

15 TO 5 WEEKS: RIGHT-SIZING AN UNDERGRADUATE EDUCATIONAL TECHNOLOGY COURSE

Jessica Herring Watson¹ & Jaclyn Gish-Lieberman²

¹University of Central Arkansas; ²Ohio State University

This design case describes the thought processes associated with redesigning an educational technology course for undergraduate preservice teachers from a 15-week hybrid course to a 5-week online course. The redesign is part of a push to create more flexible courses for working and rural students to remain competitive despite multiple alternative licensure paths now available to aspiring teachers. The designers face and overcome challenges regarding right-sizing the course content and assignments while maintaining student engagement. Additionally, the designers discuss how they streamlined the course without sacrificing standards or critical and relevant topics, like AI in education. The case details the development of the online course within the learning management system (LMS; Google Classroom) and the design questions that emerge during that process. The redesigned 5-week course was tested through two iterations in the 2023 summer semester: Summer 1 and Summer 2. The designers collected student feedback after both runs of the course using the standard course evaluation survey, their own Google Forms survey, and the instructor's reflections. The feedback from Summer 1 informed the Summer 2 iteration. Finally, the designers observed that the experience of condensing the course from 15 weeks to 5 weeks required them to think critically about the course goals and how to make the content manageable for students. The redesign was so successful that the course instructor (also a design case author) determined to redesign the 15-week version of the course for Fall 2023 using the new 5-week design as an anchoring point.

Jessica Herring Watson is an Assistant Professor in the College of Education at the University of Central Arkansas. Her research interests include preservice teacher education, technology-enabled learning, and inclusive online learning design.

Jaclyn Gish-Lieberman is an Instructional Designer Senior Specialist at Ohio State University. Her research interests include learning experience design, visual design, and case-based learning.

THE DESIGN CONTEXT

As increasing numbers of state departments of education are offering new access to alternative licensure pathways for educators (e.g., Teach for America, Teacher Corps, etc.; DESE, n.d.), colleges of education are being challenged to consider how they might adapt traditional, 4-year, on-campus programs of study that culminate in initial teacher licensure to accommodate more online students who are interested in "fast-track" options, rather than traditional, on-campus programs.

For example, the first author's (Jessica) college of education, where we worked on the design that is the focus of this design case, is currently developing an online undergraduate program specifically for students with associate's degrees to complete their bachelor's degree in education with a dual license in elementary and special education by completing a "fast-track" online program. The target audience for this online program of study includes full-time paraprofessionals with some college credits who are seeking to complete their degrees to become teachers of record and community college students from rural communities who seek to complete their undergraduate degrees but lack the resources necessary to move away from home. Thus, the goal of this program, and the accelerated courses within it, is to increase access to higher education in the rural state while also keeping our programs of study competitive in an increasingly diverse "marketplace" of alternative licensure options for prospective teachers. The redesign of this course is a first step toward redesigning a series of courses in this

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<https://doi.org/10.14434/ijdl.v15i2.36591>

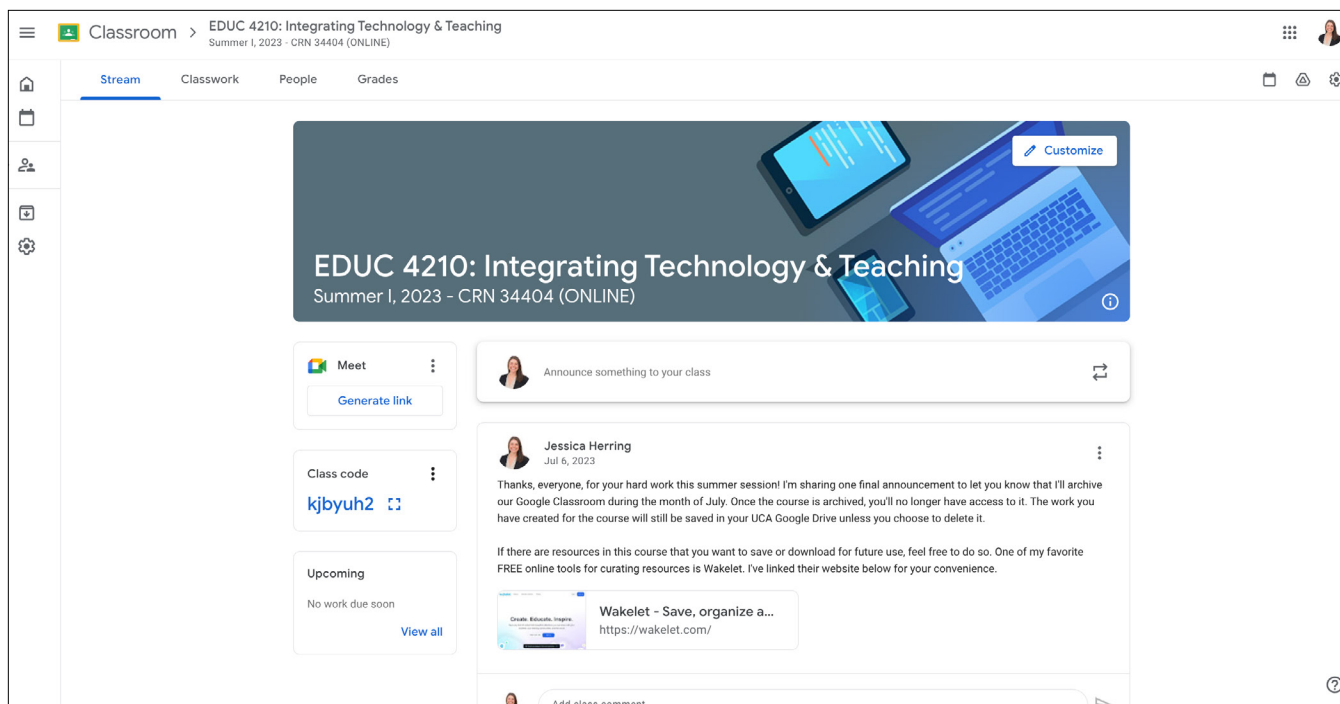


FIGURE 1. Google Classroom home page.

program that will be offered in accelerated 5- and 8-week online formats.

