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EMPOWERMENT AND CONSTRAINT: DESIGN OF A HOMECARE WORKER TRAINING PROGRAM

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A worker education center in California requested the development of a job training pilot program for 6,000 state-remunerated homecare workers. These workers provide personal care services to Medicaid-eligible adults over 65 years of age and to adults with disabilities, enabling them to remain living at home. In recognition of the homecare workers' position as a first line of defense against health crises and costly hospitalizations, the center sought to enhance their roles by training them to be more engaged members of the care team and more knowledgeable in health and safety topics. The training design was challenging for two reasons. First, in California, consumers (recipients of care) are the legal employers of their homecare workers and are their designated job trainers. This hard-won right clashed with elements of the center's training initiative. Second, diverse linguistic backgrounds limited education and low literacy levels among homecare workers led to a non-traditional approach to worker training that required buy-in from diverse stakeholders. The design process was fast-paced and iterative, involving research around themes established by committee, coordination with an illustrator, and numerous revisions in consultation with subject matter experts, including a disability rights advocate who was also a consumer. The result was a hands-on, collaborative design rooted in social constructivist learning theory. After two years, health outcomes among consumers whose homecare workers received training were positive, leading us to infer that both the design and the efforts to address learners' needs and consumers' concerns had been effective.

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INTRODUCTION

A California worker education organization requested the development of a training program for homecare workers, the purpose of which was to familiarize workers with new, additional job roles and raise their awareness about specific conditions common among the people for whom they care. In this design case, we begin by describing the context in which we designed this 60-hour training. We examine learner characteristics, perspectives of diverse stakeholders, political considerations, and key drivers of the training initiative. We then explore two main challenges in the design process: conflicting goals among stakeholders and limited education and literacy among learners. These constraints led to design decisions that culminated in a learner-centered design product that has shown evidence of effectiveness. We highlight elements designed to promote collaboration and learning-by-doing, and also those that were implemented to address political concerns that arose during the design process. This design case ends with a discussion of positive outcomes and benefits for both consumers and homecare workers as well as elements of the process and design that could be improved.

We relate this design case through two lenses. The first author was hired as the primary designer and shares her experiences working on this project, both as an individual designer and in collaboration with others. The second and third authors, also experienced instructional designers, helped shape this design case through reflective practice. In the text, we shift between "I" and "we," where I refers to individual design decisions the first author made during the

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design process, and we refers to collaborative design work and reflections on design work.

In California, state-remunerated homecare workers are referred to as homecare providers or In-Home Supportive Services (IHSS) providers. However, we use the term homecare workers here for clarity. We refer to care recipients as consumers, which is the term used in California.

CONTEXT

Homecare workers in the United States provide health care and personal care services to older adults and people with disabilities in their homes. Depending upon the needs of the consumers, homecare workers may assist with bathing and dressing, moving between bed and a wheelchair, light housekeeping, cooking, and transportation. Some homecare workers may help consumers monitor their blood pressure, check insulin, or administer medication under the supervision of a healthcare professional. This work is in high demand across the U.S., where the population of people over age 65 is expected to nearly double by 2050 (Paraprofessional Healthcare Institute [PHI], 2016), and nearly 90% of these adults wish to remain in their homes as they age (AARP Public Policy Institute, 2011). The total homecare workforce is estimated to be about 2.2 million workers (PHI, 2016) and growing.

In contrast with the high demand for their services, homecare workers' wages and job security are low, benefits are rare, and work hours are inconsistent. Twenty-four percent of homecare workers live in households below the federal poverty line. More than half receive some form of public assistance, and over one third rely on Medicaid or Medicare for their health coverage (PHI, 2016).

At the same time, job training for homecare workers is largely inconsistent and inadequate. While no formal education is required for the position (U.S. Department of Labor, 2018), certain types of homecare workers who work under contracts approved by Medicare must receive training from their state. However, training criteria and program quality vary widely from state to state and some classifications of homecare workers have no training requirements at all (Seavey and Marquand, 2013), leading to significant differences in homecare worker preparation across the nation and making it difficult to establish a comprehensive training standard for this workforce. This state of affairs drew increased attention amid health care reform efforts initiated under the Patient Protection and Affordable Care Act (42 U. S. C. § 18001) as experts began to consider the key role that home care workers can play in meeting the ACA's Triple Aim of providing better care, improving the health of populations, and reducing health care costs.

