

## THE EVOLUTION OF DESIGNING E-SERVICE-LEARNING PROJECTS: A LOOK AT THE DEVELOPMENT OF INSTRUCTIONAL DESIGNERS

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This design case will discuss how design strategies evolved through the development and implementation of two e-service-learning project cohorts. The article provides a detailed account for how Designers for Learning launched its first e-service-learning instructional design project to address adult basic education needs. Information and design feedback gathered at the end of project informed design decisions and changes to the process for a second iteration. The authors discuss the rationale for design decisions made throughout the course of these two cohorts as well as recommendations for mentoring and coaching novice instructional designers through a service-learning project.

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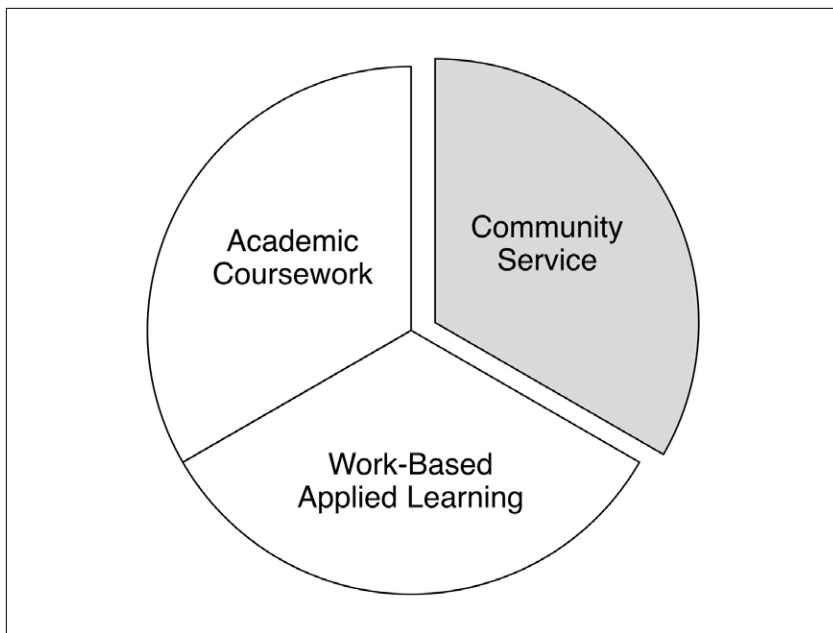
<https://doi.org/10.14434/ijdl.v9i1.23298>

### INTRODUCTION

In our experience, we have found that most graduate-level instructional design programs place emphasis on providing their students with the skill sets needed to design instruction for a variety of different contexts, manage people and projects, and integrate environmental factors that may influence the outcome of instructional interventions. While many students are taught to design print-based and online instructional solutions and maneuver through various phases of instructional design models, the variance of real-world experiences introduced in these courses is widespread (Larson & Lockee, 2009; Quinn, 1994).

As designers, it's important for us to give attention to the contextual forces that may influence learning, motivation, and transfer. In order to develop the skill sets necessary to manage the contextual factors influencing of a program, we believe that students must be provided with exposure to the whole system to identify factors that contribute to or inhibit the success of any instructional intervention. To ensure designers' success upon working in the field of instructional design, it is imperative that they are provided with authentic real-world experiences during their educational training to help them design for different learning environments and audiences with unique needs (Cennamo & Holmes, 2001; Tracey & Boling, 2014).

Service-learning is a pedagogical approach that bridges the gap between learning in the classroom and real-world application (Strait & Sauer, 2004). As shown in Figure 1, it combines academic coursework with real-world experience and community service (Bringle & Hatcher, 2009; Mooney & Edwards, 2001). Every service-learning activity must include the following three elements: a direct link between fundamental course concepts and the activity, a plan to address a community need, and reflective practice (Bringle & Hatcher, 2009). The term e-service-learning has since emerged through the advent of online education as a means to provide experiential learning for students taking courses at distance (Strait & Sauer, 2004; Waldner, McGorry, & Widener, 2012).



**FIGURE 1.** Service-learning approach.

In this design case, we will discuss how the design platform for an e-service-learning initiative has evolved through two iterations of the project and address the factors that influenced learning for a vulnerable learning population.

## DESIGN CONTEXT

Designers for Learning (DfL) is a nonprofit organization that provides instructional and performance improvement solutions for underserved learners through service-learning. As part of a dual mission, DfL provides instructional design students and other volunteers with real-world projects that benefit the community, as well as enhance their educational training and professional development through the design of service-learning experiences. In an effort to provide these experiences to students from greater reaches of the United States, DfL uses an e-service-learning framework relying on 100% virtual collaboration for its pedagogical design.

### The Need

In 2012, Jennifer was adjunct faculty for an instructional design graduate program and taught a course titled “Consulting Skills for Instructional Designers.” The project-based course required students to (a) find a client with an instructional design need, (b) establish a instructional design project that could be completed within the confines of a semester, (c) negotiate a Memorandum of Understanding (MoU) with the client, and (d) submit a final deliverable based on the MoU to the client and Jennifer. Students in the class reported the authentic experience was rewarding, particularly for those who worked with non-profit organizations. Further, the real-life opportunities, constraints, and challenges of working with a client and other stakeholders

made the experience entirely different than working on a scripted (canned) design scenario. Based on her students’ reactions, as well as her own struggles to design and facilitate the course (which she described as “herding cats”), Jennifer sought out more information on how to best implement authentic project-based design courses.

Jennifer knew faculty at her college and elsewhere who were facilitating similar experiential-learning opportunities, and many in the instructional design field had written or presented about project-based courses and experiential-learning, including course design projects (Bannan-Ritland, 2001; Shambaugh & Magliaro, 2001), design studios (Boling & Smith, 2014; Wilson, 2013), instructional design challenges (Bishop, Schuch, Spector, & Tracey, 2004), and service-learning experiences (Correia et al., 2010; Tracey, Chattervert, Lake, & Wilson, 2008). In an effort to explore these implementation practices, Jennifer reached out to several of these

authors and others to learn about the needs, opportunities, constraints, and recommended approaches to facilitating real-world instructional design projects.

