Co-Creating Open Educational Resources: A Practice-Based Model for K-12 and Higher Education Partnerships

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OER
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This design case presents a detailed analysis of a project that created nine openly-licensed books and over 250 openly-licensed videos in a four year time-span, bringing together a team of more than 60 K-12 educators, 20 authors, and five editors. The case outlines the project's design, implementation, and contributions to practice-based scholarship strategies. It provides insights into the complexities of co-authoring open educational resources with practitioners and proposes strategies for fostering sustainable partnerships through practice-based scholarship using the Collaborative Resource and Alliance Framework for Teaching and Educational Development framework. Ultimately, it advocates for a more inclusive vision of instructional design—one that values the expertise of those on the front lines of education and leverages their insights to create meaningful, practice-driven resources.

Introduction

As instructional designers and educators seek to bridge the gap between research and practice, partnerships between K-12 teachers and higher education faculty offer a promising model for collaborative knowledge creation. This design case presents a practice-based scholarship (PBS) initiative that engaged more than 60 K-12 educators as both content providers and co-authors of a series of open educational resources (OER). The case introduces the Collaborative Resource and Alliance Framework for Teaching and Educational Development (CRAFTED) framework. This framework follows five steps to support the meaningful integration of practitioner expertise in OER research and development:

1. Conceptualizing the need for collaborators
2. Recruiting collaborators
3. Appointing collaboration leaders
4. Fostering content creation
5. Teaching and Educational Development

This initiative was grounded in the need for practitioner-driven educational resources that reflected the realities of K-12 blended instruction across various curricular contexts while adhering to rigorous instructional design principles and research methodologies. Too often, educational research and instructional design are detached from the lived experiences of teachers and students. By embedding practitioners into the authorship process, we aimed to produce OER that were not only research-informed but also responsive to practitioner needs. The development of the CRAFTED framework was necessary to build on pre-existing co-design models, such as design-based research (DBR) and successive approximation models (SAM). In DBR models, co-design typically occurs during the needs analysis phase or the evaluation stage of design, as is the case with SAM. The CRAFTED framework involves practitioners at all stages of the design process, helping them become designers, developers, and evaluators.

The lessons learned from this initiative underscore the benefits of a practice-based and research-informed co-authorship model. First, integrating practitioners as OER co-creators rather than passive stakeholders fostered a deeper sense of ownership and investment in the final product. Second, iterative feedback loops strengthened the alignment between research-based best practices and real-world instructional challenges. Third, transparency in design goals and decisions fostered a professional learning community in which K-12 teachers and researchers engaged in reciprocal knowledge exchange.

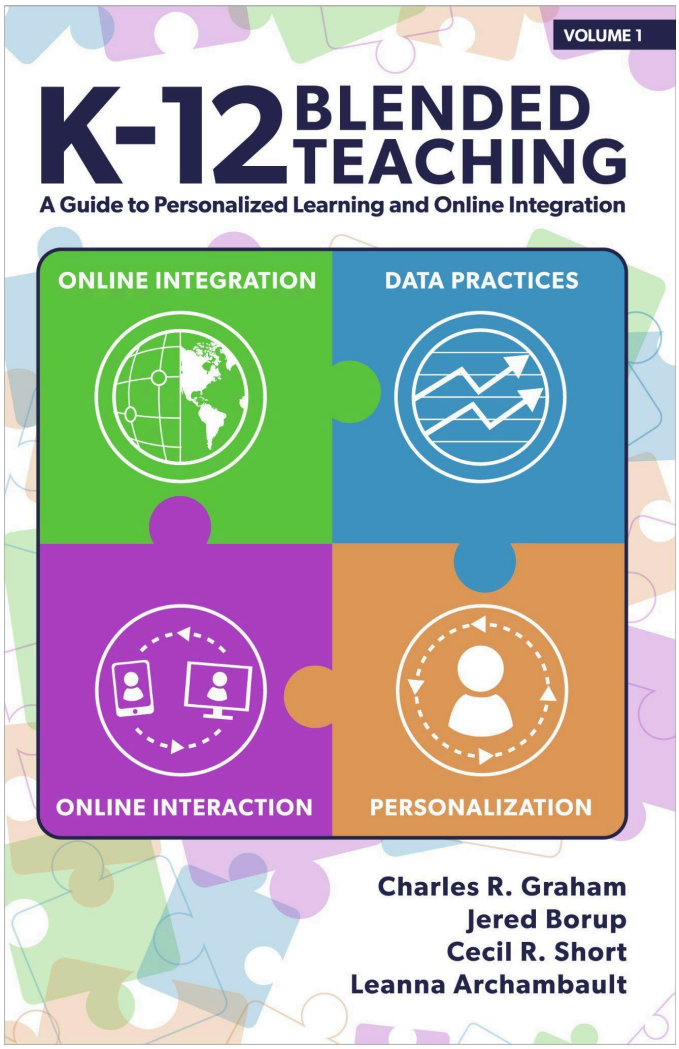
Our design case presents key steps for implementing an effective PBS model, identifies challenges in practitioner-researcher collaboration, and offers actionable recommendations to strengthen these partnerships. By embedding research within practice, the CRAFTED framework is an approach that is not only facilitative and open-ended but also deeply rooted in educators' lived experiences. More specifically, this analysis shares experiences with the challenge of recruiting K-12 practitioners with demanding professional lives and engaging them in the creation and dissemination of research-based practices. Additionally, it highlights how more than 60 K-12 educators partnered with 20 authors and a five-person editorial team to publish 9 openly licensed books and 263 openly licensed videos over a 4-year period, challenging traditional hierarchies of knowledge production by positioning practicing teachers as both knowledge consumers and producers. Such a process demonstrates how collaborative OER development can serve as a vehicle for professional learning, enabling teachers to engage in sustained, reflective practice while contributing to the broader educational research landscape.