The undergraduate course at the center of this design case is called “Integrating Technology and Teaching.” Up to the summer of 2023, the program only offered courses in a 15-week, hybrid format. The hybrid format consists of weekly in-person 2-hour class sessions accompanied by online assignments submitted through an LMS, in this case, Google Classroom. Our challenge was to condense the existing 15-week version of the course to a condensed 5-week, fully online version for Summer 1 (June 5 - July 7, 2023) and Summer 2 (July 10 - August 11, 2023). Students in this course are in their junior or senior year and about to complete student teaching within the next 2-3 semesters. The course is designed to prepare them to effectively facilitate technology-enhanced instruction for K-12 learners, a particularly important skill set, given the growing ubiquity of 1:1 technology initiatives in K-12 schools. We decided to continue hosting the redesigned course on the free LMS Google Classroom to remain consistent with the original course (see Figure 1).

During the design process, Jessica worked as an assistant professor in the College of Education at the University of Central Arkansas. She had taught the 15-week hybrid version of this course for eight fall/spring semesters before her college of education asked for an accelerated, 5-week version of the course to be run in Summer 2023.

The other design team member, Jackie, is an instructional designer at Ohio State University. While Jessica already had

	MAY	JUNE	JULY	AUGUST
Design Discussions				
Initial Redesign				
Summer 1				
Summer 2				

TABLE 1. Design timeline.

substantial experience building online courses, she wanted to be purposeful about this redesign, so she enlisted the help of Jackie, who frequently supports faculty in migrating in-person courses to online formats. Jessica felt it would be valuable to have a sounding board for creating a significantly abbreviated course without as many touch points as the 15-week hybrid course to ensure a good learner experience. Additionally, the authors had met weekly for the previous year to discuss scholarship and professional challenges, so co-writing a design case was a way for them to continue and push their professional relationship. Throughout the rest of the design case, we refer to ourselves as members of the design team using first-person pronouns.

As a design team, we continued weekly meetings throughout the design and redesign period to talk through and record design decisions (see Table 1). Since the bulk of the redesign effort was laid on Jessica, the professor of the course, Jackie suggested she keep a design journal (i.e., a Google document) that she could share as a clear way to track her design decisions and their rationale. Then, when we met weekly, we were able to refer to the journal to discuss

how the design had evolved since our last meeting or to talk out any questions or challenges Jessica faced.

We met two weeks before the beginning of the Summer 1 session to discuss a general direction for the redesign. Jessica built the redesigned course shell over the week following their initial meeting. Then, we met again one week before the first summer session began to discuss the developed course shell, create feedback mechanisms (i.e., focus group questions and a Google Form survey), and make minor adjustments to the course layout. The first iteration of the redesigned 5-week course began on June 5. The second summer session began on July 10. We met the weeks following the end of Summer 2 to debrief on the design and review student feedback on the course.

DESIGN BOUNDARIES

To begin the design process, we needed to think about how to cut down the existing 15-week course into a much-abridged 5-week summer course. Several guiding thoughts helped us with the task. First, we needed to ensure that the course goals of the resulting course were still aligned

with the International Society for Technology in Education (ISTE) Standards for Educators (ISTE, 2017). The College of Education adopted the ISTE Standards for Educators as core technology competencies for their accreditation status in 2018 and all courses in the college are aligned to at least one of the seven standards (see Figure 2). This course adopts all seven standards as the course goals because according to the professional organization, they describe the competencies that all educators need to effectively facilitate student-centered, technology-enhanced instruction with K-12 students. All course assignments are mapped to the ISTE standards, as can be seen in Figure 4. For example, the Digital Citizenship assignment in Module 1 helps students meet Standard 3: Citizen through exploring K-12 digital citizenship resources from Google, PBS Learning Media, and Common Sense Education and then creating video-based digital citizenship public service announcements for their future students. The Screencasting & Video Tutorial Creation assignment helps students meet Standard 5: Designer as they design and develop a short video lesson that could be used in their student teaching placement in a future semester.



FIGURE 2. International Society for Technology in Education (ISTE) Standards for Educators.

With these guiding ideas established, we tackled the redesign of the course for Summer 1 (June 2023). The following section provides more detail about the design challenges and decisions involved with this redesign.

SUMMER 1 DESIGN PROCESS

As a starting point, we looked at the 15-week schedule of topics and assignments (see Figure 3). This enabled us to take notes about the decisions we made to cut or combine items for the 5-week course. Jessica used her insights from previously teaching the course, writing comments to track her decisions and discuss them with Jackie later. Several elements and questions stood out to Jessica during this process, which she detailed in her design journal. We explore them in the following sections.

Developing Module Themes

To condense a course to one-third the amount of time, we needed to find an efficient way to progress students through the course ideas while still building on ideas in a natural way. To do this, we sought ways to encompass existing topics into larger themes. Jackie suggested thematic organization as a way to group related course topics and facilitate students in making connections that will deepen understanding. Additionally, themes provide learners with a roadmap that signals to them at a glance what they will be learning and how it relates to the course goals.

The course themes are aligned with the ISTE Standards for Educators, and the final course project is the technology-enhanced lesson plan. We decided to cluster topics from the 15-week course calendar into five thematic modules that begin by establishing a rationale for technology integration rooted in digital citizenship (Module 1) and then build upon that rationale by exploring student-centered pedagogical strategies (e.g., inquiry model, problem-based learning, design thinking) and the technologies that can be used to facilitate student-centered instruction (Modules 2 and 3). Module 4 is focused on developing the technology-enhanced lesson plan by applying learning from previous modules. Finally, Module 5 is dedicated to reflecting on learning throughout the course and establishing how students will carry their learning forward into student teaching and their future classrooms. The module themes described in this paragraph can be seen in the redesigned Schedule of Topics and Assignments in Figure 4. The use of the thematic module structure and the related changes to the LMS from the 15-week to the 5-week course can be seen in Figure 5.