Using a phenomenological interview approach to investigate the common experiences shared by those who implemented these authentic experiences, Jennifer conducted 13 interviews with faculty members who had implemented and researched experiential learning and identified a set of design-related themes associated with goal examination, the client partnership, project design and management, and assessment (Maddrell, 2014). While most of the faculty members described the added burden on faculty to coordinate these real-world experiences (such as finding the right client partner and increased student feedback), they felt the added work to provide the authentic learning experience was worth the extra effort. In addition, those engaged in service-learning (i.e. engaging with a community-based organization) noted an added benefit of helping non-profit organizations and other social enterprises achieve their missions.

Jennifer’s personal experience, her research, and other literature propelled her desire to design and implement a virtual service-learning experience that would bring together faculty and students from across a variety of instructional design programs. In the summer of 2013, a colleague introduced her to a potential non-profit client who was in need of instructional materials for the adult basic education (ABE) program. The General Education Development (GED) test had recently been redesigned and the client’s old instructional materials no longer aligned with the 2013 College and

Career Readiness (CCR) standards underlying the revamped GED. After a phone call with the client, it was apparent that there were two overlapping needs that could be addressed simultaneously through the virtual service-learning project, including (a) the need for education resources to support the 30 million adults in the U.S. without a high school diploma, and (b) the need for real-world experience for instructional design students, in particular those studying online or at a distance from their campus.

### The Client

The service-learning project served a faith-based outreach organization, Grace Centers of Hope in Pontiac, Michigan. The client organization provides a full recovery and rehabilitation campus for homeless men and women who have been abused or are addicted to drugs or alcohol. To remain in the program, individuals without high school diplomas (or equivalent) are then required to take in-house courses in preparation for the GED test.

After meeting with the client organization, Jennifer now had four goals as she moved forward with leading the first cohort of service-learners:

- The client’s design project would have an adult basic education focus that would be:
  - centered on GED test preparation,
  - aligned with College and Career Readiness (CCR) Standards,
  - used in tutored instruction (individual/small group),
  - and incorporated client “wish list.”

An emphasis would be on adapting existing open educational resources (OER).

- A prototype service-learning facilitation framework would be implemented and evaluated.
- An online “home base” for future design and development would be established.

The deliverables for this project consisted of supplemental instructional units to assist Grace Centers of Hope’s clients as they were studying and preparing to take the GED. These instructional units were to be created using PowerPoint and stored on a website.

## COHORT 1: SPRING 2014

### Design Considerations

While e-service-learning projects bridge the gap between community needs and real-world experience for distance students (Waldner et al., 2012), Jennifer faced several challenges with facilitating an entirely virtual project without outside or institutional support, working with the client’s

DESIGNERS FOR LEARNING/JENNIFER	FACILITATOR
Grace Centers of Hope	Client
Student Volunteers	Instructional design students currently enrolled in a graduate program. Designers of the GED materials.
GED Learners	Recipients of designs developed during Cohort 1

TABLE 1. Key constituents involved in Cohort 1.

technology and audience constraints, and having instructional design students dispersed across the country who had varying levels of instructional design and development skills. Jennifer also had to find a way to implement this pilot project with no outside money from the client or others. Without funds to pay for facilitation support and other subject matter experts, she needed to ask instructional designers to volunteer for the service project and the tools used to support the virtual project needed to be free or low cost. Likewise, the students’ deliverables needed to meet the media and technology requirements available in the client’s environment. This meant taking into consideration the client having low bandwidth and older hardware and software. Jennifer also had to consider that most of the adult learners in the ABE program had never used computers for learning. Moreover, Jennifer also had to think about the instructional design students’ own development skills. Table 1 outlines the key constituents involved in the project.

### Call for Volunteers

To reach potential instructional design students and faculty, Jennifer gained permission from the Association for Educational Communications and Technology (AECT) to host an exhibit booth during the annual convention in the Fall of 2013. She brought several hundred brochures describing her project aims and a small banner that read “Designers for Learning: Gain Experience for Good,” and spent her time talking to students and faculty about the pilot project and their interest in the service-learning opportunity.

In January of 2014, Jennifer sent an email with an online Call for Volunteers application to 275 students and faculty. While she hoped to find 12 pioneering students to join the pilot project, 25 students submitted applications from 14 different instructional design graduate programs. As part of the vetting process, each student needed to have a faculty sponsor from his university. Each faculty sponsor had to verify with Jennifer during the application process that (a) the student was currently enrolled in the graduate program at his institution, and (b) the faculty sponsor was willing to provide support to his student if requested by the student.

In addition, Jennifer received strong support from key instructional design faculty, including several who agreed to serve in an advisory capacity during the pilot. This better-than-anticipated interest level from students and faculty prompted Jennifer to increase the project's original scope to accept nearly all of the applicants (22 of the 25). Those instructional design students who were not accepted either were not able to secure a faculty sponsor or had only recently joined their graduate program.

### Project Team

The project team consisted of representatives from the education program at Grace Centers of Hope, a project manager, volunteer advisors and subject matter experts, student designers, coordinating designers, and faculty sponsors (see Figure 2). The roles of these team members are described below:

**GRACE CENTERS OF HOPE:** The client team included two employees in the education program at Grace Centers of Hope. In addition, the team also included a volunteer with Grace Centers of Hope with significant instructional design expertise and knowledge of their education program.

**PROJECT MANAGER:** With nearly double the anticipated number of volunteers, it became necessary to include a point person on the project to help Jennifer manage project activities. A doctoral student was assigned as Project Manager to coordinate activities across the six project teams. With guidance from Jennifer, the Project Manager was the primary client liaison on the project, as well as the coordinator of the five project teams.

**VOLUNTEER ADVISORS AND SUBJECT MATTER EXPERTS:** As Jennifer designed and developed the service-learning experience, she also arranged a small group of volunteer advisors and subject matter experts. She called on these advisors to help her address ad hoc questions and issues about adult basic education and instructional design.