In California where this training was developed, a 2012 state law required integration of homecare workers into the care teams of the Medicaid beneficiaries (adults over 65 years of age and adults with disabilities) for whom they provided care. This integration occurred in some counties, with the idea that it would be brought to scale across the state in time. The term *care team* refers to all the people who provide healthcare for a consumer, including doctors, nurses, pharmacists, dentists, therapists, and others. This new law recognized the potentially key role of the homecare worker in the health of the consumer. Homecare workers are in close and regular contact with consumers, so they are in a unique position to positively impact health and keep consumers at home, instead of in a hospital or nursing home, thus improving health and reducing costs. However, in order for homecare workers to play this role, they must be fully integrated into the consumer's care team as respected members with a voice and an understanding of their own crucial significance.

In addition, homecare workers must be better trained in common health conditions, emergency responses, and infection control, to name a few crucial skills. Homecare workers have recognized the need for increased knowledge relating to their job responsibilities. In surveys conducted by a Californian labor union in the years before this training was designed, homecare workers frequently identified training as one of their principal job needs (Danielle Copeland, personal communication, October 4, 2016).

In response to these expressed and mandated needs for care team integration and job training, my client applied for and received a large federal grant. The client then worked with numerous stakeholders to establish training topics, desired learning outcomes, and other design variables. These stakeholders included labor unions at the local and international levels, other state and national organizations, representatives of county health plans, consumers and their homecare workers. The client then hired me to design a 60-hour program along their established guidelines that would train homecare workers in the five enhanced job roles: communicator, health and medication adherence monitor, health coach for overall improved quality of life, care aide (assisting in the consumer's overall care in the home environment), and healthcare system navigator. The client requested that these enhanced roles infuse the training program. In addition, the client requested that the training help homecare workers learn about the signs and symptoms of common health conditions, how body systems function in a general sense, health and safety in the workplace, and how to respond in emergency situations.

The characteristics of the homecare workers in this program mirror national demographics. The vast majority of the workers who participated in this training program are female. Their average age is 52 and 44% have not completed high school. The most common language spoken among the homecare workers is Spanish, followed by English, Armenian,

Mandarin, Cantonese, and Korean (California Long-Term Care Education Center [CLTCEC], 2016; PHI, 2016).

The client's primary goal was to train 6,000 homecare workers in the first year of the grant, resulting in significant cost savings and improved health outcomes for consumers. A second goal of the training was to shine a spotlight—through training outcomes—on the impact the homecare workers have on the healthcare system through the lens of Triple Aim. Although the client had provided training for homecare workers in the past, this training program was unprecedented in its breadth and scope of training topics, the number of trainees it was intended to reach, and its paradigm-shifting goal of care team integration through the enhanced roles.

A noteworthy element of this design context is that, according to state law, the consumers serve as the employer of record for their homecare workers. Although the state's department of social services cuts workers' checks, consumers or their powers of attorney can hire and fire, establish working hours, designate tasks, refuse care, and stipulate how their care is to be provided. The consumers are also the designated job trainers of their own homecare workers. This is a hard-won role, and some in the movement for the rights of people with disabilities were suspicious of the training program we were designing, which was spearheaded by a worker training center with strong ties to a local labor union. They were concerned that training provided under this grant could potentially contradict the training provided by consumers or could lead homecare workers to disregard the stated needs and requests of their employers, robbing them of agency in decisions about their own care.

DESIGN PRODUCT AND PROCESS

In this section, we describe the final design product and depict portions of it. Then, we describe key stages and tensions in the design process.

Design Product

We are proud of the final design, which is innovative for this context. The design consists of 17 consecutive, face-to-face training modules for homecare workers, for a total of nearly 60 hours of training. In addition, there are 13 hours of at-home assignments built into the modules. The module topics are consecutive and cumulative, reviewing and building upon the content of the previous modules.

Because consumers serve as the employer of record and train their homecare workers, consumers are incorporated into the training itself, attending the first and last training sessions with their homecare workers. In cases where the consumer or his or her Power of Attorney are unable to attend the training due to illness or disability, the first and last training modules are delivered at the consumer's home.

