International Journal *of* Designs for Learning
2025 | Volume 16, Issue 2 | Pages 159-169

UNPACKING THE DESIGN OF AN ONLINE COURSE SERIES — GENERATIVE AI AS A LEARNING DESIGN PARTNER

Rebecca M. Quintana, Chris Quintana, & Melissa McCurry, *The University of Michigan*

As Generative AI continues to build momentum and gain traction in real-world settings, learning design professionals must decide whether and how to integrate these tools into their work. In the Generative AI as a Learning Design Partner online course series, we explore opportunities and applications for generative AI in supporting and enhancing learning design activities and tasks, such as developing learning objectives, course outlines, assessments, and evaluation plans. The series demonstrates how AI tools and models can be applied throughout the design process, while also cultivating learners' skills to evaluate the strengths and limitations of these tools. Our design case discusses how we—as designers and instructors—addressed three technology-related goals for the series that positions AI as a design partner: engaging with its newness, keeping pace with its rapid evolution, and navigating its polarizing aspects. We elaborate on how we approached these goals by: 1) serving as translational developers to bridge foundational domain concepts and practical applications; 2) designing learning objectives and content intended to remain relevant as tools and models evolve; and 3) supporting learners in navigating, exploring, and developing their own perspectives within a controversial content area. Our design case further unpacks how our designed artifact—an online course series positioning generative AI as a partner in design—embodies the three goals we set within its content, learning objectives, instructional materials, and activities. We share our design experiences and reflect on how we may update the series in future iterations.

Rebecca M. Quintana is Clinical Associate Professor at the Marsal Family School of Education, University of Michigan.

Chris Quintana is Associate Professor at the Marsal Family School of Education, University of Michigan.

Melissa McCurry is Learning Experience Designer at the University of Michigan, Center for Innovation.

INTRODUCTION

In this design case, we explore our creative work as designers and instructors for an online course series—Generative AI as a Learning Design Partner— which aims to give learning design professionals a foothold into the rapidly evolving landscape of Generative AI (GenAI).

GenAI is rapidly making an impact in the world of work, including within professional contexts of learning design (Czerkawski, 2025). Many are recognizing the potential of GenAI to make design practice more efficient and effective, while others are questioning whether it could potentially make their work obsolete (Choi et al., 2024). Some express concern that the introduction of GenAI may have a detrimental impact on work quality and are hesitant about the potential ethical and legal implications of the technology (Sharples, 2023). Still others are envisioning opportunities to leverage GenAI as a partner in design, seeing GenAI as a possible course design companion to enhance strategic aspects of the design process when used responsibly (Hodges & Kirschner, 2024). Considering the pace at which GenAI is proliferating in the workplace, it is hard for learning professionals to keep pace with professional discourse and the capabilities of these tools. However, if we start by investigating basic concepts, plan for using GenAI to support design practice, and identify key opportunities and pitfalls, learning professionals can build on these foundational skills, even as

A publication of the Association for Educational Communications & Technology (AECT), published by Indiana University Libraries Journals.

https://doi.org/10.14434/ijdl.v16i2.42086

the technological landscape continues to evolve (Quintana & Quintana, 2024).

Our design case is motivated by our desire to share our design experiences and what we learned from our work as designers and instructors on the creation of a Massive Open Online Course (MOOC) series that positions GenAI as a partner in learning design. Our design case describes our efforts to create an online series for professional learners to become proficient and confident users of Generative AI within learning design practice. We will discuss how we addressed our goals related to the technology's newness, the ongoing relevancy of course content, and the polarizing aspects of the phenomenon. Throughout this design case, we will discuss how we addressed our goals through our MOOC series design.

Following the tradition of "the design case" (Boling, 2010; Howard, 2011), we articulate the unique challenges related to our series' subject matter and design context, document, and provide a rationale for design decisions and solutions that we advanced throughout the process.