**STUDENT DESIGNERS:** Each of the 22 selected students was assigned to one of six project design teams, each with its own specific project focus. While Jennifer had hoped to have enough interest to secure 12 student volunteers on three project teams, the Call for Volunteers resulted in a much larger pool of volunteer applications than expected.

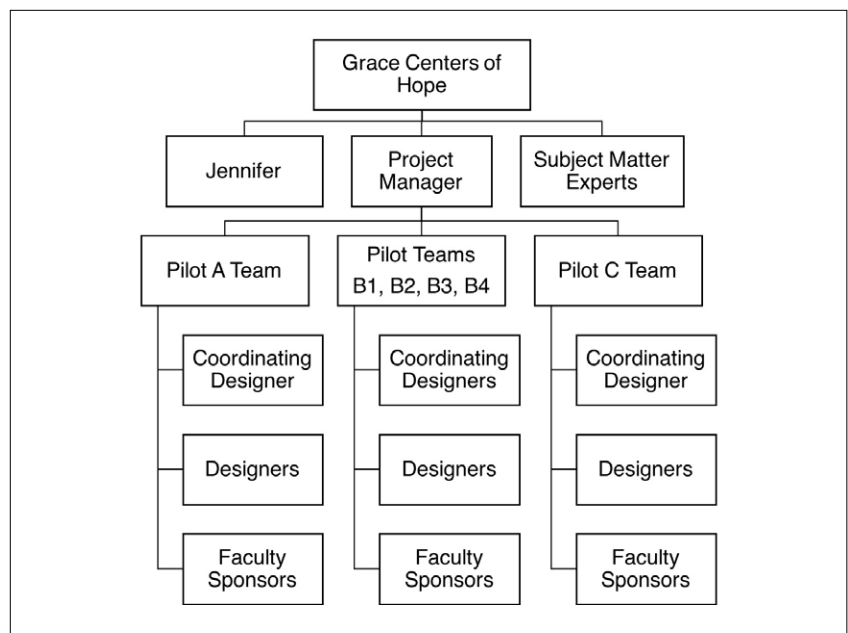
**COORDINATING DESIGNERS:** With the increase in project scope, a Coordinating Designer role was added. The Coordinating

Designers had the same types of responsibilities as the other designers on the team, but also had the role of being a point person (team leader) for their respective teams. A primary function of the Coordinating Designer role was to ensure the team was making forward progress toward achieving the project's goals and to coordinate the team's efforts with the other Coordinating Designers, the Project Manager across all project teams, and Jennifer.

**FACULTY SPONSORS:** Each student had a faculty sponsor who included a letter of reference in the application process. A total of 19 college faculty members sponsored the 22 college students from 15 different instructional design programs. The faculty members acted as both references for the student during the Call for Volunteers process and were asked to advise the students should they have questions during the project.

### IMPLEMENTATION

Given Jennifer's goal for this project to serve as a prototype for the facilitation of future service-learning projects, she worked hard to create an open and transparent collaborative design process to encourage feedback from others not part of the project team. To facilitate both student and community engagement, an open collaborative design space was created using a website. Other collaborative strategies and technologies included: (a) the team's Google Groups Project Discussion Board with "view" access outside of the project team members, (b) a Google+ Community that facilitated additional discussions about the project, (c) a Diigo.com group to support social bookmarking, (d) a daily Paper.li aggregation of conversations happening on Twitter, Facebook,



**FIGURE 2.** Project team for Cohort 1. Reprinted with permission from <http://designersforlearning.org>

Google+, and elsewhere on the Internet around OER and adult basic education, and (e) live and open webinars that enabled both team member discussions and community feedback.

Project teams had 11 weeks to complete the deliverables between the February 15th kick-off to the May 3rd deliverable due date. Jennifer knew that this was not a lot of time, particularly considering most of the students had never met, few were from the same school, and some students were relatively new to design. However, it was important to keep the project within the confines of a typical college semester in order for the instructional design students to use the project for course or other practicum requirements.

As students began working with their new assigned design teams, Jennifer quickly realized that uniformity was lacking across instructional design programs regarding terminology or design processes and protocols. As the students approached the assigned design tasks and processes, there was confusion both within and among the teams about how to tackle the design need. One of the first stumbling blocks occurred when students had to draft an early Design Plan for the lesson they were creating. While most of them had heard of the term, there was little consensus on what a Design Plan should contain.

In addition, students who had been accepted to the cohort for the program ranged in expertise; some were pursuing master's and doctoral degrees, while others were working toward graduate certificates in instructional design. Depending on their progress in their graduate course of study, students had been taught different instructional design models, instructional strategies, and preparation regarding instructional design practices. Jennifer did not anticipate these challenges during the planning phase of the design process. Not only had she assumed there would be greater consistency across graduate programs, but even slight variations in processes and interpretations posed challenges when the novice design teams were required to interact and coordinate their efforts.

Contrary to Jennifer's expectations, very few faculty sponsors took an active role in providing feedback to the students during the first cohort. While some faculty engaged with Jennifer as mentors on the project (e.g., during live webinars or with ad hoc project support needs), Jennifer realized that many of the students did not seek assistance from their faculty sponsor, and most sponsors were not interested in an ongoing mentorship role during the project and didn't provide unsolicited feedback to their students during the learning experience. Moving forward, it would be necessary for Jennifer to re-evaluate the faculty sponsor role to better provide mentorship to the students.

## Evaluation

With the first cohort's project nearing completion in the Spring of 2014, one of the faculty sponsors offered the assistance of graduate students in her evaluation course to conduct an evaluation of the project's implementation using participant surveys, interviews, and archival project data. Within their evaluation report, the student evaluators offered the following recommendations:

**Mentor Involvement:** Noting a relation between the level of mentor involvement and how favorably the student rated the experience, the evaluators recommended that procedures to elicit greater mentor involvement be implemented. The mentor relationship should be cultivated and encouraged even (or especially) with students who are not earning credit.