Consumers also are involved in assisting homecare workers to complete at-home assignments. In practice, consumers sometimes attend many of the sessions because when the homecare worker is attending a training, there is not always another person available to provide care. We are not aware of any other homecare training programs in which consumers are deliberately included. We see this as critical in this context, helping to ensure that we incorporated the consumer's voice into the training.

The trainings typically include approximately 25 students and have been held in locations convenient for the diverse populations the homecare workers come from: churches,

MODULE #	MODULE CONTENT AND ACTIVITIES
1	Understanding the Healthcare System Consumers attend training with their homecare workers Pre-Course Attitudinal Survey
2	Roles, Rights, and the System
3	Communication and Teamwork
4	Activities of Daily Living and Body Mechanics
5	Infection Control and Standard Precautions
6	Personal Care
7	CPR and First Aid Certifications obtained
8	Home Safety Competency assessments for Modules 1-7
9	Nutrition, Diet, and Physical Activities
10	Medications and Introduction to Taking Vitals
11	Body Systems and Common Diseases
12	Heart and Lung Diseases
13	Diabetes
14	Behavioral Health and Developmental Disabilities
15	Dementia and Alzheimer's Disease
16	Career Exploration Competency assessments for Modules 8-15
17	Summary of Training and Graduation Consumers attend training with their home care workers Post-Course Attitudinal Survey

TABLE 1. List of modules designed.

community centers, offices, libraries, and even an Armenian restaurant. Because they are community-oriented, the trainings are held in the language of the homecare workers with trainers who were fluent in that language; thus, many trainers have been employed to cover the six languages.

Trainers assess learning through hands-on, active competency checks in Modules 7 and 16, as well as by reviewing at-home assignments and evaluating role-plays in each module. We believed that these hands-on demonstrations, rather than paper-and-pencil tests, were the best ways for participants to demonstrate that they could apply their learning on the job. Considering how commonly their consumers were present in practice—which was not part of the original design—this certainly provided an opportunity for authentic assessment. Trainers also conduct pre- and post-course attitudinal surveys in the first and last modules, and training evaluations are completed in every other module. See Table 1 for a complete list and order of training module topics.

Each module incorporates a trainer guide and a set of participant handouts. All modules share a predictable structure. They begin with a brief *welcome* in which we introduce training topics, present the agenda and objectives, and allow for the peer review of homework from the previous module (where applicable).

After the welcome, an *anchoring activity* of about 25 minutes ties the content to participants' life experiences through reflection and sharing. After that, the *core activity*, which has two or three main parts and spans about 1 ½ hours, introduces the main topics interactively and provides opportunities for collaborative topic exploration, practice, and problem-based learning. Following this activity, an *integration activity* involves a scenario and accompanying role play that explores one or two of the enhanced roles that we are training the homecare workers to assume in the consumer's care (communicator, health and medication monitor, health coach, care aide, and healthcare system navigator). Each module ends with a *learning circle* that provides all participants the opportunity to briefly reflect on what they have learned and how they will apply it on the job. In most modules, at-home assignments were given. I designed these to be hands-on, active explorations of the care context, so that participants would be more likely to complete them. These assignments often involved having a conversation with the consumer and reporting back on the outcomes of that conversation (see Figure 1). I was careful to be mindful of learners' literacy levels in the design, minimizing the need for extensive reading and writing. In preparation for implementing the design, the client trained teachers to attend to learners' language and literacy and to allow some tasks, such as the at-home assignments, to be completed orally as necessary.