Restructuring Course Assignments

Given the brief nature of the 5-week course structure, we needed to restructure assignments from the 15-week version of the course to remove any instances of redundancy across assignments and to prioritize assignments that directly aligned with the ISTE Standards for Educators and yielded the highest impact on student learning. The number of assignments was reduced from 28 to 19. We based these decisions on course evaluations from previous semesters. We

Module Dates	Topics Covered	Assignments Due (All assignments submitted through Google Classroom)	ISTE Standards
June 5-12	Module 1: Course Orientation & Establishing the "Why" for Tech-enabled Learning Introduction to course <ul style="list-style-type: none"> Syllabus review, Major project, & Course Goals Introduction to IOS 16 for iPad ISTE Standards for Educators Digital Citizenship <ul style="list-style-type: none"> Setting Community Norms PSAs for Digital Citizenship, Digital Literacy & Digital Fluency Digital Citizenship Resources for Educators 	Synchronous Class Session - June 6 @ 2:30 pm [ZOOM link] All "Getting Started" assignments DUE June 8: <ul style="list-style-type: none"> Syllabus Quiz IOS 16 Overview Activity Introductions Activity All Remaining Module 1 assignments DUE June 12: <ul style="list-style-type: none"> Getting to Know the ISTE Standards Digital Citizenship Module Sign up for App Share Speed Round 	Standards 1 and 3
June 13-19	Module 2: Designing Content & Instruction for Digital Age Learners <ul style="list-style-type: none"> Student-centered Instruction, PBL, & the Inquiry Model Theories & Frameworks of Tech Integration Accessibility & Universal Design for Learning Screenrecasting/Tutorial creation Digital Assessment & Student Privacy in the Digital Age 	Synchronous Class Session - June 13 @ 2:30 pm [ZOOM link] All Module 2 assignments DUE June 19: <ul style="list-style-type: none"> Apple Teacher Badges Screenrecasting/Tutorial Creation Online Module Digital Assessment Module App Share Speed Round Infographic Module 2 Discussion Board (Models of Tech. Int. & Student-Centered Instruction) 	Standards 1, 2, 5, 6, & 7
June 20-26	Module 3: Building your "Teacher Toolkit" for Tech-enabled Learning <ul style="list-style-type: none"> App Share Speed Round Building Online Learning Environments <ul style="list-style-type: none"> Principles of Online Learning Building in Google Classroom & Managing an Online Learning Space Emerging Technologies for the Classroom Introduction to Technology-Enhanced Lesson Plan 	Synchronous Class Session - App Share Speed Round - June 20 @ 2:30 pm [ZOOM link] All Module 3 assignments DUE June 26: <ul style="list-style-type: none"> Schedule 15-minute individual synchronous meeting to discuss tech-enhanced lesson plan (June 21-30) Google Level 1 Training Modules AI & Education Discussion Board Building Online Learning Module Module 3 Discussion Board (Brainstorming Your Lesson) 	Standards 1, 2, 4, & 5
June 27-July 3	Module 4: Developing a Tech-enhanced Lesson Plan <ul style="list-style-type: none"> Assessments Instructional Activities Integrating Universal Design Tech-Enhanced Lesson Info Sheet Self-assessing with the Triple E framework 	NO SYNCHRONOUS MEETING ON TUESDAY - Attend scheduled 1:1 meeting instead (June 21-30) All Module 4 assignments DUE July 3: <ul style="list-style-type: none"> Technology-Enhanced Lesson Plan & Tech-Enhanced Lesson Info Sheet 	All Standards

Jessica Herring
May 31, 2023

Split the Module 1 assignments into "Getting Started" and "Establishing the Why" groupings to encourage students to spread out their workflow early in the course.

Jessica Herring
May 31, 2023

Add Flip share-out of PSAs to this module in place of just submitted videos to me.

Jessica Herring
May 31, 2023

Need to sign up for app in Module 1, create infographic in Module 2, and present to peers in Module 3

Jessica Herring
May 31, 2023

changing the Flip prompt, so students share their screencasts with each other for feedback and then post the benefits of screencasting as a comment on their video post.

FIGURE 4. Redesigned 5-week schedule for Summer 1 of topics and assignments with comments.

15-week course LMS Weekly “modules,” no module themes Used to support in-person content delivery	5-week course LMS Thematic modules Used as the source of content delivery
Module 1: January 13-25 <ul style="list-style-type: none"> Class Meeting Resources & Zoom Link: G... Syllabus Quiz Introductions IOS 15 Overview Getting to Know the ISTE Standards 	Module 2: June 13-19 <ul style="list-style-type: none"> Module 2: Designing Content & Instructio... Universal Design for Learning & Accessibi... Apple Teacher Badges Screencasting/Tutorial Creation Online M... Digital Assessment Module App Share Speed Round Module 2 Discussion Board
Module 2: January 26-February 1 <ul style="list-style-type: none"> Class Meeting Resources & Zoom Link: DL... Digital Citizenship Module Learning Reflection #1 	Module 3: June 20-26 <ul style="list-style-type: none"> Module 3: Building your “Teacher Toolkit” ... Schedule Individual Meeting to Discuss T... Google for EDU Fundamentals - Level 1 Tr... AI & Education Discussion Board Building Online Learning Module Module 3 Discussion Board
Module 3: February 2-8 <ul style="list-style-type: none"> Class Meeting Resources & Zoom Link: D... Learning Reflection #2 Sign Up for App Share Speed Round Apple Teacher Badges 	Module 4: June 27-July 3 <ul style="list-style-type: none"> Module 4: Developing a Tech-enhanced L... Technology-Enhanced Lesson Plan & Info ...
Module 4: February 9-15 <ul style="list-style-type: none"> Class Meeting Resources & Zoom Link: U... Universal Design for Learning & Accessibi... Learning Reflection #3 	Module 5: July 4-6 <ul style="list-style-type: none"> Module 5: Reflecting on Learning & Establ...