Background

As reported by Short (2019), this project originally set out to create a single openly licensed book focused on K-12 blended teaching and instruction (Figure 1). The goal of this singular text was to guide both preservice and in-service educators, along with their administrators, in implementing blended teaching based on research-based competencies and domains. Blended teaching is the strategic combination of online and in-person modalities for effective instruction that benefits from the affordances of each modality without also incurring their restraints (Graham, 2021).

Figure 1

Cover image for the first book of the K-12 Blended Teaching series



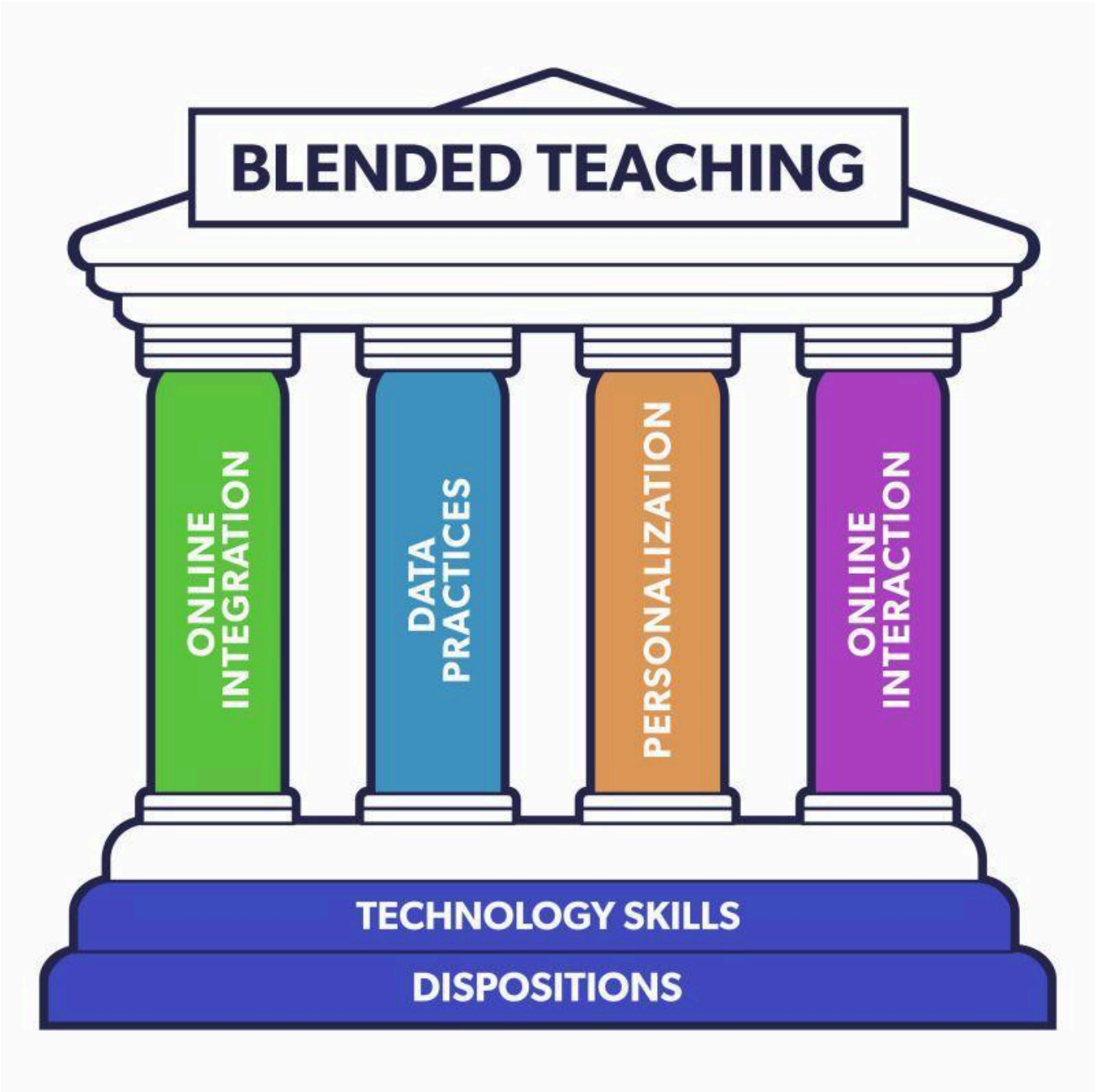
In the pre-COVID-19 years, several states had moved to requiring K-12 teachers to receive professional learning on teaching across multiple modalities, inspired by a call from the U.S. Department of Education's (2017) National Education Technology Plan. Following the pandemic, the Council for the Accreditation of Educator Preparation (CAEP), which has accreditation agreements with 34 states in the U.S. and is also used as the accrediting body for educator preparation programs at universities in other states, revised its standards to include "clinical experiences, utilizing various modalities" (CAEP, 2022, R2.3). Such calls for blended teacher readiness require research-based standards for preparing educators for blended teaching.