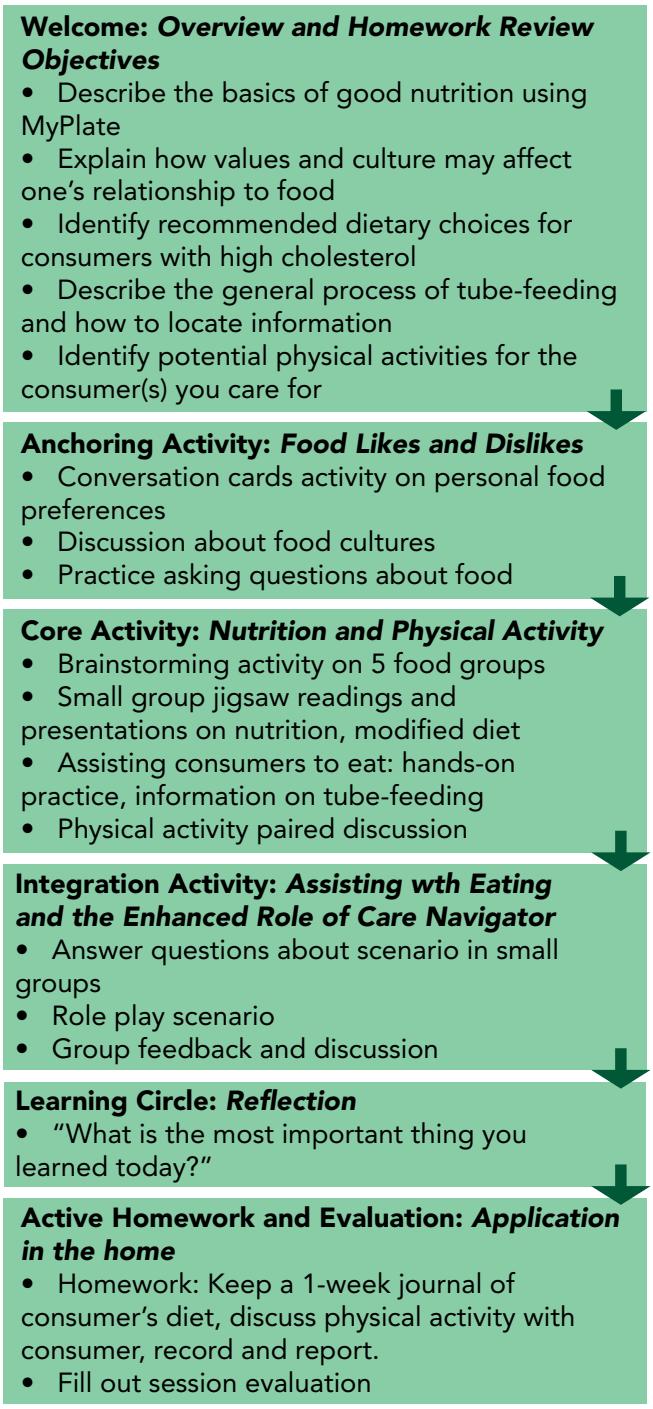

FIGURE 1. Overview of Module 9: Nutrition, Diet, and Physical Activities.

A color illustration was created for each module. This illustration always depicts a homecare provider and a consumer interacting in some way, usually in a scenario that echoes the *integration activity* and its accompanying role play. The illustrations support the understanding of the many participants with low literacy and, taken as a whole, reflect the wide diversity of homecare workers and consumers in

FIGURE 2. The illustration used in Module 9, in which a homecare provider assists a consumer to eat, facilitating that consumer's social lunch with a friend. Illustration by Samuel Tung. Reprinted from the California Long Term Care Education Center (2014).

California (see Figure 2). We feel the illustrations brought the curriculum to life.

Design Process

A national coalition of partners affiliated with a labor union that represents homecare workers wrote the proposal for the federal grant that funded this work. A committee composed of representatives of coalition organizations, including union leaders, policy and homecare specialists, healthcare providers, educators, and health plan staff drafted a list of topics, the number and length of the training modules, and the stipulation that hands-on competency checks, envisioned as collaborative demonstrations of skills, would be used to evaluate participants' learning at least twice during the module series. This committee also determined that the instructional designer should infuse each module with the enhanced roles of the homecare worker through an integration activity designed for that purpose.

In large part, this committee determined the predictable structure, described above, of these modules before I joined the project. Members made these determinations through a consensus-based decision-making process on phone calls, and using design precedents from other worker education initiatives in which the project manager and the worker education center had been previously involved. A similar structure had been used in a successful previous initiative involving the training of hospital workers in sustainable healthcare practices and in which I had also participated.

The project manager, my former client, contacted me about the instructional design position in October 2013. In my interview, she told me about the very tight timeline (training on the completed modules would begin in early January 2014). We also discussed the fact that most of my instructional design experience involved a similar learner population but in different industries. I accepted the position as lead instructional designer, working on a team of three with the project manager and a consultant. The project manager represented the interests of the client organization and the coalition that had won the grant. She facilitated phone calls to collect committee feedback on draft modules, synthesized the feedback if necessary, and conveyed it back to me and the consultant for implementation. When there were differences of opinion among committee members or between the consultant and me, the project manager mediated and had the final word. The consultant, a professional trainer with cerebral palsy, has employed a long-term, state-remunerated homecare worker. As such, she provided the crucial perspective of the consumer in the instructional design process. Our team of three was geographically dispersed. The project manager lived on the East Coast, the consultant was based on the West Coast, and I lived in the southwest mountains. All of our collaboration took place via telephone and email. Finally, the client established four subcommittees of experts drawn from coalition member organizations. These subcommittees reviewed and approved each module as it was drafted.