FIGURE 5. Side-by-side comparison of module structure in 15-week and 5-week courses.

first removed the “Emerging Technologies” assignment from the 5-week course. This assignment focused on exploring augmented reality (AR) apps and their uses in K-12 content area instruction. While this activity was engaging to students, it is not directly related to the final project. Many students in the course are still novices in their understanding of how technology can be used to support instruction, and, historically, few students in the course have gone on to incorporate AR in their technology-enhanced lesson plan projects.

Next, we decided to eliminate the eight reflection assignments that had been a part of the 15-week course. Students in the 15-week version often put little effort or critical thinking into these reflection assignments, so they were a low priority when developing a 5-week online version. Instead, collaborative discussion boards (both text-based in Google Classroom and video-based in Flip) were integrated into other activities within the course to ensure students still had peer-to-peer collaboration and feedback opportunities built into the course but in ways more suited to specific course topics. This design decision was also better aligned with ISTE Standard 4, Collaborator, as it encouraged thoughtful interaction among learners as future educators.

We also considered removing the discussion board assignment regarding artificial intelligence (AI) and education. Similar to our reasoning around eliminating the AR assignment, we felt the students were less likely to use AI right

away in their teaching. However, students in previous semesters had engaged quite actively in this discussion topic. With the release of ChatGPT, we found the topic very timely, especially for teachers who might need to understand how to navigate student use of AI technology. Therefore, we decided to retain the assignment, given that it is a valuable current topic in educational technology about which preservice teachers should be aware. We decided to review design feedback from students in Summer 1 to determine whether to also retain the assignment in the second iteration of the 5-week course.

In addition to reducing the total number of assignments, we discussed reducing the complexity of the remaining assignments and the point values they carried commensurately. For example, in the 15-week course, the Digital Citizenship assignment was worth 75 points and required students to create a digital citizenship public service announcement (PSA) video. A separate 15-point assignment then asked students to share their PSA video on a Flip discussion board and

provide feedback to two peers. In the 5-week course, these two assignments were merged into one assignment. The PSA video component was 50 points and the discussion was 25 points. Because the two components were combined into a single assignment, it created fewer posts in the LMS, thus streamlining students’ view of the coursework. The Building Online Learning assignment was similarly merged, and point values were adjusted accordingly. As a design team, we decided to seek feedback from students in Summer 1 regarding whether merged assignments felt manageable in scope and whether point values were perceived as appropriate to the amount of work required of students.

Scheduling Synchronous Sessions

As previously mentioned, one of our design boundaries was student feedback related to the need for touch points throughout the course to support learner persistence. While synchronous meetings are not required for online courses in this program of study, they are strongly encouraged by the college administration. Thus, we added Zoom sessions to most weeks of the 5-week course to serve as launch points for the modules. Students could use the time to explore the weekly module content more collaboratively in real time before completing self-paced assignments on their own.

As a design team, we considered various lengths for these meetings. Given the amount of content that would need to be introduced at the start of each module, 1-hour meetings felt like they would be rushed, overloading students with content and then leaving them to get organized on their own for the rest of the module. We were equally worried about students maintaining attention for a 2- or 3-hour Zoom meeting, even with high levels of interaction. Therefore, Modules 1, 2, and 3 began with a 1.5-hour Zoom session during which Jessica facilitated activities to introduce the module content. Module 4 included 15-minute individual meetings with the instructor to brainstorm ideas for the technology-enhanced lesson plan. During the first iteration of the 5-week course, the scheduled day for synchronous meetings during Module 5 fell on a holiday, so a Zoom meeting could not be scheduled. It was replaced with an individual asynchronous reflection assignment.

Student feedback gathered during the first iteration of the course would then help us decide whether the selected meeting length was appropriate and whether to include a synchronous session in Module 5 of the course during Summer 2.

SUMMER 1 DESIGN REFLECTION

After condensing the 15-week course into five weeks and completing the Summer 1 design, we had the following questions regarding the new topics, assignments, and synchronous sessions design decisions.

- While the “emerging technologies” topic is interesting and timely, and the AI & Education discussion is not time-consuming, it is also not totally necessary to the overall structure of the course. Could it be removed to make one less assignment for students? It yielded some of the most

QUESTIONS FOR SUMMER 1	ANSWERS BASED ON STUDENT FEEDBACK
Question #1: While the “emerging technologies” topic is interesting and timely, and the AI & Education discussion is not time-consuming, it is also not totally necessary to the overall structure of the course. Could it be removed to make one less assignment for students? It yielded some of the most interesting peer-to-peer discussion during the Spring 2023 semester.	<p>Student feedback indicated that all assignments felt necessary to the course and supportive of their learning. We decided to retain the AI & Education discussion in Summer 2.</p> <p>Student response: I really don’t feel like any of the assignments could be removed from the course. All the assignments were very informative and helped me to better understand not only how to use technology, but how to incorporate it into my classroom. I also really liked the discussion boards at the end of the week, it was a nice way for me to summarize information I had learned and have a little review of what I had learned.</p>
Question #2: In the second iteration, should we reassess the point value of assignments that were condensed to be less work, for example, the screencasting module & the building online learning module?	<p>Upon instructor reflection and student feedback, the workflow of these assignments was improved, but the workload remained similar for students. We decided to keep assignment point values the same in Summer 2.</p> <p>Student response: All survey respondents agreed or strongly agreed that all assignments and resources felt closely related to the module topics and that the assignments were manageable, given the 5-week time constraint of the course.</p>
Question #3: Should a final synchronous session be added to Module 5?	<p>We discussed the pros and cons of including a final Zoom meeting in the course and decided to do a Zoom in Summer 2 to determine if there is any added value or not, as evidenced in the student feedback Google Form.</p> <p>Student response: Survey respondents either agreed or strongly agreed that the synchronous sessions served as a helpful launching point for each module, helped them stay on task, and encouraged them to complete their independent assignments on time.</p>

TABLE 2. Summer 1 course design questions and answers.

interesting peer-to-peer discussion during the Spring 2023 semester.