**Experience Gained:** Evaluators found that the majority of students chose to become involved with Designers for Learning in order to gain additional work experience. While most stated that they did gain experience, some students expressed the desire to gain even more experience through the program. The few students who reported that they did not get the desired amount of experience noted less mentor involvement than anticipated. Although students reported that they were not concerned about the lack of mentor involvement, there seemed to be a relation among student expectations, the level of mentor involvement, and how the students perceived the experience.

**Skills:** Consistent with Jennifer's perception that students did not come into the program with the necessary skills, the evaluators strongly recommended that additional design guidance be provided to all teams along with acceptable and unacceptable samples of work. Further, they noted a more stringent vetting process could minimize concerns or questions about students' skills, gain further insight into their interpretations and experience with design documents, and ultimately create clearer and more productive experience for both the student and the client.

**Communication and Expectations:** While students rated both themselves and their peers as being adequately skilled for the work, some found the scope of the work to be beyond what they had expected. Evaluators recommended that written communication to student designers should be revised to make the expectations clearer. Some students were not comfortable using the Google Sites website or email, and the evaluators recommended Jennifer revise the website to make the communication platform clearer and more concise. In addition, the evaluators recommended procedures to be put into place for receiving communication from students. To keep students on task and accountable, students should provide a brief weekly report of their contributions to the project.

In their concluding comments, the evaluators noted that stakeholders were enthusiastic about the project in spite of the problems that were encountered and felt the service-learning program was worthwhile and should continue. Jennifer had time over the summer to further contemplate the project and evaluation recommendations and make the necessary changes to the infrastructure in order to enhance the learning experience for all participants. While the project had its challenges, those involved with the project, including the client, recognized that this pilot project was a good pioneering first step, and the decision was made to make the necessary adjustments to improve the process.

### Design Reflections

Supported by the evaluation feedback, Jennifer realized that many of the design teams were coming to her with similar questions regarding various phases of the project. She wanted to create a platform where student designers had an opportunity to discuss their programs with the entire cohort, as well as have a channel to elevate ideas and concerns they had regarding the project. Given the differences across graduate programs and the varying experience levels of participating students, it was important to establish consistency among the design teams in terms of instructional design terminology and the types of design processes that would be employed during the project.

Timing was a constraint in that the instructional design students were limited to completing their designs in eleven weeks. While Jennifer had considered expanding the timeline, several students had expressed an interest in completing their work within a semester in order to full internship or graduate program requirements at their respective institutions. Taking into consideration that additional training and clarification could be made regarding the Google Site and tools, addressing any discrepancies among the instructional designer students could avoid confusion during the limited project timeframe.

It also became apparent the need for clearer defined roles for future service-learning projects. While students demonstrated an openness and eagerness to work with other students from different instructional design programs, Jennifer realized that it would be most beneficial for the students to identify specific tasks that each student could work on so that everyone contributed to the project goals.

Very few faculty sponsors participated in providing feedback to the first cohort. Given that many of the students did not seek assistance from their faculty sponsor and many sponsors did not know to what extent they should be providing unsolicited feedback to their students during the learning experience, it would be necessary for either the faculty sponsor to have a clearly defined mentor role or to include other forms of mentorship.

DESIGNERS FOR LEARNING/JENNIFER AND JILL	CO-FACILITATORS
Grace Centers of Hope	Client
Student Volunteers	Instructional design students currently enrolled in a graduate program. Designers of the GED materials.
GED Learners	Recipients of designs developed during Cohort 2

**TABLE 2.** Key constituents involved in Cohort 2.

### COHORT 2: FALL 2014

The second cohort for DfL took place during the Fall 2014 semester. During this time, Jennifer partnered with Jill to serve as co-facilitators of the e-service-learning project. The second cohort continued to work on the service-learning project. The second cohort continued to work with the same client (Grace Centers of Hope) to create additional learning modules. Table 2 shows the key constituents involved in Cohort 2.

Through discussions with the client, six instructional units had been identified for the second cohort to design:

**UNIT 1.** Science—Topic: Scientific Method

**UNIT 2.** Science—Topic: Designing a Scientific Experiment

**UNIT 3.** Writing—Topic: Responding to a GED Writing Prompt

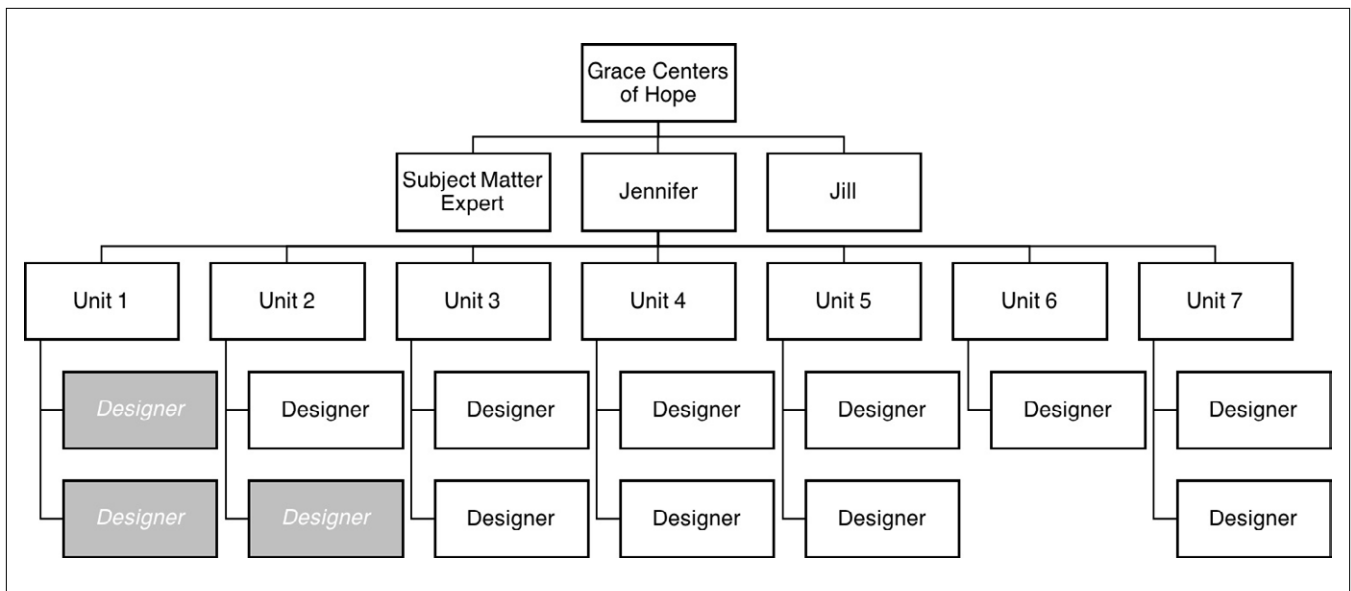
**UNIT 4.** Writing—Topic: Paraphrasing and Summarizing