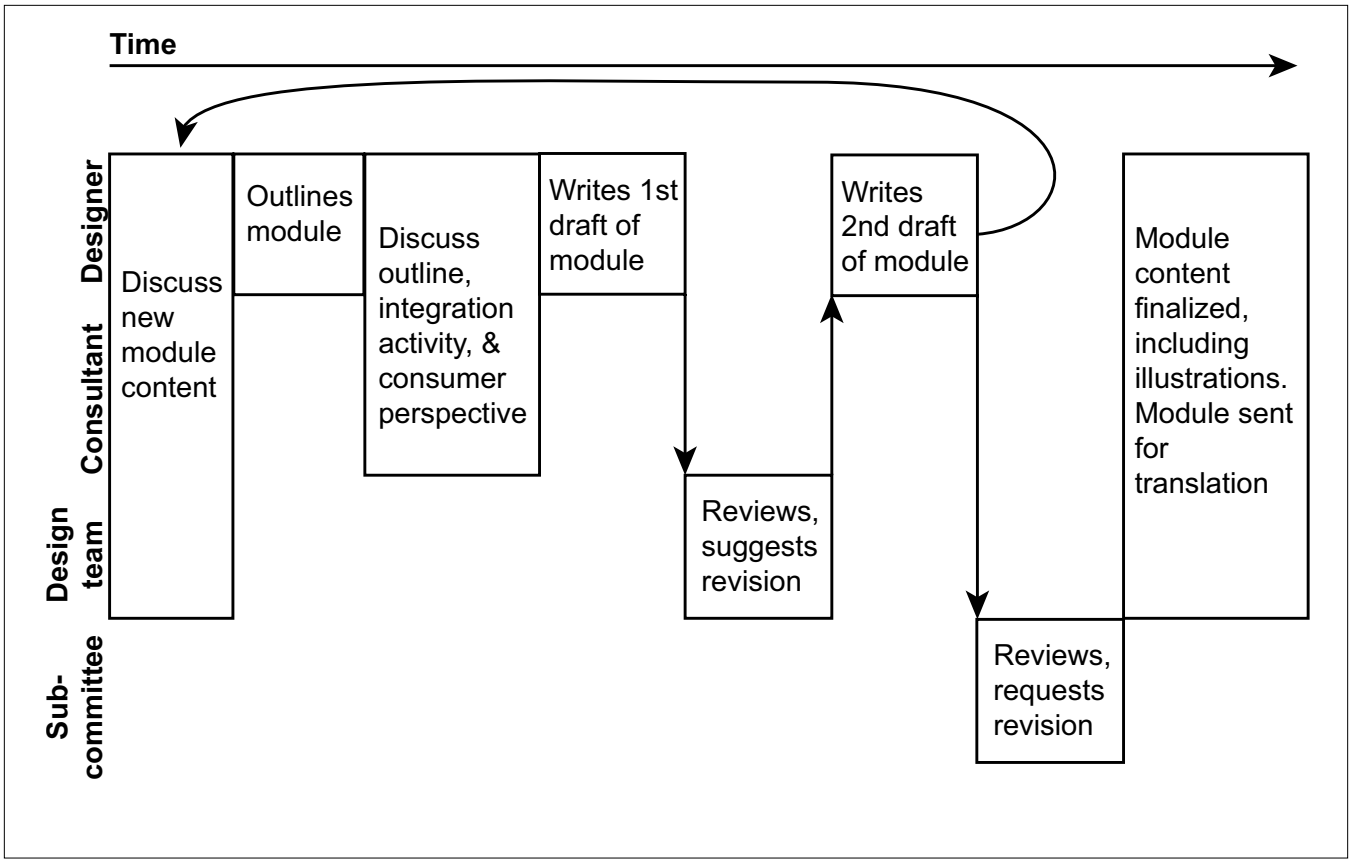

FIGURE 3. The cyclical, iterative design process. As we worked on various modules simultaneously, we typically were moving through different stages of several of these cycles at once.