SERIES CONCEPTION AND DEVELOPMENT

We developed a three-course series, Generative AI as a Learning Design Partner. Series development began in the summer of 2024, and our university issued a call for proposals for short-form online content that focused on GenAI and the future of work. This call stipulated that content would be hosted on Coursera, a MOOC platform that attracts a global audience of learners. At the time, the short course format was an experimental Coursera product type, consisting of 1-5 hours of focused, consolidated content per course. The short course format was introduced to accelerate the release of timely content for professional learners eager to sharpen AI skills in their industry.

In response to this call, we pitched an idea for a series that would provide a basic design framework for learning design professionals to apply GenAI tools within their workflows and their own professional design contexts. Our project was ultimately approved by our university, and we partnered with an academic innovation unit on campus to realize the development of three short courses that are now available to the public. Throughout a rapid, four-month development cycle, we worked with content and platform specialists, learning experience designers, and media designers to develop a highly rated series that has seen the enrollment of thousands of learners to date.

GOAL SETTING FOR THE SERIES

At the outset of the Generative AI as a Learning Design Partner series' development process, we identified three design goals that stemmed from our specific topic and context, namely the introduction of GenAI into the professional landscape of learning design. Our assessment of the technology and its use revealed three important factors that motivated our design goals for the series. First, the new and widespread emergence of GenAI tools and large language models (LLMs) required us to serve as translators of complex domain concepts for design practitioners. Second, the rapid and ongoing evolution of these tools and models necessitated that our course materials remain relevant long after their release. Third, the polarizing nature of GenAI tools required that we present a "middle-ground" perspective and offer learners the opportunity to engage with these viewpoints to be able to form their own positions, while also revealing our own methods and approaches in developing the series.

Goal One

To draw on existing academic research and make the content understandable to MOOC learners (i.e., design professionals taking the series).

At the time of our series development, GenAI was just starting to gain traction in the broad public sphere, even though it had long been a topic of academic interest. While literature on artificial intelligence existed, applications of GenAI tools and models within education and design settings were largely unexplored. Most design professionals had limited exposure to the technology and had limited experience with applying it within their work. As momentum grew, so did the need for accessible, practical practitioner-oriented resources and illustrations of how these tools could be applied within learning design practice. Our challenge was to draw on our combined expertise in computer science and learning design to act as translators and bridge the research-practice gap (Norman, 2010).

Goal Two

To develop a course series that remains relevant, even as the content area and surrounding practices continue to evolve and specific GenAI tools and models change.

Although the intersection of GenAI and learning design was underexplored at the time we developed our MOOC series, there is now an influx of material focused on this area. At the time we engaged in this work, our challenge was to articulate core principles of GenAI use that would remain relevant, even before they were formally articulated by the field. Additionally, we correctly anticipated that GenAI tools and models would evolve, releasing new features and demonstrating improved capabilities. We had to grapple with a major problem, that of creating course content and demonstrations that would remain relevant and not quickly become out of date and obsolete.

Goal Three

To develop a course series that supports MOOC learners in navigating, exploring, and developing their own ideas in a content area that engenders polarizing perspectives.

When we were developing our course series, there was widespread discussion—and hype—about GenAI. This included strong discussions about ethics concerning the ways GenAI tools and models are trained, the environmental costs of GenAI tools, and the potential impact of GenAI on the job market. There was also a range of claims—sometimes realistic, sometimes overstated—about the pros and cons of GenAI. In our course series, our goal was to help learners conceive of responsible and practical uses of GenAI that align with the tools' actual capabilities. Our design challenge was to help learners explore the different sides of the GenAI arguments, counter the hype around GenAI, and think about how they could use GenAI in balanced, responsible ways for learning design.

ADDRESSING GOAL 1: CREATING CONTENT AT THE INTERSECTION OF RESEARCH AND PRACTICE

MOOC design is a complex undertaking that requires instructors to prepare content, activities, and assessments that align with the needs of a diverse audience of learners (Drake et al., 2015). With respect to content, MOOC instructors are responsible for selecting and organizing high-quality course materials that are accessible to thousands of learners (Zhu et al., 2017). Instructors need to adapt their everyday teaching content and activities for a MOOC audience, considering issues such as copyright, accessibility, and scalability (Quintana et al., 2020). In sum, a MOOC instructor must thoughtfully adapt and organize content to meet the needs of a diverse learner audience, while addressing legal and pedagogical considerations.