Research leading to the creation of the first book in this OER series, *K-12 Blended Teaching*: A Guide to Personalized Learning and Online Integration (Graham, Borup, Short, & Archambault, 2019), began with a need to develop a blended teacher-readiness instrument. Specifically, a large school district in the Northeastern United States was launching a blended teaching initiative and seeking a validated instrument to measure blended teacher readiness within the district. A major obstacle to developing an instrument was the lack of a framework to identify and define the core blended-teaching competencies. Supported in part by fellowship funding through the Michigan Virtual Learning Research Institute, researchers engaged in a multi-year iterative process to develop both a blended teaching readiness framework and an instrument that described and measured the core competencies required for successful blended teaching that were uniquely different than the skills and abilities needed for in-person and/or online teaching (Graham et al., 2017; 2018; 2019; Pulham et al., 2018; Pulham & Graham, 2018). The final framework and measurement instrument were made openly available and focused on four main domains for blended teaching that built on foundational dispositions and technology skills (Figure 2): (a) online integration, (b) online interaction, (c) data

practices, and (d) personalized instruction. The instrument was then validated by Archibald et al. (2021). These four domains were further validated via analysis of blended teaching artifacts and examples of blended teaching practices (Short et al., 2021).

Figure 2

Knowledge and ability domains for blended teaching



It was also understood that describing and measuring blended teacher readiness was insufficient and additional attention needed to be paid to helping blended teachers grow in their readiness. When this project started in 2018, the few books available to guide educator preparation for blended teaching were costly and focused more on practical approaches than on research-based knowledge and abilities (Short, 2019). As such, using a small internal seed grant from his institution, the lead

author of Graham, Borup, Short, and Archambault (2019) assembled a team of authors and designers who could create an openly-licensed book that would use the four key domains above to provide educators with a research-based approach to blended teaching preparation.

Open Educational Resources

The decision to create an openly licensed guidebook for blended teaching was informed by OER initiatives at the lead author's institution, Brigham Young University. OER refers to educational materials created with an open license, allowing users to revise, remix, redistribute, retain, and reuse them as they see fit (Wiley, 2013). Prior to starting this project, the current OER in use within the authors' departments anecdotally provided students with increased access to learning materials, thereby improving learning. Additionally, OER such as West's (2018) *Foundations of Learning and Instructional Design Technology* and Kimmons's (2016) *K-12 Technology Integration* (see Ottenbreit-Leftwich & Kimmons, 2020) have demonstrated the ability of openly licensed books to impact the fields of instructional design and teacher education beyond the authors' respective institutions. Such anecdotal and scholarly evidence inspired the team working on the first book of the *K-12 Blended Teaching* series to further explore opportunities enabled by OER.

Research focused on OER-enabled pedagogy, pedagogical practices that rely on openly-licensed resources and OER (Wiley & Hilton, 2018), has demonstrated that such pedagogies allow for increased learner engagement due to easier access and lower costs for educational materials (Draper et al., 2020). Additionally, participating in OER-enabled pedagogies allows learners to participate in "learning, collaboration, and engagement with the world outside of the classroom" (DeRose & Robison, 2017, p. 118). The use of OER can promote the integration of real-world resources into future or current educational practices without extensively worrying about the legal requirements and consequences of using such materials (UNESCO, 2002). Preservice teachers enrolled in Teaching in K-12 Online and Blended Learning Contexts—the undergraduate course that provided a testing ground and need for *K-12 Blended Teaching*—were encouraged to create online modules and assignments that they could use in their future educational contexts (Arnesen et al., 2019; Short & Arnesen, 2022). Using an openly licensed guidebook helped them more easily adapt the book's resources to their unique educational and professional needs.

The Need for Co-Design

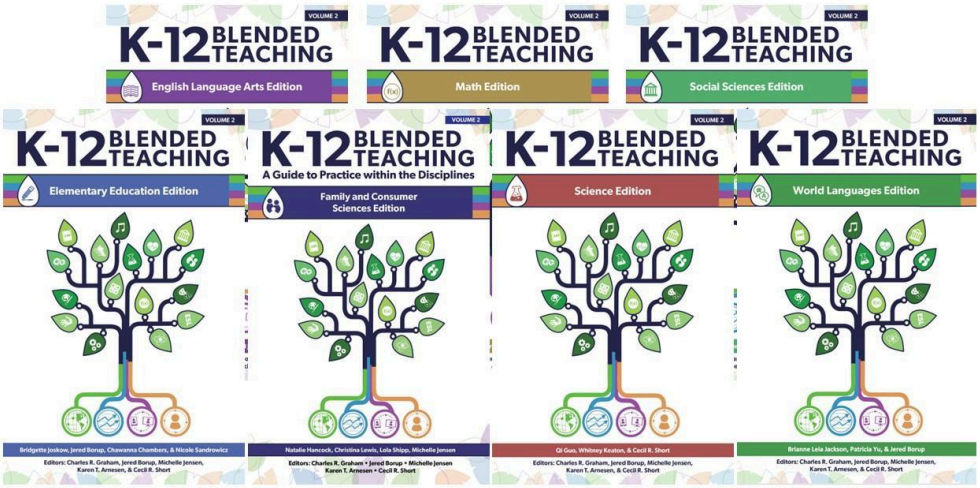
Co-designing instructional materials is an established instructional design practice. Roschelle and Penuel (2006) presented co-design as "a highly-facilitated, team-based process in which teachers, researchers, and developers work together in defined roles to design an educational innovation, realize the design in one or more prototypes, and evaluate each prototype's significance for addressing a concrete educational need" (p. 606). For this specific project, as outlined below, the need for co-design became clear to researchers when the first book in the *K-12 Blended Teaching* series failed to fully meet practitioners' needs. While generally well received, an evaluation of the book found that practitioners desired more vignettes and examples of practices from blended teachers specific to their grade level content areas (Short, 2019). This call reflected the need to gain a key benefit of co-design, as explained by the co-designing of solutions for challenges in healthcare systems:

> *[B]eginning the design process from the reality of people's everyday work environment rather than designing from theory something that "should" work for them . . . added another dimension to the process by helping to keep in mind at all times the ultimate aim of improving the healthcare system. (Ward et al., 2018, p. 10)*

The "everyday" lived examples of blended teaching from the practitioner co-creators helped ground blended teaching solutions in real-world problems of practice and provided key directions and examples to guide the creation of content-specific editions of the *K-12 Blended Teaching* series (https://edtechbooks.org/k12blended_series see Figure 3).