**UNIT 5.** Math and Science—Topic: Combinations and Permutations

**UNIT 6.** Math and Science—Topic: Probability

The primary goals of the second cohort were to provide the participants with the following experiences:

- Dissecting an instructional design problem
- Designing for a vulnerable learning audience
- Designing an instructional solution that takes into account design constraints
- Designing a design plan
- Using a design plan to develop a storyboard prototype for an instructional module
- Receiving feedback and making modifications to design prototypes as needed
- Working with other instructional designers



**FIGURE 3.** Project team for Cohort 2. Used with permission by <http://designersforlearning.org>

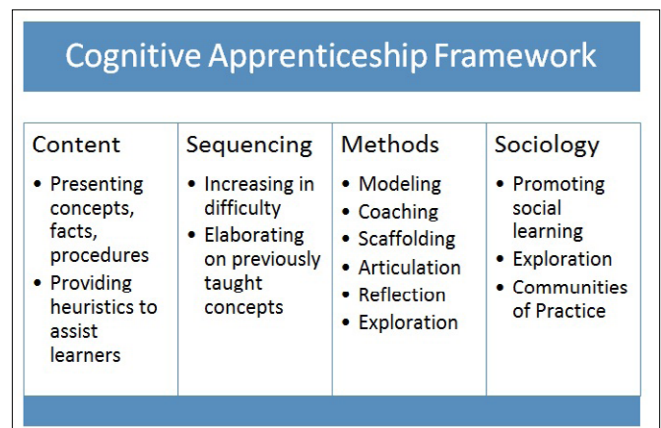
### Call for Volunteers

As in the first cohort, Jennifer sent out a Call for Volunteers to her email contacts and on social media with a goal of filling 12 positions to volunteer with an assigned partner to create one of the abovementioned six units of instruction. In order to be eligible to participate, each student had to be enrolled in a graduate instructional design program and have a faculty sponsor. After receiving 20 applications for the Fall 2014 cohort, Jill and Jennifer felt 15 students from the roster were qualified to take on a role in the project, but the other applicants were eliminated due to their lack of instructional design experience in both school and work.

### Project Team

Jennifer and Jill assigned students to teams based on individual student's professional goals outlined in the application process. After back-and-forth communication with the selected students and their faculty sponsors, a total of 13 students began the second cohort for DfL working on the six new units, as well as a revision to a module from the prior cohort (Unit 7). Unfortunately, once the project got underway, three students left the project for personal reasons leaving a cohort of 10 students working Units 2 through 7 (see Figure 3).

In this cohort, the role of the faculty sponsor acted as a reference for the student rather than a mentor to the student during the project. While students and faculty sponsors were encouraged to communicate with one another during the course of the project, Jennifer and Jill decided to place emphasis on mentoring the students through the design project to ensure that consistent and frequent feedback was being provided throughout all phases of the project.



**FIGURE 4.** Components of the Cognitive Apprenticeship Framework.

### Implementation

In an effort to address challenges that had been identified during the first cohort, Jennifer and Jill constructed a 15-week cognitive apprenticeship that would be used as a framework to facilitate the design project. Cognitive apprenticeships have long been valued for providing one-on-one assistance to novices as they learn how to complete tasks in a situated learning environment (Collins, Brown, & Newman, 1989; Collins, 2006). The cognitive apprenticeship framework (Collins et al., 1989) consists of four components: content, method, sequencing, and sociology (see Figure 4).

The four components are not intended to be used in an iterative process; rather, they are designed to be used simultaneously throughout the learning experience. The content component of the cognitive apprenticeship framework places emphasis on instructional strategies and promotes the use of generative learning strategies (Lee, Lim,

& Grabowski, 2008) to present heuristics to learners to ensure best practices.

Special attention also is given to the sequencing of instruction. Rooted in elaboration theory (Reigeluth, 1992), general concepts are presented early during a project and examples gradually increase in complexity as students become more familiar with content. In order to provide students with the domain knowledge necessary to get started with the project, a *Jump Start* orientation was developed for the second cohort (see Figure 5). The purpose of the *Jump Start* was to ensure that all students had been provided the same information as their peers working on the service-learning project. Jennifer and Jill also clarified what instructional design processes were going to be used during the project, as well as provide an overview of terminology that would be used throughout the project. This was to alleviate any discrepancies or variance among terms being used by different graduate programs across the country.

The *Jump Start* consisted of a variety of online learning modules that had been developed to provide an overview of the goals of the service-learning project. Jennifer and Jill developed these modules to provide an accurate portrayal of the learning audience, their unique needs as identified by the client and design constraints that each design team

would have to take into account. Students were required to complete the *Jump Start* during the first two weeks of the project so that they would be ready to use a common language when interacting with one another on the project.

Upon completion of the *Jump Start*, each design pair was tasked with creating a design plan as the first team deliverable. The purpose of the design plan was to outline the learning objectives, instructional strategies, and methods for evaluation for each of the instructional units. In addition to receiving feedback from Jennifer and Jill, a subject matter expert also provided feedback to ensure alignment among the six instructional units and to make the necessary modifications before the groups began delving deeper into the design process.

After the design teams received feedback from Jennifer and Jill and made the necessary revisions to their design plans, they began working on the development aspects of the project. During this phase, the design teams created storyboards (see Figure 6) of the instructional units. The client worked with the Jennifer and Jill to create a style guide to ensure consistency among the various instructional units. Again, each team received feedback from Jennifer and Jill, as well as a subject matter expert who represented the client.