Laying The Foundation: Our Work as Translational Developers

As GenAI began gaining traction and prominence in everyday work contexts, we needed to make the complex topic of GenAI and LLMs both relatable and actionable for design professionals who were not yet deeply familiar with the technology. At the same time, we anticipated that many of our MOOC learners would be experienced in learning design, able to draw on rich professional backgrounds, but still new to the foundational concepts underlying GenAI and LLMs. Our challenge was to bridge the gap between established technological concepts, emerging tools, and the practical experience of practitioners, recognizing that, regardless of prior professional experience, most MOOC learners would be encountering this technology for the first time. Given the technology's newness, our task as content curators and developers was richly complex, requiring the creation of new content at the intersection of research and practice.

Our approach was informed by Norman's (2010) call for "translational developers," those who can translate between the abstraction of research and the practicalities of practice. We saw ourselves as "intermediaries," translating domain concepts about AI into the language of practical development. Translational developers, according to Norman (2010), "mine the insights of researchers and hone them into practical, reliable, and useful results" (p. 12). Drawing on our backgrounds in computer science, education, and design, we identified the domain knowledge about AI most critical for learning designers to know, allowing them to use GenAI effectively and ethically. We endeavored to select foundational topics and present them at an appropriate level of detail, aiming to bridge the theoretical ideas about AI that are situated in academic literature and practical, ethical applications within learning design practice.

In Course 1—Exploring Generative AI for Learning Design—we laid a foundation for how we conceptualized AI tools throughout the series. We emphasized the *additive* aspects of AI tools that differentiate them from other kinds of tools that perform tasks with straightforward outputs (e.g., word processors). We explained that GenAI is "generative" in that it can support thinking and creativity in ways that extend beyond simple tasks. We posited that users of GenAI tools can work with outputs iteratively, by reviewing, expanding, refining, and even discarding ideas as part of the overall design process. We asked learners to consider adopting a partnership mindset, seeing these tools as an intellectual partner that helps them envision possibilities and explore new approaches, rather than accepting complete, ready-made solutions.

In Course 2—Using Generative AI for Learning Design Activities—we introduced a productive mindset for how users of GenAI tools can effectively interact as part of design practice. We posited that the quality of outputs is dependent on the quality of users' prompts and input. We recommended specificity in prompt writing, such as using unambiguous language, making focused requests, and breaking complex ideas into smaller segments. As tools continue to evolve, we encouraged curiosity regarding new interaction modalities (e.g., speech-based inputs) or prompts that accept multi-modal inputs (e.g., articles, images). We emphasized an iterative and experimental mindset, including trying different prompts and refining, adjusting, or constraining them based on results.

In Course 3—Strategizing the Use of Generative AI in Learning Design—we encouraged a balanced, measured view of GenAI use. We recommended that learning designers evaluate GenAI both in terms of its strengths and weaknesses. We provided guidance on the kinds of tasks

that GenAI tends to do well (e.g., summarizing, connecting information) and illuminated areas that require additional oversight (e.g., biased, inaccurate, or fabricated outputs). We posited that measured and critical GenAI use is essential and suggested that designers should avoid extreme views, such as seeing the technology as a "silver bullet" or fearing that it will replace human effort. We made the argument that learning designers must cultivate knowledge and skills that allow them to recognize when GenAI is useful and where skepticism is warranted. This content area relates to Goal 3, navigating polarizing content, which we will discuss later in this design case.

ADDRESSING GOAL 2: DESIGNING FOR RELEVANCY

An important challenge in design education is to prepare designers to be successful in a workplace that is marked by rapid technological change, institutional reorganization, and interdisciplinary, complex work. Thus, it is necessary for design educators to identify competencies that will allow students to apply knowledge to a range of situations. Weil and Mayfield (2020) advocate for moving away from offering skills and knowledge that will quickly become stale and obsolete, instead focusing on enduring capacities, such as embracing complexity, cultivating possibilities, and driving impactful change. In the context of our MOOC series, this meant we needed to prioritize adaptable and future-ready competencies over tool-specific skills that would lose their relevance over time.