Figure 3

Covers for the seven content-specific editions of K-12 Blended Teaching, Volume 2



Additional investigations in co-design have found that certain friction points can be expected when working with a team and that careful consideration of co-design elements enhances design efficiency. Wehr (2024) identified several friction points that come from co-creating solutions to problems of practice with stakeholders who are experiencing those same problems. Their research highlighted the importance of (a) making sure the goals of the project are clear to all those involved throughout the process, (b) providing participants with decision-making roles during the project, and (c) leaning into unexpected responses so as not to upset the power dynamic between researchers and practitioners. Similarly, McNeil et al. (2024) found that intentional decisions around (a) who should be selected to support co-design, (b) the goals of the design project, (c) the way in which the collaborative environment will foster co-design, and (d) supporting collaboration among all members will lead to "the building and sustaining of strong, resilient, collaborative teams" ("Discussions of Lessons Learned," para. 1). As the design team for the *K-12 Blended Teaching* book series expanded from five authors and three additional designers in book one to five editors, two designers, 15 authors, and over 60 research partners, it became important to establish clarity concerning the roles of each collaborator and make sure that key goals of the project remained at the forefront of each collaborator's work.

While the initial goal of the project was to create only a single book (Volume 1), based on the evaluations of that book, it became apparent that a second volume was needed. As detailed in Short (2019), the evaluations from practitioners showed that a second volume of the text would require additional content such as "more teacher vignettes, helpful how-to check lists for planning a blended lesson, more general approaches to educational software and technologies, [and] better examples of implementing blended teaching at the elementary level" (p. 19). One reviewer remarked:

I would not label this book as K-12. It feels more like a 3-12 or even 4-12 book. I would be disappointed if I had bought it, thinking it would help me get blended learning off the ground in my first-grade classroom. There was nothing really (other than Flipgrid, which I already use) that I found could be used in a first-grade classroom.

Therefore, volume two would need to meet the following goals:

1. Provide content focused on specific grade levels and content areas with context-specific examples of blended teaching practices,
2. Include more video vignettes for each grade level and content area that would amplify the voices of practitioners,
3. Situate examples of blended teaching within existing research-based blended teaching readiness frameworks,
4. Frame existing blended teaching pedagogies as solutions to specific problems of practice within K-12 contexts.

The Collaborative Resource and Alliance Framework for Teaching and Educational Development Framework

The CRAFTED framework has five stages. The first stage, conceptualizing the need for collaborators, focuses on recognizing the biases and limitations of researchers and analyzing the need for collaborators–establishing the information, roles, or abilities needed from collaborators. The second stage, recruiting collaborators, focuses on finding co-designers who can fulfill the needs established in the first stage. The third stage, appointing collaboration leaders, focuses on assigning specific roles to members of the co-design team–establishing who will lead smaller design teams, who will report progress to whom, and who will provide feedback on the team's designs. The fourth step, fostering the creation of content, focuses on leveraging information gathered from co-designers to facilitate low barriers concerning the timely co-design of needed products. These first four stages are iterative and may come in various cycles similar to the Successive Approximation Model of instructional design (Allen, 2024) or Design-Based Research models (Fraefel, 2014) that create design-evaluation loops for evaluating designs or research before disseminating finished products or findings. As detailed below, there were times that editors needed to re-establish leaders to take on various roles. In such cases, these stages would be repeated based on the newly established needs of the project.

The final step of the CRAFTED framework, teaching and educational development, involves advancing designs so they are presentable and usable for practitioners not involved in the co-design process and for researchers interested in using the designs for theory development. In the case of the *K-12 Blended Teaching* series, this meant developing an OER platform that could publish the first book with all of the features that the authors desired. Because existing OER creation platforms failed to provide the necessary features for the book, the design team collaborated with Dr. Royce Kimmons to develop a new platform, EdTech Books (Short, 2019). Subsequent books in the series were then formatted to leverage EdTech Books' features so they could be shared with practitioners who would benefit from the additional support and resources offered in the content-specific editions. Figure 4 displays the iterative nature of the first four steps of the framework, followed by the final stage of using the designs for teaching and educational development.

Figure 4

The CRAFTED framework's iterative and sharing stages

The following subsections detail each of the five stages of the CRAFTED framework across various aspects of designing the *K-12 Blended Teaching* series, with particular emphasis on the eight books that make up Volume 2.