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Jump Start Orientation

## Welcome!

This is the Jump Start Orientation for our second service-learning project for Grace Centers of Hope facilitated by Designers for Learning. The purpose of this orientation is to welcome volunteers to the project and to clarify expectations. This project follows a **successful pilot service-learning project for Grace Centers of Hope** that was conducted in the spring of 2014. We learned a lot during the pilot project, and collected feedback from students and the client during an evaluation conducted at the end of the project. Students in the pilot noted that it took a lot of time to get a handle on the client's needs and the project requirements. Therefore, we decided to devote the first two weeks of the project to this orientation.

The Jump Start Orientation is comprised of six sections. Each section starts with write-up on the topic followed by "Your To-Do List" at the bottom of the page with items for you to complete. Please plan to spend at least four hours (in total) over the next two weeks completing the reading and "Your To-Do List" for all six sections.

- Section 1: Project Logistics
- Section 2: Our Client - Grace Centers of Hope
- Section 3: Our Client's Need
- Section 4: Our Learners
- Section 5: Project Deliverables
- Section 6: Orientation Reflection

FIGURE 5. Welcome page of the *Jump Start* orientation. Used with permission from <http://designersforlearning.org>



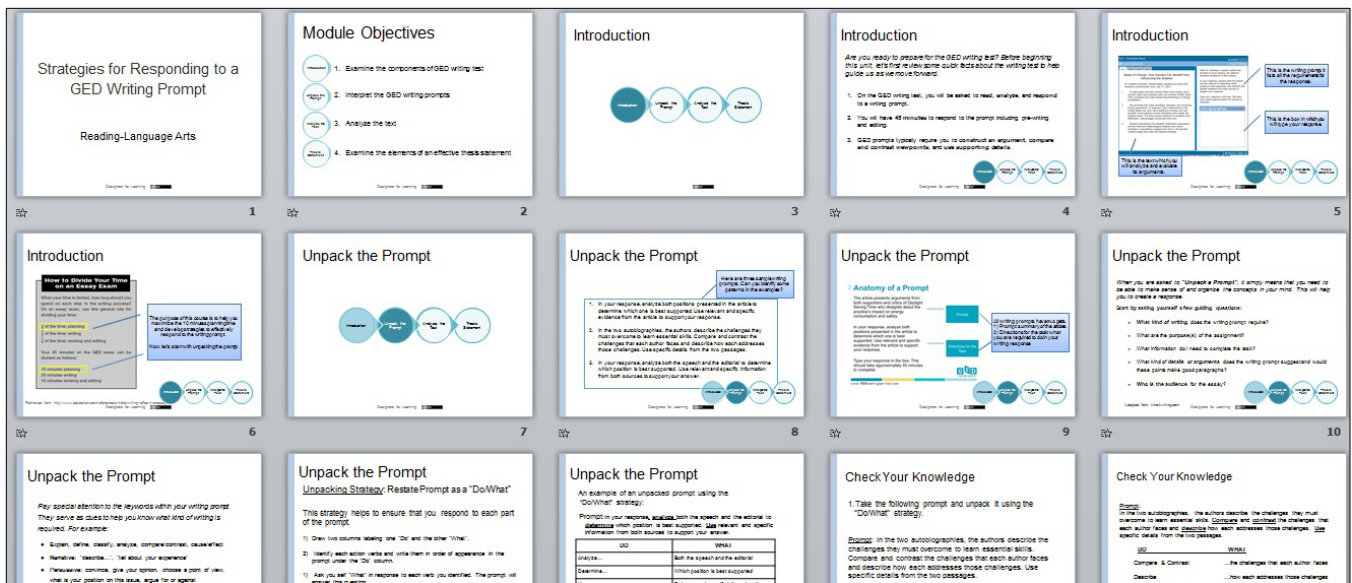


FIGURE 6. Example of storyboard for improving GED writing prompts. Used with permission from <http://designersforlearning.org>