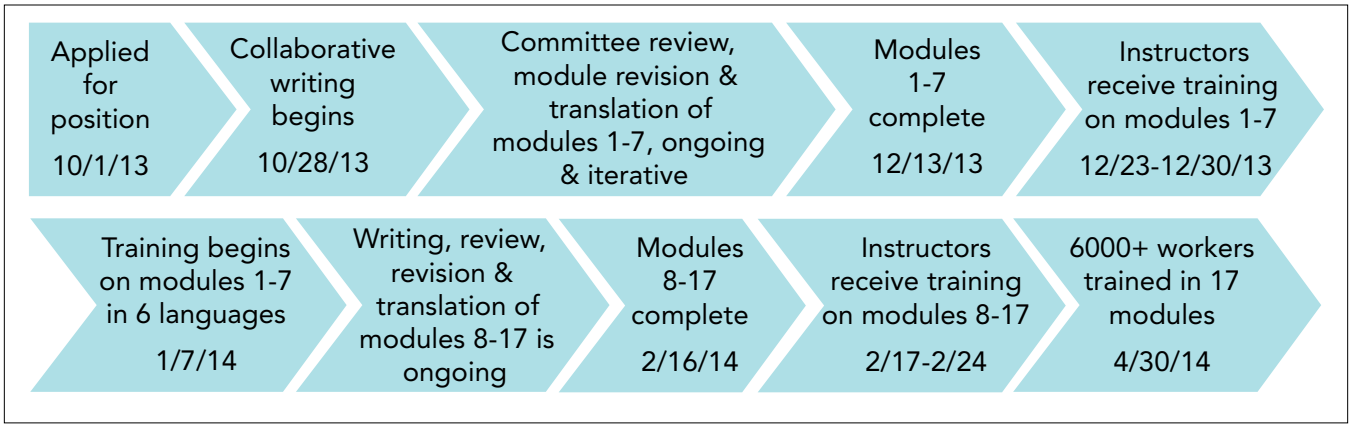

FIGURE 4. Timeline of the design project. While the pilot project ended in April 2014, the training of workers has continued and is signified by the arrow at the end of the figure.

Once module design and development began in late October 2013, it was fast-paced and iterative. The expert committee members suggested learning objectives and provided resources to inform the content of each module. I found additional resources in journal articles, existing homecare trainings from other organizations, and content published online by U.S. government sources such as the National Institutes for Health (NIH). For our design process, we established and carefully followed a series of steps, according to our team roles, to deliver the modules by our deadlines. As soon as a draft module entered committee review, we began the first stage of work on the next module, while revision and finalization of the previous module continued. Figure 3 shows a graphic representation of this cyclical, iterative design process. We quickly reached a point

at which three or four modules were simultaneously moving along different stages of this cycle.

Designing the 17 modules in this way was exhilarating. In addition to juggling multiple, simultaneous design and revision processes, I worked to design engaging learning experiences within a limited time frame for a diverse audience. I also collaborated with an illustrator to graphically represent job skills and consumer-homecare worker relationships for participants with low literacy. I did this while trying to learn the subject matter for the first time at a level of sophistication that would allow me to design constructivist learning experiences for experienced practitioners in this field. I began the project in October 2013 and finished by April 2014, while training over 6,000 homecare workers continued (see Figure 4).

Due to my role in the project and my geographical distance from the worker education center, I did not participate in the implementation of the training modules. However, the project manager told me about the project completion via telephone and email. She described the classes that took place in the various locations as energetic and conversational. She emphasized that over time, the sense of shared experience and community-building was palpable. Homecare can be isolating; homecare workers usually do not have co-workers whom they see regularly. Most graduates from this program incorporated potlucks and other social, sharing events that demonstrated the sense of community that learners had developed.

Two years later, I read about the training program's success in an impact study published by the worker education center (California Long-Term Care Education Center, 2016).