- In the second iteration, should we reassess the point values of assignments that were condensed to be less work, for example, the screencasting module and the building online learning module?
- Since a holiday interfered with a final Zoom session, we wondered if a final synchronous session should be added to Module 5.

To answer these questions, we reviewed student feedback on the course design that was collected with a Google Form. Additionally, we created an optional student focus group to gather greater detail. Finally, we met twice at the end of June to synthesize the instructor's experience with student feedback.

Student Feedback

Google Form

We wanted to intentionally reflect on the first run of the design and seek feedback related to these questions, so we developed a Google Form to garner student feedback relative to our design decisions. We placed the feedback form at the end of the final module along with a reminder to complete the standard university course evaluation survey. We incentivized the feedback form by offering 10 extra credit

points. We also scheduled two focus groups and invited students to attend to provide their feedback on the course organization and layout.

Twelve of the fifteen students (80%) enrolled in Summer 1 provided feedback through the Google Form posted at the conclusion of the course. Table 2 shows our initial questions along with the answers we gleaned from Summer 1 student feedback and from the course instructor's own experience in teaching the course.

Focus Groups

We offered two optional focus groups to Summer 1 students via Zoom to provide feedback on the course, but no students chose to attend. This may have been because many of the students were working full- or part-time jobs in addition to taking multiple summer courses. During the Module 3 1-on-1 meetings with the course instructor, many students mentioned that during Summer 1, they were also working summer jobs or balancing additional summer coursework and had little time for other activities related to the course beyond what was required. However, during the 1-on-1 meetings, Jessica, the course instructor, received anecdotal feedback from a few students. Students noted that the course felt easy to navigate. They had no trouble locating assignments or resources, and they found the numbered, step-by-step instructions (see Figure 6), paired with weekly

The screenshot shows a Google Classroom interface for a course titled 'EDUC 4210: Integrating Technology & Teaching' in 'Summer I, 2023 - CRN 34404 (ONLINE)'. The left sidebar contains navigation icons for Home, Calendar, People, Attachments, and Settings. The main content area is titled 'Digital Assessment Module' by Jessica Herring, dated May 31, 2023, with a value of 60 points and a due date of June 19, 2023, at 11:59 PM. The assignment instructions are as follows:

NOTE: This assignment requires you to ask other people to complete two short online quizzes. Start the assignment early enough in the week to account for other people's availability to do this. Additionally, it would be helpful to use the same content area/grade level standards you used for the screencasting assignment for this assignment as well.

1. Click on the Common Sense Education link titled "Top Tech Tools for Formative Assessment," and explore some of the digital tools you can use to assess student learning.
2. Open the document titled "Exploring Digital Assessment Tools" under "Your Work" and carefully follow the instructions in the Google Doc, entering requested information in the boxes provided.

****If you're working on your iPad, be sure to click the arrow in the top right corner of your screen to open this document in the Google Docs app, so you can edit it.**

- 3. After you have completed all of the steps in the Doc, return to this assignment and click "Turn In."

If you have any questions, don't hesitate to ask!

At the bottom, there are three resource cards: 'Top Tech Tools for Formative...' with a URL to commonsense.org, 'Exploring Digital Assessmentmen...' as a Google Docs link, and 'Division of Elementary and S...' with a URL to dese.ade.arkansas.gov.

FIGURE 6. Example of step-by-step instructions for a module assignment.