Stage One: Conceptualizing the need for collaborators

The need for collaborators to co-design these OER was established early on by the primary author of *K-12 Blended Teaching*, Volume 1. The author realized that writing a six-chapter book would be more efficient if he had a team of authors to work with. According to Short (2019), this team originally consisted of three authors, but was later expanded to include a fourth. The additional author enabled each chapter of the book to be primarily authored by a two-author team, allowing each team to evaluate the other team's chapters for revisions. While the authors contributed to design considerations (in addition to content), additional designers were brought in as needs arose. The specific needs that these designers addressed were designing preliminary graphics throughout the text, creating links for text features that needed them, and searching for websites and videos to reference in each chapter as examples of practice. After the initial version of Volume 1 was sent to 19 reviewers, it became clear that even more collaborators would be needed. The primary additional collaborator needed for Volume 1 was a graphic designer to improve the design and look of the book cover and various chapter images (see Figures 1-3).

While the 15 blended learning researchers and teachers who completed holistic surveys to review Volume 1 generally had very positive responses to the text, the 9-11 practitioners who completed surveys to review each chapter almost all asked for more examples that were relevant to their real-world teaching practices and more vignettes that would amplify practitioner voices (Short, 2019). Instructors who were teaching the course in which the guidebook was piloted, an undergraduate course specifically focused on K-12 blended and online learning for pre-service teachers, also felt a need to have more content-specific examples to support the varied needs of preservice teachers preparing for careers in different grade levels and content areas (Arnesen et al., 2019; Short & Arnesen, 2022). These calls for more examples, especially examples that amplified practitioner voices, were a powerful call to conceptualize the need for collaborators.

Upon reviewing Volume 1, the authors realized that the lack of real-world examples was a direct result of the biases and limitations of the researchers who were authoring the book from a research-based perspective. While some of the authors had first-hand experience with K-12 blended teaching, others were further removed from such practices, reporting on second-hand or theoretical experiences. This gap between research and practice led to analyzing the need for additional information from collaborators and to identifying who could provide it.

So, three of the authors involved in Volume 1 set out to interview teachers with experience in blended teaching and to ask them about their specific practices related to the four domains of blended teaching. The authors created an interview protocol to use in 90-minute semi-structured interviews and set a goal to interview multiple teachers across various K-12 grade bands and content areas. To assist with this process, the authors realized they would need additional researchers to help with the interviews. With these goals in mind, the authors proceeded on to stage two of the project–the recruitment of collaborators.

Stage Two: Recruiting collaborators

To continue the project of creating a second volume of the *K-12 Blended Teaching* series that would provide more context-specific support for teachers, it was clear that the original team of authors would need to recruit collaborators to assist with two tasks. The first task involved assembling a research team to interview K-12 teachers and help code those interviews. The second task involved finding multiple K-12 practitioners across grade levels and content areas to participate in the 90-minute semi-structured interviews. More collaborators were needed to complete the project, but those additions are detailed in the "Repeating Stages One Through Four" section below.

Seeking Research Assistants

In seeking research assistants, the primary author issued a call to graduate students in his program. He ended up hiring several students to complete interviews with the K-12 partners. The research team that conducted interviews consisted of one faculty member from outside the lead author's institution and four graduate students. Two additional research assistants then assisted with the preliminary coding of the interviews, sorting examples of practices that could model effective blended teaching pedagogies across the four blended teaching domains (Figure 2). These research assistants were all paid by the project lead's institution and worked various amounts of hours, as they were able.

Seeking K-12 Blended Teaching Practitioners

Inviting practitioners to participate in interviews had two stages. The first stage invited interested contributors to complete a survey about their blended teaching experience. This survey explained, "We are collecting case examples of K-12 blended teaching that can be highlighted in the book *K-12 Blended Teaching*: *A Guide to Practice Within the Disciplines*. Please fill out this form if you are interested in sharing your experiences with blended teaching." The form then asked for the participant's (a) name, (b) email address, (c) content domain(s)–including elementary math, early childhood and elementary literacy, other elementary subjects, special education, teaching English as a second language, and secondary subjects of English language arts, engineering, family and consumer science, foreign language teaching, history, math, music, performing arts, physical education, science, social studies, and visual arts, and (d) a brief description of their experiences with blended teaching. Participants who were interested in sharing their experiences were encouraged to review the four domains of blended teaching to structure their experiences.

Invitations to submit the survey were posted in the first volume of the *K-12 Blended Teaching* series and disseminated through professional organizations and through the research team's personal connections. The invitation provided a little more detail about the project, explaining that those chosen to participate in 90-minute interviews would be compensated with $50 Amazon eCards. The design team was able to offer this incentive through grant support and research funding from two different institutions of higher education. Each institution employed one of the researchers who led the project.

If the survey responses seemed relevant to the project, a member of the research team would volunteer to interview the K-12 practitioner. The necessary forms for sharing information obtained from the interviews and for providing compensation were obtained, and then the research partners would complete the interviews. In total, the research team completed 62 interviews. A breakdown of the teachers' content areas is shown in Figure 5, reproduced from Hanny et al. (2021).

Figure 5

Distribution of K-12 practitioner collaborators across grade levels and subject areas

Number of Interviews	Grade Level	Subject
2	K-3	General
14	4-6	General
8	7-12	Humanities (Language Arts, Foreign Language)
7	7-12	Social Science (History, Social Studies)
12	7-12	STEM (Science, Engineering, Math)
5	7-12	Arts (Visual Arts, Performing Arts, Music)
5	7-12	Other (Physical Education, Health, FACS, Special Education)
9	Multiple	Librarians (4), Tech Specialists (2), Special Education (1), Humanities (2)

As might be expected from work with K-12 practitioners, the design team initially faced a challenge in recruiting them due to their demanding professional lives. The most difficult barrier was finding a way to get started. The team reached out to local area teachers from the mountain west and east coast of the United States who had previously worked with the team in research capacities or through completing coursework related to blended teaching with members of the design team. Two members of the design team, either previously or currently, worked in K-12 settings, and they reached out to colleagues who were familiar with implementing blended learning practices. In the end, the project benefited from two key strategies for finding K-12 collaborators. The first is that the design team was already made up of 8-10 researchers who had personal connections to practitioners, and the second was that two of those researchers' institutions could provide stipends to the participants.