One of the strengths and the principal tension throughout the design process was my collaboration with the consultant. As part of the larger movement for the rights of people with disabilities in California, consumers strongly defended their roles as employers and trainers of their homecare workers. At the same time, many recognized the competing need for additional knowledge and training and the powerful potential of their homecare workers to step into enhanced roles to support consumers' health, enhance their quality of life, and reduce the rate of hospitalizations. The desire of homecare workers and their advocates to change the historical stereotype of them as glorified babysitters and claim their identity as professionals seemed to conflict, at times, with consumers' hard-won right to direct all aspects of their care. In our collaboration, this tension led to conflict and compromise around language, instructional design choices, and messaging within the training modules. The consultant's perspective was critical for my own education throughout this sensitive process and was integral to the shape of the final designed product. For example, it was important that we never refer to the consumer as the patient of the homecare provider, nor as her possession (i.e., *her* consumer). The consumer is the employer of the homecare worker. The consultant also insisted on my very consistent use of person-first language in all the modules and the explicit instruction of this language in the modules. For example, we do not refer to a person as *blind*, but instead as a *person with a visual disability*. We do not refer to a person as *brain damaged*, but instead as a *person with a brain injury*. In this way, we assert the full personhood and dignity of the individual and resist defining him or her by the disability. I was aware of the importance of language choices, but I made many mistakes unwittingly as I learned to consistently use appropriate descriptions. The consultant was quick to notice these and sometimes became impatient pointing them out to me. In several instances, the project manager smoothed over these misunderstandings diplomatically.

Throughout the design of the modules, the consultant provided feedback on my portrayal of consumers' agency. The right of consumers (or their chosen representatives) to make all decisions concerning their care is called the *principle of consumer direction*, and it came to infuse my thinking and writing as a result of my conversations with the consultant. At the same time, we were designing this training in order to encourage homecare workers to step confidently into new roles (with the consumer's permission). For example, I designed instructional materials to help homecare workers learn to identify the potential signs of wounds caused by diabetes. I also designed materials to support them in communicating these signs and symptoms to other healthcare professionals. However, a crucial consideration in this scenario is that, according to the principle of consumer direction, the homecare worker may not contact another member of the consumer's care team without the consumer's permission and, ideally, active participation. In these situations, the consultant and I often had to compromise. We would agree to instruct homecare workers to discuss their observations with consumers and make decisions together about the appropriate course of action. The homecare worker, armed with knowledge about diabetes from our training, and aware of her new, integrated role as health coach, would encourage the consumer to seek care. In her integrated role as health system navigator, she would then assist the consumer to make and attend appointments. One can see, however, the potential ambiguousness of personal agency, decision-making, and strict adherence to these roles in many real-life scenarios, such as when a homecare worker and a consumer disagree about the urgency of perceived symptoms. The consultant and I made decisions and negotiated how to write these on a case-by-case basis, often with the project manager as the final arbiter. I came to deeply respect the consultant's dedication to the principle of consumer direction and it has informed my work in the time since this project concluded.

To support the principle of consumer direction, we designed Modules 1 and 17 to be attended by both homecare workers and consumers. This design decision was made largely by the committee, and then implemented by both the design team and the committee. The committee took a leading role in this part of the design because of the unusual nature of this design feature and the challenges in implementing it successfully. In these modules, the consumer has the opportunity to see what the homecare workers are learning and how they spend their training time, as well as ask questions and express needs. This design choice honors the agency of the consumer while asserting the homecare worker's integral role as part of the care team. In addition, regular homework assignments asked the homecare worker to discuss key matters with the consumer in the week following training and to learn more about the consumer's needs and preferences for care. Classes had to be held at accessible locations, and teachers had to be prepared to modify instruction in various ways to account for consumers' care needs. In addition to Modules 1 and 17, consumers often, out of necessity, attended other class sessions because other care options were not available.

Another challenge I encountered throughout the design process was the management of multiple revisions of each module. Because development time was so tight, the four committees reviewed the draft modules simultaneously, resulting in four sets of edits that had to be incorporated into the final draft. Furthermore, these edits sometimes contradicted each other or contradicted the consultant's edits that had been incorporated into earlier drafts of the module. The project manager addressed this problem by compiling the edits into one document and discussing with committee members on regular review calls. However, committee members who couldn't attend the calls soon clogged my inbox with multiple versions of edited documents, which often included imprecise or ambiguous file names. This led to confusion and, at times, a failure to attend to edits. This problem was exacerbated when, midway through the design process, the client organization hired a new education director. He, too, reviewed the modules, often with the organization's trainers, which created yet another group of potentially inconsistent edits that had to be incorporated. In these situations, I often found the need to speak up for my design decisions and push back when I disagreed with reviewers' changes. One example of this took place with the *learning circle activity* that appeared at the end of every module. In my conceptualization of this activity, participants were encouraged to reflect out loud about what they had learned that day and what they would apply in their work, but the trainer was directed to tell participants that they could say, "pass," if they preferred to keep their reflection to themselves. I felt that this choice was respectful to participants' privacy and learning preferences, but many reviewers felt that participants should have been required to share their reflections. I pushed back on this and, eventually, we reached a compromise that did not compel participants to share but without explicitly mentioning a "pass" option. It would be up to the trainer to encourage participation in this activity.

