnership created a "faculty talking to faculty" learning atmosphere for our instructors, which was critical for buy-in and continued engagement with general education, as evidenced by 18 repeat participants in the QSLO alone. Faculty Coordinators brought content expertise and teaching experience that related directly to our instructors' lived experiences at our university. This approach created more cohesion and opportunities for conversation and co-learning than a more top-down and compliance-based approach would have.

Equally important in our collaborative design process was our focus on constant iterations. We knew based on user-centered design principles that seeking feedback would be important for creating a better product and a positive experience for instructors navigating our online training materials. The listening component to this iterative process allowed learners' voices to be heard, valued, and activated in this learner-centered design process. It also allowed us to adapt Quick Start support alongside an evolving curriculum, which helped establish sustainable processes for our instructor support development moving forward. These moments of feedback and listening allowed us to continually flesh out how our support would change with updates to policies and processes in general education.

Concluding Remarks

Our case-based narrative underscores the usefulness of applying interacting theoretical frameworks that forefront instructors as both learners and users in faculty development programming. We use a novel approach of integrating learner-centered design (McCombs & Whisler, 1997; Weimer, 2013) and user-centered design (Greer & Harris, 2018; Tham, 2022) to design, implement, and iterate a large-scale, cross-campus instructor support program. To the best of our knowledge, this interacting framework has not been specifically applied to faculty development programs. This unique approach is grounded in the acknowledgment of faculty participants as "learners" and "users" within a teaching-and-learning development context. It brings industry practices and innovations from design thinking and user-centered design to academic and learning design while also grounding the theory work in learning theory from the scholarship of teaching and learning. We propose this theoretical framework not only as a useful approach to intentional program design but also as grounding for the implementation and iteration stages of faculty development programming.

In the face of large-scale curricular changes in our large general education program, we knew that partnering with instructors and providing meaningful support was critical to the success of the program rollout. The scale and scope of this challenge created the need for careful design consideration. The learner-centered design framework focused our attention on the instructors as a community of diverse learners. This approach allowed us to create a program that served roughly 400 instructors over a 1-year period during the ongoing effects of a global pandemic. The user-centered design framework focused on our instructors as users and consumers of online materials. This approach focused our attention on creating useful, usable, accessible, and easily navigable materials for a range of user experiences. The combination of the two frameworks also helped us to cultivate some of the affective factors that contribute

to meaningful learning experiences: asset-based approaches, community support, and active listening to participant feedback. These affective factors aided in the development of relationships throughout the process, contributing to our core value of partnership and collaboration rather than top-down compliance with requirements and policy.

Biographies

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Conflict of Interest Statement

The authors have no conflict of interest.

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Appendix. General Education Course Proposal Form Outline

Part 1: Course Information

Part 2: Curriculum Category Selection and Rationale

Select Exploring Perspectives or Building Connections core course category and provide rationale.

For Exploring Perspectives: Select ONE perspective: Artist, Humanist, Natural Scientist, Social Scientist.

Provide Rationale: How and why is this course Exploring Perspectives? Please describe how students will engage with the approaches and ways of reasoning of the disciplinary perspective you have selected. We strongly encourage you to include in your response:

- a description of how students will be immersed in this disciplinary perspective's ways of thinking, knowing, and doing (e.g., what kinds of readings, videos, lectures, or other course material will help students understand what is involved in taking this disciplinary perspective?)
- specific examples of the ways in which students will engage with the disciplinary perspective (e.g., specific assignments that practice the tools and methodologies of this disciplinary perspective)

For Building Connections: From which perspectives (disciplines, social positions, or otherwise) does this course build connections? (Two responses required)

Provide Rationale: How and why is this a Building Connections course? Please describe how students will explore the course's topic using the unique contributions of knowledge, skills, methodologies, values, and perspectives from at least two distinct disciplines and/or social positions. We strongly encourage you to include in your response:

- a description of how students will be immersed in <u>each</u> perspective's ways of thinking, knowing, and doing (e.g., what kinds of readings, videos, lectures or other course material will help students understand what is involved in taking this perspective?)
- specific examples of the ways in which students will engage with <u>each</u> perspective (e.g., specific activities and/or assignments that practice the tools and methodologies of each perspective)

- how the course encourages students to build connections between the perspectives it considers (e.g., in what ways or through what activities do students reconcile, contrast, synthesize, or juxtapose these distinct perspectives?)

Part 3: Attribute Selection and Rationale

Select course attributes and provide rationale. For each attribute you are proposing, please describe:

- The ways in which the course emphasizes the skills, contexts, and/or methodologies of that attribute.
- How the attribute operates as an underlying thread within your course.

We strongly encourage you to include in your response:

- A description of how your course will meet any specific attribute requirements
- The ways in which student engagement with the attribute will be integrated across the course (e.g., course readings, activities, materials, assignments/assessments)
- Alignment between activities and assessments with the attribute's student learning outcome

Part 4: Student Learning Outcomes and Course Objectives

Part 5: Signature Assignments Details

All General Education courses are required to have one or more signature assignments. These signature assignments will be included in students' learning ePortfolios and allow them to reflect on their General Education Experience. Signature assignments need to directly address the GE student learning outcome(s).

Describe the signature assignment(s) in detail AND how they address relevant GE student learning outcomes (see above to reference).

- If you have more than one signature assignment addressing different student learning outcomes, please describe each assignment separately.
- For Writing Attribute signature assignments, identify purpose, audience, and genre, as well as how the assignment involves feedback and revision.

Part 6: Pedagogical Approach and Contextualizing Teaching Strategies/Activities

Part 7: (Optional) Further Context on Course Objectives and Student Learning Outcomes