The team felt as though the monetary incentive would be enough to convince many K-12 teachers to pledge some of their time to the project; however, many teachers were happy to participate simply for the sake of sharing their practices and helping other teachers. While this was surprising to the design team, it aligned with findings from other co-design projects that amplifying participants' voices leads to greater ownership and investment in the final product (Ward et al., 2018). It is worth noting, however, that all participants were still paid for their time and contributions.

Stage Three: Appointing collaboration leaders

With transcripts from over 60 interviews, the design team was ready to move forward with planning how these interviews would be used to address the research-practice knowledge gap in K-12 blended teaching. At this point, it was decided that the group would divide into two teams, appoint collaboration leaders for each team, and assign specific members of the design team to subsets of the interviews. The first team would focus on using the interviews for research-focused publications, while the second team would focus on writing *K-12 Blended Teaching*, Volume 2, titled *K-12 Blended Teaching*: A Guide to Practice Within the Disciplines. There was some overlap between the two teams, with members of the research book team helping with research articles and members of the research team collaborating on findings for the book, creating organic feedback loops. The two teams were led by full-time faculty members from two different institutions, both of whom were authors on the first book of the series. Each team member was assigned a specific subset of the interview data for their respective project. Members of the book team began focusing on specific content areas and curating examples from those areas for the book,

while members of the research team were assigned specific elements of blended teaching research to contribute to the book using the interviews.

This plan seemed to work well, initially. The research team identified who would write various articles highlighting specific findings from the interviews. One team focused on blended learning in general, highlighting some of the barriers and enablers that helped teachers to embrace blended teaching (Hanny et al., 2022), and another team focused on evidence from practice to further support the research-based approach of the first book (Short et al., 2021). Other teams added to general blended teaching literature (Graham et al., 2023; Graham & Draper, 2023) and blended teaching evaluation frameworks (Borup et al., 2022, January 11). A final set of teams focused on findings specific to blended teaching domains–decision making for online integration and online interaction (Jensen et al., 2024), implementation of personalized learning, and how such implementations shape practical definitions of personalized learning (Short, 2022; Short & Shemshack, 2023). When it came to writing the second volume of the book series, the purpose behind the interviews, a nearly insurmountable barrier arose.

The team created to design the second book consisted of four authors. These authors would include two authors from Volume 1–but with different roles as the second author transitioned into being the lead author for Volume 2, and the lead author from Volume 1 supervised the research teams–and two new authors who had worked as researchers during the interview process in stage two. Barriers began to arise when these four authors created their plan for fostering content based on the interviews.

Stage Four: Fostering content creation

As many book projects do, the design team started by creating the outline. The outline for Volume 1 served as a guide for structuring the book. The team had decided to create a couple of introductory chapters to introduce blended teaching competencies and what to expect from the book, and then develop chapters that would focus on each specific content area across grade levels, providing rich examples of practice for each domain of blended learning. The outline had two introductory chapters, then a chapter on math at the elementary and secondary levels, a chapter on science at the elementary and secondary levels, a chapter on engineering education, then a chapter on English language arts, etc. That first outline listed 23 chapters. The authors realized this would be a much larger project than Volume 1, in which each author team wrote only 2-3 chapters. Yet, the book team soldiered on.

Then they hit their second barrier: providing examples and vignettes of blended teaching practices related to online integration, online interaction, data practices, and personalized learning for each content area, and at different grade levels, meant each chapter would be about as long as Volume 1. It became clear that the book team was going to need to shift its trajectory in two important ways. First, they needed to pivot from writing a second book to writing an entire series. Second, if the four of them were now going to write multiple books instead of just one, they would need more collaborators. So, they went back to stage one of the CRAFTED framework and started again with a new goal in mind–write a series of content-specific editions of *K-12 Blended Teaching, Volume 2*.

Repeating Stages One Through Four

This section is not meant to rehash all of the processes that go into the first stages of the CRAFTED framework described above. Instead, it will summarize the key strategies used in repeating the first four phases of the framework.

Conceptualizing the Need for Collaboration

With a new goal for the project in mind, the book team set about re-conceptualizing the need for collaborators. The team of book authors decided to transition to a team of book editors that could oversee the design of the entire book series. This meant they needed to find authors who could help them write each of the content-specific books in the series. They also realized at this juncture that they would need richer resources for those authors than the interview transcripts they had been using. As such, they would need to reach out to some of the interviewed teachers who demonstrated masterful practices and

ask them to contribute to this project again, this time in the form of short videos that discuss, model, and detail their blended teaching practices. These “master teachers” would also be asked to provide any other artifacts–e.g., assignments, activities, module or learning software screenshots–that they could use to create richer examples of blended teaching practices. Lastly, they would need a team of designers working behind the scenes to help prepare collaborators' videos for publication in each book. Creating the book series would require the co-design abilities of researchers as authors, K-12 practitioners to provide content and examples for the books, and designers to prepare content and examples for publication.