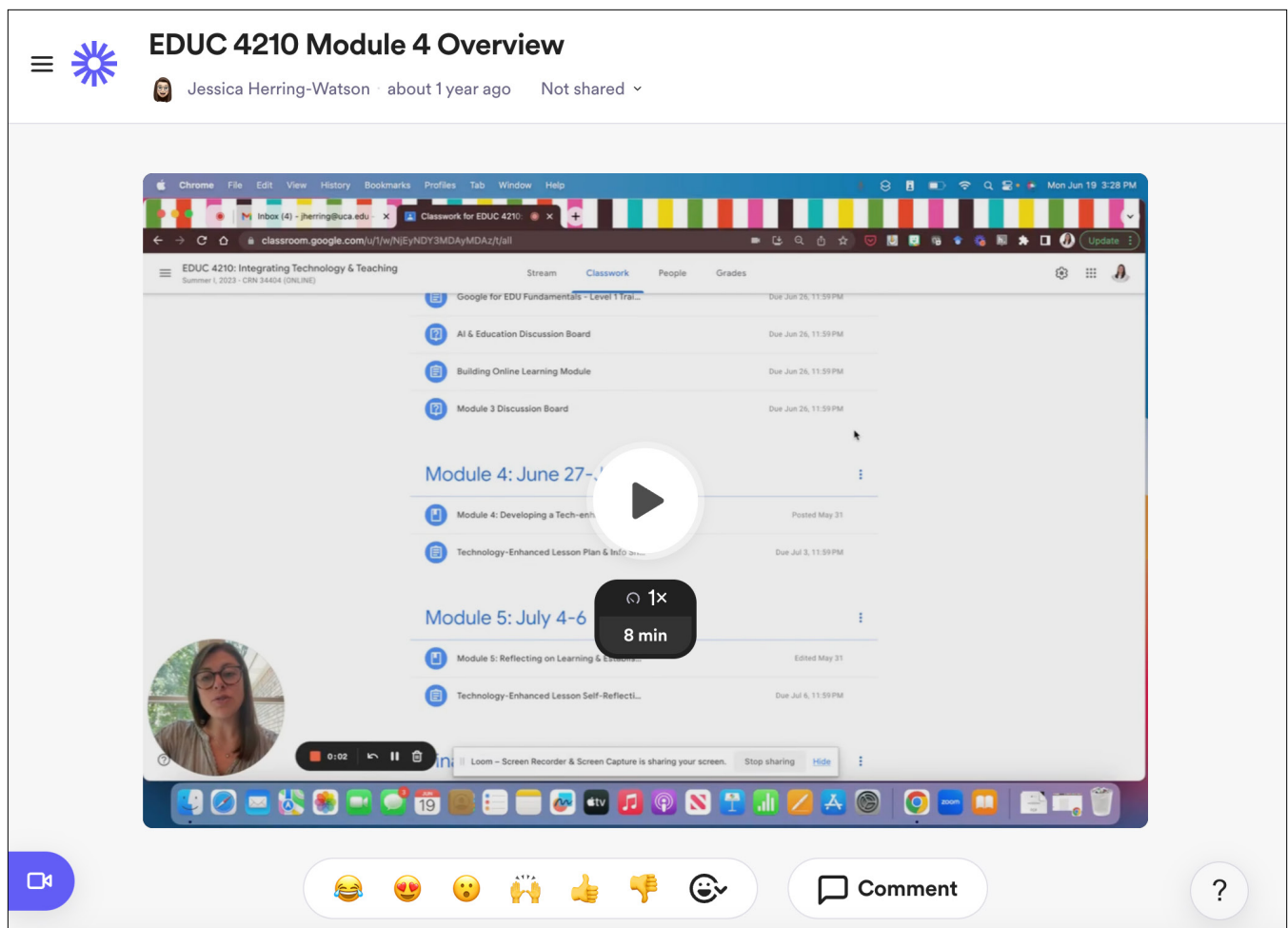


FIGURE 7. Module overview video.

overview videos (see Figure 7), helpful in addressing any questions they might have as they completed assignments. When asked for suggestions to improve the course, students had none. As designers, we feel that more intentionally integrating an opportunity for student focus groups into this design process would have improved the design case overall. Failing to include such a focus group as part of the course limited how thorough the design case could be.

Design Team Reflection

We reviewed available student feedback along with Jessica's experience as the instructor of Summer 1 to determine changes needed for the Summer 2 run of the course. First, we decided to retain the AI and Education discussion. While the topic was very timely, we were initially concerned that there were too many assignments in the course already. However, after hearing from Summer 1 students that they found all assignments relevant, we decided to keep the topic.

We also discussed and reflected on student feedback regarding assignment point values. Since all students strongly

agreed that course assignments were manageable, given the 5-week time constraint of the course, we decided to keep all point values the same in Summer 2.

Finally, we decided to add a synchronous session to the fifth and final module in Summer 2. We did not include one in Summer 1, so we wanted to try it in Summer 2 to see if there was any value added. This decision was especially guided by the positive feedback from Summer 1 students about the synchronous sessions.

One failure of the Summer 1 design was that Jessica ran out of time during the Module 1 Zoom session to discuss student privacy issues. While the 1.5-hour time allotment for synchronous meetings was generally appropriate throughout the course, the first Zoom meeting of the summer session felt rushed, and we did not want any course topics to be omitted. Therefore, we decided to move the topic "Student Privacy in the Digital Age" from Module 1 to Module 3. The topic fits in both module themes well, and we felt that delaying this topic would allow students to get more comfortable with Edtech apps and how to navigate use before considering how privacy issues impact the use of

technology in their future classrooms. We did not want them to be stressed about using technology, especially since we could use class space to discuss ways teachers can mitigate privacy risks.

SUMMER 2 DESIGN PROCESS

Summer 2 started the Monday following the final day of Summer 1 (July 10, 2023). Jessica copied the Summer 1 Google Classroom course shell with relevant changes based on the Summer 1 Design Team Reflection, detailed above. Figure 8 reflects the changes made for Summer 2.

SUMMER 2 DESIGN REFLECTION

Student Feedback

To evaluate the design after Summer 2, we reviewed course evaluation feedback collected by the university Office of Assessment. We also elicited design feedback through the same Google Form we utilized during the Summer 1 run of the course. Eight of the nine students (88%) who completed the course during Summer 2 completed the Google Form to provide design feedback. Their feedback largely mirrored the feedback we received at the end of Summer 1 with all students agreeing or strongly agreeing that the course content, assignments, and synchronous meetings were relevant and manageable and helped them better understand the ISTE Standards for Educators and the process of designing and facilitating technology-enhanced instruction in their future classrooms.

Design Team Reflection

As a design team, we met at the conclusion of Summer 2 to review student feedback and reflect on how our design revisions in Summer 2 had improved the learner experience. Students in Summer 2 concurred with Summer 1 students that the AI and Education assignment was timely and actively engaged in conversation on the topic. Additionally, the course was improved by moving the discussion of student privacy issues from Module 1 to Module 3. Doing so resulted in more robust and informed student discussion of the topic, given that students had a better foundational understanding of educational technology in general at the midpoint of the course. Finally, adding a closing Zoom meeting to Module 5 provided an opportunity for students to reflect on their learning in the course and solidify their understanding of course concepts through interactive, real-time discussions. This was more effective than the individual reflection assignment used in Summer 1 since students were able to remind one another of key concepts they hoped to carry forward from the course during discussion.

OVERALL DESIGN REFLECTION

The designers in this design case are strongly driven by student feedback, and we have based multiple design decisions on this feedback, as detailed in the next sections.