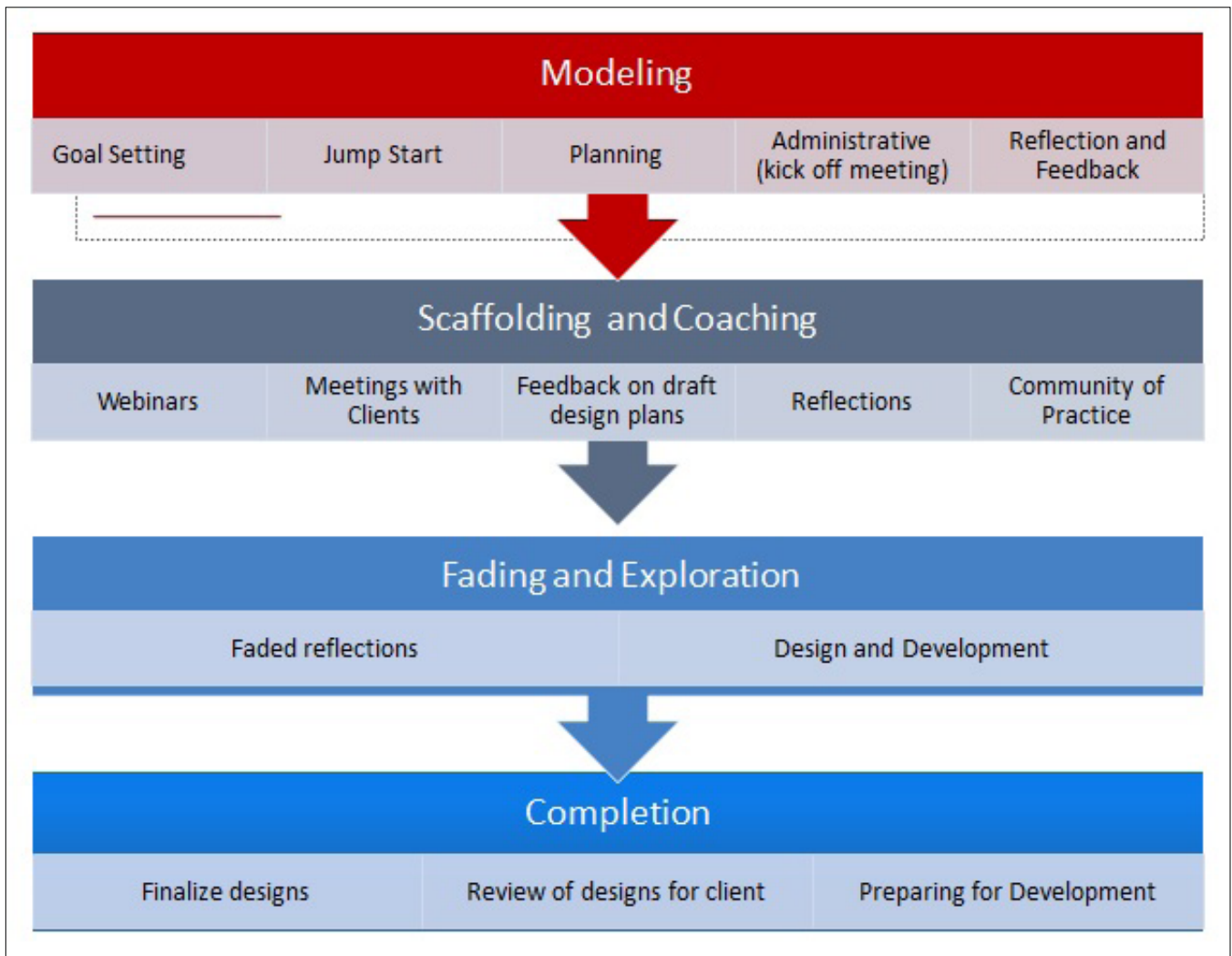


FIGURE 7. Alignment of DfL project with Cognitive Apprenticeship Framework.

A third component of the cognitive apprenticeship framework is method. During the duration of an apprenticeship, an expert teaches a novice how to perform new tasks and enhance his skill sets through modeling, coaching, scaffolding, articulation, reflection, and exploration (Collins, 2006; Collins et al., 1989). The amount of time spent using each of these six strategies varies depending on the learner and the nature of the subject matter being taught.

For purposes of the cognitive apprenticeship being deployed for the second cohort, Figure 7 provides an outline for how various activities aligned with the cognitive apprenticeship framework. Jill and Jennifer modeled expectations for the projects by engaging in goal setting with the instructional design students, creating the *Jump Start* experience, and holding the kick off meeting where everyone could meet and discuss the desired goals and outcomes for the project. They were also able to model best practices when providing feedback to the instructional designers reflection posts.

Scaffolding and coaching were ongoing throughout the duration of the project. Jill and Jennifer held regularly scheduled webinars to bring the instructional design students together to discuss their progress and any concerns they have had regarding their designs. During the webinars, the subject matter expert, who served as the client representative during the project, provided feedback on the draft designs to ensure the final products would be conducive to the needs of the GED learners and the learning environment provided by Grace Centers of Hope.

In order to customize the apprenticeship experience for each participant, Jennifer and Jill required applicants to identify two performance goals that they would like to work toward if selected to participate in the second cohort project. Not only was this information used during the initial screening process, it also allowed Jennifer and Jill to provide customized feedback to the learners and work to align their goals with the DfL design project outcomes.

The instructional design students were asked to identify their strengths and weaknesses in terms of their instructional design capabilities. Jill and Jennifer tried to arrange teams where the instructional design students could complement one another as serve as resources. This also helped inform Jill and Jennifer so that they could provide additional support in areas that students had identified as weaknesses in their application.

Each student had to complete four reflective exercises throughout the duration of the cognitive apprenticeship. Each reflective exercise consisted of three to four questions aimed to promote reflective practice (Schön, 1983) among the students. Taking into account that the purpose of a cognitive apprenticeship is to fully immerse a student in a situated learning environment (Brown, Collins, & Duguid,

1989), Jennifer and Jill wanted students to take the time to take a step back from their design tasks and reflect upon what they were working on in terms of how it intersected with instructional design principles.

The students shared their reflective exercises with Jennifer and Jill, which allowed the students to privately identify any challenges they were having with their projects and seek assistance that they might not have otherwise felt comfortable asking for in the discussion forum or recorded webinars. As facilitators of the cognitive apprenticeship, Jennifer and Jill reviewed and responded to each reflection and constructed responses that tried to alleviate any challenges the students were encountering, emphasize and discuss how students were working toward the goals they had set for themselves at the start of the project, and ensure they were on track to make progress toward the next phases of the design project.

Using a scaffolded approach (Belland, 2014), Jennifer and Jill provided extensive amounts of feedback to the students during the beginning of the project (weeks 1 through 5). As students became more familiar with the design processes being used for the project, the facilitators deployed a faded coaching strategy (Merrill, 2002), in which they began offering feedback only when solicited (weeks 6 through 10). Jennifer and Jill had a goal that toward the end of the project (weeks 11 through 15), students would feel comfortable making design decisions and acting on them without the need to solicit help or feedback.

A fourth component of the cognitive apprenticeship framework addresses the sociological aspects of learning. Collins, Brown, and Newman (1989) address the importance for novice learners to have opportunities to interact and learn from one another. They suggest the use of a community of practice (Lave & Wenger, 1991; Tseng & Kuo, 2014) to provide an environment where individuals with common interests and goals to share resources and interact with one another.

In order to promote social learning among peers, Jennifer and Jill created an online discussion forum (see Figure 8) where students could post questions regarding the various phases of the project. The forum was made available to all participants in the second cohort. They also hosted regularly scheduled webinars where students could discuss their progress on their design projects, talk with clients and subject matter experts, and ask questions regarding their projects and next steps. All webinars were recorded and posted on the DfL website so that students could refer back to information provided during the webinars or view if they were unable to attend the live session.