Recruiting Collaborators

Before seeking additional authors, the designers sought additional collaboration from the teachers they had previously interviewed, focusing on recruiting those who shared the richest examples during their interviews. To help facilitate this process, the book team reached out to the research team to determine which examples were being highlighted in the research and then reached out to the teachers who had provided those examples. Similar to the first time through, teachers were offered compensation for each video created ($25/video) and asked to share artifacts with the book team. While teachers received compensation, it did not seem to be their main motivation for sharing their practices, as several expressed that they were simply happy to have a way to amplify their voices and share their practices as part of the project.

To find authors to help write the content-specific editions of Volume 2, the researchers employed a two-pronged approach. First, they asked the interviewed teachers to provide rich media content for each book. The researchers also inquired whether those model teachers would also be willing to help write the book for their context. While most teachers felt they did not have the bandwidth to take on such a project, some agreed to help author the books. In cases where no teachers agreed to help write the books, the project team used their personal networks to find teachers with specific subject-matter expertise to assist with authoring the books.

To find designers to help with the videos, the faculty members working on the project created job postings seeking students with video editing skills. Several video editors rotated on and off the project, but the design team was careful to track the files used from one editor to another. There were usually one to two video editors employed at a time, which began to slow down some of the production process, forcing authors to decide which raw footage to keep and work around the edits before the videos had actually been made. The bottleneck did not slow down the design of the books, only their final production.

Appointing Collaboration Leaders

As content creation began, it was paramount to be transparent with the design goals and decisions being made for each edition. This helped cultivate a professional learning community in which K-12 teachers and researchers engaged in reciprocal knowledge exchange and co-design. For example, another author from Volume 1 was added to the editorial team for Volume 2, explaining that his experience in designing the first book could help steer teams toward completing content-specific editions. Of the five members of the editorial team, four contributed to the authorship of multiple content-specific editions, leading the design and creation of each book’s chapters (but not always authoring the books or their chapters). The authors of each book were clearly assigned chapters as the lead author, allowing them to write some chapters while providing feedback to co-authors on others. The editors would meet once a week to report on the progress of the edition(s) they were assigned to, while also meeting separately with each edition’s authors to foster content creation.

Fostering Content Creation

Fostering content creation, especially for authors who may not have had a lot of experience with writing, focused on leveraging information gathered from practitioners to facilitate low barriers to the timely co-design of each book. The editors employed three strategies to foster content creation. First, each editor created a low barrier for content creation. Before asking a co-designer to author a chapter, the book's editors would provide an outline of the chapter and insert into that outline the resources available from the model teachers. Second, each editor created a low barrier for authoring. Because each book was

overseen by an editor and each chapter would receive feedback and revisions from co-authors, it was easy for co-designers to jump into writing a chapter without fear that it would fail to meet expectations. This seemed to comfort both experienced and novice authors. Lastly, the editorial team worked to create clear, low-stakes support for ongoing work. If an author felt like they could not take on drafting a chapter, offering revisions, or integrating specific examples from the model teachers, the editors were ready to ask other authors to assist or to provide assistance themselves. The community needed to co-design a new educational product felt its strongest during this stage of the design process.

Stage Five: Teaching and Educational Development

Once each edition of Volume 2 was ready for publication, it was shared with other members of the editorial team for review. After review and suggested changes, the books were made visible on EdTechBooks.org (see https://edtechbooks.org/k12blended_series). The final decision was to create a non-content-specific edition of Volume 2 that would provide introductory information about the series (Borup et al., 2022). This book also provides the first three chapters on foundational blended-teaching knowledge for each content-specific book. Information concerning each book's publication was disseminated through presentations at conferences and through ongoing research projects. Each book was also shared with the collaborators who helped co-design the series. To more easily share videos created by model teachers, the designer-edited versions of each video were uploaded to a YouTube channel and embedded in the book chapter matching its focus (https://www.youtube.com/@k-12blendedteaching/).

The content-specific book editions were integrated into courses and instructional materials previously relying on Volume 1 of the series. There are still future plans for a second edition of Volume 1 that will better integrate the competency-based approach to K-12 blended teaching with the examples provided in the content-specific editions of Volume 2. The book series has also been featured in webinars, professional learning opportunities, and non-academic publications at the local, national, and international levels.

Discussion

Going through the CRAFTED process revealed a number of insights into the processes, challenges, usefulness, and outcomes of constant iteration and collaboration among researchers and practitioners.

First, framing the OER in theory and including practitioners' voices (collaborators in the CRAFTED process) increased the legitimacy and practicality of the outcome. Organizing the chapters of each book in well-researched blended learning theory assured that the teachers' positive experiences were not isolated classroom practices but fit within–and illustrated–a framework of established blended teaching best practices. Using teachers' experiences to illustrate the framework grounded the OER books in lived classroom realities, thus increasing adoption and relevance. Iterative feedback loops between researchers and practitioners strengthened alignment between research-based competencies and real-world instructional challenges. Involving the teachers as co-creators, not just reviewers, gave them greater ownership of the project and increased the authenticity of their contributions. Being treated as the professionals they were, being listened to, and being able to share their experiences had a stronger effect on their desire and willingness to participate than did more concrete incentives. Editors assigned to creating specific books found that working with instructors not only as content authors but also on structure, timelines, and expectations provided the flexibility instructors needed, resulting in optimal outcomes.

Finally, because our understanding of and goals for this project frequently changed, being willing to discuss needs and iterate on the processes and outcomes became essential. Repeating the stages of conceptualizing and appointing leaders within the CRAFTED framework enabled the team to pivot without losing momentum. Assigning the original researchers as editors of the books and having them work with specific subject areas and teachers allowed team members to focus on specific content and to offer greater flexibility in meeting the authors' needs. Additionally, reexamining and iterating on the content format suggested ways to create low-barrier entry points for novice authors (templates, outlines, shared responsibility), thereby

lowering intimidation and increasing participation. The flexibility created by these changes kept the creation process moving forward.