Overall feedback from both runs of the course is considered in this section. As part of the design process, we aimed to gather feedback on the design from multiple sources: university course evaluations, a feedback form created by

Module Dates	Module Topics	Assignments Due	ISTE Standards
July 10-17	Module 1: Course Orientation & Establishing our "Why" for Tech-enabled Learning Introduction to course • Syllabus review, Major project, & Course Goals • Introduction to iOS 16 for iPad • ISTE Standards for Educators Digital Citizenship • Setting Community Norms • PSAs for Digital Citizenship, Digital Literacy & Digital Fluency • Digital Citizenship Resources for Educators	Synchronous Class Session - July 11 @ 2:30 pm [Zoom link] All "Getting Started" assignments DUE July 13: • Syllabus Quiz • iOS 16 Overview Activity • Introductions Activity All Remaining Module 1 assignments DUE July 17: • Getting to Know the ISTE Standards • Digital Citizenship Module • Sign up for App Share Speed Round	Standards 1 and 3
July 18-24	Module 2: Designing Content & Instruction for Digital Age Learners • Student-centered Instruction, PBL, & the Inquiry Model • Theories & Frameworks of Technology Integration • Accessibility & Universal Design for Learning • Screencasting/Tutorial creation • Digital Assessment	Synchronous Class Session - July 18 @ 2:30 pm [Zoom link] All Module 2 assignments DUE July 24: • Apple Teacher Badges • Screencasting/Tutorial Creation Online Module • Digital Assessment Module • App Share Speed Round Infographic • Module 2 Discussion Board (Reflecting on Learning)	Standards 1, 2, 5, 6, & 7
July 25-31	Module 3: Building your "Teacher Toolkit" for Tech-enabled Learning • App Share Speed Round • Student Privacy in the Digital Age • Introduction to Technology-Enhanced Lesson Plan • Building Online Learning Environments • Principles of Online Learning • Building in Google Classroom • Emerging Technologies for the Classroom	Synchronous Class Session - App Share Speed Round - July 28 @ 2:30 pm [Zoom link] All Module 3 assignments DUE July 31: • Schedule 15-minute individual synchronous meeting to discuss tech-enhanced lesson plan (July 26-August 3) • Google Level 1 Training Modules • AI & Education Discussion Board • Building Online Learning Module • Module 3 Discussion Board (Brainstorming Your Lesson)	Standards 1, 2, 4, & 5
August 1-7	Module 4: Developing a Tech-enhanced Lesson Plan • Assessments • Instructional Activities • Integrating Universal Design for Learning • Tech-Enhanced Lesson Plan Info Sheet • Self-assessing with the Triple E framework	NO SYNCHRONOUS MEETING ON TUESDAY - Attend scheduled 1:1 meeting instead (July 26-August 3) All Module 4 assignments DUE August 7: • Technology-Enhanced Lesson Plan & Tech-Enhanced Lesson Info Sheet	All Standards
August 8-10	Module 5: Reflecting on Learning and Establishing Key Takeaways • Technology-Enhanced Lesson Self-Reflection & Peer Feedback	Synchronous Class Session - August 8 @ 2:30 pm [Zoom link] All Module 5 assignments DUE August 10: • Technology-Enhanced Lesson Plan Self-Reflection & Peer Feedback to TWO classmates	Standards 4, 5, 6, & 7
August 11	FINAL EXAM DAY - Reflect on Learning and Takeaways - Submit final reflection paper as the final exam no later than Friday, August 11 at 11:59 PM		

Comments

All comments For you

All types

Synchronous Class Session - August...

Jessica Herring
Jul 6, 2023
Added a final synchronous session in Module 5 to close out the course and synthesize learning.

Jessica Herring
Jul 6, 2023
Marked as resolved

Jessica Herring
9:37 AM Today
Re-opened

Student Privacy in the Digital Age

Jessica Herring
Jul 6, 2023
Separated from Digital Assessment & Moved from Module 2 to Module 3.

Jessica Herring
Jul 6, 2023
Marked as resolved

Jessica Herring
9:37 AM Today
Re-opened

FIGURE 8. Redesigned 5-week schedule for Summer 2 of topics and assignments with comments.

the design team, instructor reflections, and optional focus groups. Although we invited students in Summer 1 to participate in focus groups, as discussed above, no one was able to attend. Therefore, our design reflection is based on the written feedback provided by Summer 1 and 2 students in the university course evaluations and design feedback form as well as the instructor's reflections on the experience of facilitating both iterations of the course.

Positive Outcomes

Feedback from students was largely positive. One strength of the course was its organization. Students felt they were set up for success and that the content was very clear, as can be seen in the following comments.

- This course is very organized and set up for student success.
- This course was set up well, had a good schedule, and the content was very clear.

One of the questions on the university course evaluation survey asks students to advise future course participants. Their feedback indicated that while the course was rigorous in terms of workload, the content felt manageable and "chunked" appropriately, given the 5-week time constraint. Students felt the work was manageable but relevant and worth their time. For example, the students wrote:

- It is a short class, so there's a lot due every week. It is a lot more manageable to work a little at a time throughout the week.
- I would encourage them to take it, even though it is a lot in five weeks, it is worth it!
- I loved this course and the professor! I recommend anyone needing this course to take it over the summer; even though you are receiving a lot of content in a short time, it is beneficial in the long run.

Students also found the course relevant to their future careers as K-12 classroom teachers. One student wrote: I am just grateful I was able to be a part of this class because it was extremely beneficial to me as I had not previously been aware of the different apps available through the iPad. I am very excited to use this in my future classroom!

Areas for Growth

Given that we were able to conduct two back-to-back runs of the course, we had the opportunity to work out many of our design challenges and failures between Summer 1 and Summer 2. While feedback from students was mostly positive, one student did provide feedback regarding the technology-enhanced lesson plan project. They stated, "For the Lesson Plan assignment, maybe having a checkup or some other thing would be helpful. It was a lot to construct

in two weeks and it would be nice to have just a whole class checkup."