Jennifer and Jill encouraged the students to post their questions or design ideas to the discussion forum so that their peers could view them. Many students had expressed similar ideas and concerns and the discussion forum was an attempt to increase community among the design teams,

Search the Forum...			
Forum	Topics	Posts	Freshness
<b>Fall 2014: Introductions</b> Welcome! To kick-off our service-learning project, please introduce yourself to the group. If you have a preferred public space where you communicate online or share your work (such a personal website, blog, or a social network), point us in the direction of where we can find you.	13	45	
<b>Fall 2014: Adult Basic Education</b> If you have worked as an instructional designer or educator in an adult basic education, please describe your experience. Also, if you have experience in a K12 setting, what parallels and differences do you see to this adult learner population that is studying essentially the same materials, but in a different context?	11	25	
<b>Fall 2014: Resources</b> If you have a recommendation of potential open education resources that you feel could be used on this project, please discuss it here.	2	5	
<b>Fall 2014: Q&amp;A Facilitators</b> Please use this discussion forum to post questions for the Designers for Learning Facilitators.	6	12	
<b>Fall 2014: Q&amp;A Grace Centers of Hope</b> Please use this discussion forum to post questions for our clients at Grace Centers of Hope.	4	13	

**FIGURE 8.** Discussion forum for Fall 2014. Used with permission from <http://designersforlearning.org>

as opposed to having Jennifer and Jill address individual questions through email.

### Design Reflections

The end of experience survey of students offered insight into what service-learning design and facilitation features were most (and least) valuable to the students:

*Jump Start Orientation:* When asked to rate the extent to which they felt the *Jump Start* orientation was important to their success, eight of ten respondents selected “Very Important.” This feedback suggests the changes made from the prior cohort to clearly articulate the project needs, constraints, and requirements were perceived as valuable to the project’s success.

*Project Website:* Similarly, eight of ten respondents selected “Very Important” when they rated the importance of the project’s new website, which suggests the importance of including a central home base where the virtual participants could return throughout the project for updates.

*Review and Feedback:* Students were unanimous in rating the review process and feedback they received on their project deliverables (both the Design Plan and Prototype) as “Very Important,” which suggests the time and effort spent to facilitate two rounds of formative evaluation were of benefit to the students.

*Communication:* While most students found communication with facilitators and the client to be “Very Important,” students were mixed in their responses regarding their preferred form of communication favoring email updates from the facilitators and the live webinars. While the social media updates may have helped promote the project, student survey responses suggest the social media updates were not important to their success with all responding “Neutral” or “Not Important.” Similarly, no student rated the asynchronous discussion forums as “Very Important.”

While the number of students was fewer in this cohort, the amount of work to facilitate the experience was still significant. Even with the frequent email updates, the live webinars, and the additions of the *Jump Start* orientation and the new website, students still needed a lot of

TASK	NUMBER OF HOURS
Scoping Project with Client	20
Instructional Material Development (i.e., <i>Jump Start</i> )	30
Call For Volunteers, Application Review, and Selection	15
Webinars (7 sessions with 1 hour to prep/1 hour to host/1 hour to post)	21
Student Assessment Reflection Review and Follow Up (5 weeks at 3 hours each)	15
Student Assessment Final Deliverable Review and Certification	25
Facilitator Project Notes/Write-up/ Wrap-up	15

**TABLE 3.** Tasks and Number of Hours.

one-to-one support. The newly added student reflections helped Jennifer and Jill to identify individual support needs, but students were hungry for feedback and guidance from the facilitators and the client. While helpful, the existing and newly added support strategies took a lot of time and effort to coordinate and deliver. Jill and Jennifer estimated they volunteered over 170 hours of their time to the service-learning experience redesign and facilitation from July 1 through December. Table 3 shows the specific task breakdown and time allotted for each task.

The implemented changes improved the quality of the deliverables from the first cohort, but Jill and Jennifer still noted inconsistencies among designers and the deliverables from each team. Similar to the first cohort, instructional design students were coming to the experience with vastly different skill sets and expertise. Even though all designers in the cohort were enrolled in instructional design programs, the programs were not the same in terms of quality, focus, and approach. For example, some designers were enrolled in programs that focused primarily on instructional development (educational technology tools and their use), while others were in programs that emphasized learning experience design. These differences in background and expertise were at the heart of the inconsistencies in design. Jill and Jennifer realized that the application requirement to be enrolled in an instructional design program was not sufficient enough to ensure consistent design talent, and they concluded that recruiting talented designers remained a significant challenge.

## DESIGN CONSIDERATIONS FOR FUTURE PROJECTS

We continue to view mentoring as an integral part of student success of a service-learning project. Recognizing that instructional design students will have varied experiences both academically and professionally, we wanted to ensure that there was oversight to help students with their instructional design decisions and practices, as well as support working in the unique project context such as adult basic education. After having completed two cohorts, we believe that each instructional designer/team needs to be provided with adequate guidance while working with Designers for Learning. The *Jump Start* has helped to communicate expectations to instructional designers at the beginning of the project and address any questions and concerns regarding the tools and resources that will be used during projects.

We continue to promote communities of practice during each cohort. The community of practice provides an opportunity for instructional designers to gain exposure to how others are approaching design solutions to similar topics. It also promotes a supportive environment where students can ask questions and learn from one another. Taking into account that a common design constraint for these projects is the geographical disbursement of the instructional design team, holding webinars where everyone can connect synchronously has helped boost communicate throughout the course of the project.

Scalability continues to be a challenge as Designers for Learning continues supporting e-service-learning projects. As previously mentioned, the majority of participating instructional designers are considered novices with varying levels of instructional design experience. Designers for Learning has come to realize that there are some instances that will require multiple rounds of design and modification prior to implementing with the client. The number of design iterations and feedback necessary will ultimately depend on the instructional designers' abilities to adhere to instructional design practices, learning audience needs, and client expectations.

In conclusion, the e-service-learning projects offered by Designers for Learning are filling a void common in most instructional design graduate programs in that we're helping promote civically engaged instructional designers. The unique structure of Designers for Learning continues to promote collaboration among instructional design students across the United States. Not only do these e-service-learning projects promote the need for community engagement, they provide graduate students an opportunity to gain real-world instructional design experience.

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