Limitations

One limitation of the CRAFTED framework is its reliance on assembling a cohesive team of collaborators. For example, our implementation of CRAFTED involved a team of over 85 K-12 educators, practitioners, and researchers. Assembling such a team takes a lot of time, and in some cases, finding the right people can be very difficult. In fact, there were plans for Music and Health/Physical Education editions of volume two, but finding enough practitioners to develop the content and the right authors to curate and assemble it proved an unsuccessful endeavor. Trying to develop multiple editions of volume two simultaneously meant managing multiple author teams. This management required a dedicated team of teachers, authors, and editors for each edition.

Another limitation was the monetary cost of compensation, coordination, and production. Recruiting teachers with already demanding schedules was challenging. We received funding to incentivize teachers with gift cards, which the teachers appreciated; however, the gift cards ultimately proved to be a secondary motivator, as teachers were already sufficiently motivated by having their voices amplified. That said, we still paid each of our teachers for their content creation and reviews. We also used grant and institutional funding to pay graduate assistants to help manage the workload and design schedules, practitioners to review volume one, and graphic designers to help polish cover artwork and chapter graphics. Finding buy-in for such services without external funding could prove difficult, especially at institutions without the same level of support for OER or practitioner development.

Lastly, initiating CRAFTED required the flexibility to adapt to end user, co-developer, and product needs. In this way, CRAFTED again reflects DBR, as DBR frequently requires the flexibility to adapt design decisions and research questions to collaborators' needs, placing the researcher’s own agenda aside. When we began CRAFTED, we were unsure of which collaboration platforms would aid design, whether there were publication platforms to disseminate designs, and whether our designs would fully meet the needs of our intended users. We risked monetary and temporal investment knowing that success was contingent on recruiting the collaborators needed to complete each edition of volume two, as we saw with the Music and Health/Physical Education editions.

Final Reflections

The CRAFTED framework is less a linear sequence than a set of principles for sustaining partnership-driven design. In this case, the five stages of CRAFTED offered both structure and flexibility, accommodating a project that grew exponentially in scope. Its iterative cycles, like those used in DBR and SAM, make it useful for the type of long-term collaborations used in these OER books. Where it built upon and differed from DBR approaches was in that it really started from a place of understanding how collaborators would co-create the final interventions, or in this case, the books within the series. While this kind of collaboration might also offer solutions to some problems addressed by DBR approaches, DBR does not necessarily require co-creating interventions to address the problems practitioners face. The CRAFTED framework, therefore, provides a more direct approach to collaboration for co-creating artifacts. Similarly, the CRAFTED framework builds on and differs from SAM because SAM focuses heavily on collaboration during the evaluation stage of the design model, whereas CRAFTED includes collaborators as co-designers in the actual design and development stages of instructional design.

This project illustrates the value of moving instructional design beyond expert-driven models to embrace practitioner co-authorship. Doing so disrupts hierarchies of knowledge production and affirms teachers as both consumers and producers of research-based knowledge. While it would be difficult to measure the impact that the book series has had on student learning outcomes, due to being unable to track who has used the books to support their teaching strategies and how their pedagogies have changed as a result of the book, we can provide some analytics for the use of the book series. For example, as of early

December 2025, the initial 2019 publication has received 468,113 page views, 972 audio listens, and a total of 12,328 Microsoft Word or PDF downloads. Similarly, the second book, published in 2022, has received 39,627 page views, 443 audio listens, and 6,712 downloads. According to EdTechBooks.org, downloading a single chapter of each book would be the cost-saving equivalent of the book's cost divided by the total number of chapters. Book 1 has 15 book chapters that have been downloaded, providing an estimated cost savings of $3.33 per download, assuming the average cost of a blended learning guidebook is $50. This means Book 1 has an overall value of $44,333.33, based on the number of times its chapters have been downloaded or listened to as audio files. Book 2 has fewer chapters, at 10. Using the same formula, each chapter would yield $5.00 in cost savings, for a total value of $35,775 to users. Figure 6 provides similar metrics for the content-specific editions of the book series; however, total page views are unavailable in the analytical data, so average monthly views from September 2024 through August 2025 are provided.

Figure 6

Use of Content-Specific Books in the K-12 Blended Teaching Series

Content Area	Average Views	Total Downloads	Cost Savings
Elementary	499	4,332	$15,471.43
English Language Arts	494	3,191	$11,396.43
Family and Consumer Science	536	2,432	$8,685.71
Math	514	2,765	$9,867.86
Science	434	3,237	$11,560.71
Social Studies	444	3,074	$10,978.57
World Languages	428	2,343	$8,367.86

CRAFTED research could address how OER co-creation can double as professional development, particularly in diverse school contexts, and how such products are impacting practices and learning outcomes. The sustainability of large-scale practitioner partnerships remains a challenge: how can such models be institutionalized beyond single projects? Universities and districts should consider formal partnerships that embed OER co-design into teacher preparation and continuing education, and CRAFTED provides a foundation for doing so.

Conclusion

Ultimately, this case demonstrates that co-created OER are not just instructional products—they are artifacts of collaborative knowledge-making. When instructional designers embrace frameworks like CRAFTED, they help build ecosystems where research and practice inform each other, producing resources that are both academically rigorous and authentically grounded.

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