In future iterations of the course, a whole-group synchronous meeting or peer review session that utilizes breakout rooms could be a good way to address this feedback and provide additional support to students as they write their lesson plans. Given that students are still novices in this type of work, the additional layer of support would be a good area for growth in the continued development of the course design.

Table 3 provides a summary of each iteration of the design.

Instructor Experience

Jessica, the course instructor, found that the practice of redesigning this course from 15-weeks to 5-weeks for the summer has led to a more streamlined, efficient, and engaging version of the course that does not contain redundant assignments (e.g., Learning Reflections). When teaching the 15-week online version again this Fall 2023 semester, Jessica plans to work from the 5-week version and spread out the modules to create five 3-week modules to fill the full semester. Previous cohorts of students in the 15-week course have given feedback that the course feels too "heavy" to be a 2-credit-hour course. Using a paced-out version of the 5-week course in future 15-week versions could make the course feel more manageable while still maintaining the most meaningful, hands-on, skill-building assignments of the course. Working through the reflective process of maintaining a design journal and collaboratively discussing design tensions helped breathe new life and focus into the course.

CONCLUSION

To remain competitive in an increasingly diverse "market-place" of initial teacher education and licensure options, colleges of education must continue to adapt their course offerings to meet the varied needs of adult learners, especially those seeking more flexibility from higher education by choosing "fast-track" online course offerings, rather than place-based, in-person courses. This challenge described in this design case, the revision of a 15-week hybrid course into a 5-week online course, was a close look at how we were able to better serve today's learners. The process of "right-sizing" the 5-week online course yielded a more focused, streamlined design that students found relevant, beneficial, and well organized.

In alignment with Smith's (2010) guidance for producing a rigorous design case, we attempted to provide a thick description of the design to increase its utility if some readers, for example, other instructional designers and instructors who are attempting to "right size" a course or shift an in-person course to a fully online environment, may find this report particularly relevant. As part of our design

	ORIGINAL 15 WEEK COURSE	SUMMER 1 ITERATION	SUMMER 2 ITERATION
Course Timeline	15 weeks	5 weeks	5 weeks
Course Goals	ISTE Standards for Educators 1-7 (see Figure 2)	ISTE Standards for Educators 1-7 (see Figure 2)	ISTE Standards for Educators 1-7 (see Figure 2)
Contribution to the Degree Overall	<ul style="list-style-type: none"> Required 2-credit hour course Only educational technology-focused pedagogy course in the degree program 	<ul style="list-style-type: none"> Required 2-credit hour course Only educational technology-focused pedagogy course in the degree program 	<ul style="list-style-type: none"> Required 2-credit hour course Only educational technology-focused pedagogy course in the degree program
LMS Redesign	<ul style="list-style-type: none"> Weekly “module” structure Module headings used to designate weekly content exploration and assignment LMS supplemental to in-person instruction 	<ul style="list-style-type: none"> Thematic “module” structure Module headings were numbered (1-5) and dated but did not state module themes LMS was the sole source of instruction 	<ul style="list-style-type: none"> Thematic “module” structure Module headings were numbered (1-5) and dated. Included module themes in the headings to match the course calendar and visibly scaffold course topics LMS was the sole source of instruction
Curriculum Redesign	Course topics were mapped to the ISTE standards but not presented in any particular, scaffolded order, other than that they all lead to the tech-enhanced lesson plan assignment.	Course topics were grouped into five thematic modules that built on one another, beginning with a foundational “why” for learning, followed by developing knowledge and skills for designing technology-enabled learning and leading to the tech-enhanced lesson plan as an application of student learning in the course.	Course topics were grouped into five thematic modules that built on one another, beginning with a foundational “why” for learning, followed by developing knowledge and skills for designing technology-enabled learning and leading to the tech-enhanced lesson plan as an application of student learning in the course.
Key Student Feedback		“I really don’t feel like any of the assignments could be removed from the course. All of the assignments were very informative and helped me to better understand not only how to use technology, but how to incorporate it into my classroom.”	“I really like how organized and how clearly you presented information! I actually really enjoyed this class and will definitely be using things I learned in my future classroom.”
Key Instructor Reflections	The course needed to be “right-sized” to a 5-week context. This required critically examining the necessity of all existing assignments and course topics.	The first iteration of the course redesign was largely successful. Student feedback indicated that assignments felt practical and well aligned to the course goals. However, some topics needed to be moved around to create better pacing and flow.	The second iteration of the course redesign was better organized than the first. Student feedback continued to indicate that assignments felt practical and well aligned to the course goals.
Areas of Improvement		<ul style="list-style-type: none"> Reduced the number of assignments from 28 to 19 Reorganized remaining assignments into a thematic module structure Integrated discussion into project-based assignments to increase peer-to-peer collaboration 	<ul style="list-style-type: none"> Further reorganized course topics to better pace and scaffold course content Retained AI & Education assignment Added Module 5 synchronous meeting

TABLE 3. Course design summary.

process, we also prioritized prolonged engagement with the course, spending 10 weeks with two iterations of the course to confirm the extent to which the design was effective in

meeting our intended outcomes. Ultimately, this design can serve as a precedent for future course development in our online dual licensure program. The final design, with its five

thematic modules, provided students with the scaffolding they needed to navigate the 5-week course successfully.

REFERENCES

Division of Elementary and Secondary Education [DESE]. (n.d.). *Alternative Routes to Licensure*. <https://dese.ade.arkansas.gov/Offices/educator-effectiveness/become-an-arkansas-teacher/alternative-routes-to-licensure>

International Society for Technology in Education [ISTE]. (2017). *ISTE standards for educators*. <https://www.iste.org/standards/for-educators>

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