A problem that occasionally arose was the lack of substantive feedback. Review committee members were busy professionals who sometimes did not have the time to provide an in-depth review of the content during the allotted time. I particularly needed this feedback due to my lack of expertise in home healthcare and the importance of obtaining accurate information in this context. Instead, reviewers sometimes focused on punctuation or document-formatting errors that were left in the drafts due to my necessary haste, or shared their opinions on instructional design matters that were tangential to content. This situation led to a decision by the client organization and project manager to hire an editor near the end of the project. From this experience, I learned to differentiate my work as an instructional designer from the work of an editor—an important distinction.

Despite occasional differences of opinion, in most cases I incorporated reviewers' feedback verbatim, unless the consultant disagreed with it, which often related to medical accuracy rather than details of pedagogy. Once I revised a module, that draft was returned to the subcommittees for final review and approval. In this way, the subcommittees made the official final decisions about content. However, because of our necessarily quick turnaround, the trust that had developed through our collaborative process, and the respect for our different areas of expertise, the subcommittees rarely vetoed our decisions in the final draft - when they did, this usually focused on clarifying points related to healthcare and best practices regarding personal care for consumers.

CONCLUSION

Overall, this instructional design experience was a complex, fast-paced initiation for me into the topic of homecare, instructional design in healthcare, and collaborative design. Although I have engaged in instructional design for the better part of 20 years, I have worked almost exclusively by myself or with minimal input and feedback from others. I am accustomed to my independence, but this project helped me recognize the value of collaboration. The consultant's knowledge, first-hand experience, and consistent focus on language and framing were crucial. Working alone, I would never have been able to design an effective training in this context. At the same time, collaborative design added a layer of uncertainty. Conflicts and differences in perspective had to be addressed within a tight timeframe. I was forced to relinquish some control over the process - a new and challenging experience for me.

The iterative, complex, and often stressful design process sometimes left me feeling uncomfortable while we were

in the midst of it, and even ashamed that I was not able to impose better order upon it. Upon reflection, however, I have come to see that this uncertainty is likely inherent to the process of design. Problem framing takes place over time and in dialogue with stakeholders. As we design, our problem changes, shaped by our shifting understanding of audience and stakeholder needs, the priorities of others, and our own beliefs and experiences. These realities of design make it unlikely that I could have orchestrated a neater and more linear design process, even if I had had more time. I believe that student designers should be aware of this "messy" element of design and learn to expect and even embrace it.

Nonetheless, more design time would have significantly reduced stress, if not uncertainty. The client did not provide enough time for the design of their training to take place in a richly collaborative manner. I do not know all the reasons for the short amount of time allotted; through my discussions with the client, it has become clear that the time-consuming process of collaborative planning by the large coalition of organizations, coupled with deliverable deadlines written into the grant proposal, partly led to the rush that was imposed upon the design team. Throughout my career and in numerous, diverse contexts, I have often found that insufficient amounts of time and resources are devoted to the instructional design products, which are so integral to larger goals. This reality has always seemed to undervalue the instructional designer's work. This design experience reinforces my commitment to strongly advocate among my clients and other organizations, whenever possible, for the time and resources needed to create high quality design products.

Finally, we were glad to note that initial studies of this training's outcomes were very positive. In 2016, the client published results that indicated 41% declines in repeat ER visits by the second year after the training for those consumers whose homecare workers had completed the training, as well as savings of up to $12,000 per consumer for members of one health plan due to reduced ER visits and hospitalizations. We surmise that the training's length and intensity, its constructivist approach, and its focus on the learning needs of workers who speak languages other than English, and workers with low literacy, contributed to its apparent success.

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