Enduring Understandings: Identifying Learning Objectives for the Series

We drew on the concept of "enduring understandings" advanced by Wiggins and McTighe (2005), that advocates instructors begin their design process by identifying ideas students should remember long after the conclusion of the course. Enduring understandings relate to a set of core ideas that instructors believe students should retain. Given that GenAI tools and their place in the educational landscape are constantly changing, we wanted to articulate a set of learning objectives that would persist regardless of what LLM is currently popular on the market. With tool and model agnosticism at the forefront of our minds, we developed learning objectives focused on "enduring understandings," with the goal of providing learners with wide-ranging skills that could be applied to their own practice and evolving contexts.

In Course 1—Exploring Generative AI for Learning Design—we introduced learners to foundational concepts about learning design and Generative AI. We wanted learners to be able to identify places within early and later phases of the design process where GenAI could be effectively leveraged. We asked learners to draw on existing design frameworks, such as ADDIE (Branch, 2009; Molenda, 2015) and Kumar's (2012) design process quadrants to articulate specific design tasks where GenAI could be used, areas such as brainstorming, drafting, and refining. Our rationale for this approach was to lay a solid foundation so that learners could connect ideas from the course to their own professional contexts.

In Course 2—Using Generative AI for Learning Design Activities—we encouraged learners to delve deeper into specific applications of GenAI—from brainstorming content (e.g., drafting learning objectives) to refining content (e.g., improving alignment from content to learning objectives). We asked learners to reflect on the strategy and effort required to effectively engage AI throughout the lifecycle of the design process. After completing the second course, we wanted learners to be able to engage GenAI tools to support design tasks, while understanding their key capabilities as well as key limitations. Our rationale was that—while we expected the technology and specificity required to prompt would change—the overall process and guidance for effective prompting would remain timely.

In Course 3—Strategizing the Use of Generative AI in Learning Design—we provided scaffolding for learners to independently explore ways that they could use AI within learning innovation contexts. As a core design activity, we asked learners to create a strategy or plan for how they would create a customized chatbot within a learning situation, tailoring it to learners' specific needs for a task. We hoped that this would encourage students to consider the inputs needed for the model and to develop prompts that would allow the chatbot to function as intended. Our rationale was to advance learning objectives focused on planning and creative problem-solving involved in GenAI use, so that even as the models change, learners could apply the reasoning and thought processes in future situations.

Ephemeral and Evergreen Content: Identifying Lecture Videos, Readings, and Examples

After identifying learning objectives for the series, we decided what type of content should be classified as "ephemeral" and what type of content should be considered "evergreen." We defined ephemeral content as material likely to become outdated in the future and evergreen content as topics that would remain relevant over time (Javeed et al., 2015). The process of distinguishing between "ephemeral" and "evergreen" content was at the forefront of our minds, particularly given the known logistical and financial challenges associated with MOOC iteration (Marmoah et al., 2023; Mohammed et al., 2025). Thus, we tried to match "ephemeral" content with course elements that could be easily updated (e.g., readings) and "evergreen" content with course elements that were more fixed and expensive to update (e.g., lecture videos).

Illustrating how we approached ephemeral content, each course begins with a reading entitled "Getting Familiar with GenAI," where we provided introductory information about GenAI tools more broadly. This reading contains practical information about how to access GenAI tools, basic guidance on how to use these tools, and suggestions for how to maximize learning with these tools. Because we knew the tools, their capabilities, and links could change, we decided to develop this resource as a "reading" content type for ease of updating.

Illustrating how we approached evergreen content, each course includes several instructional videos to introduce the topics associated with our learning objectives. As instructors and designers, we were cognizant that media asset creation is labor intensive and time consuming, further highlighting our commitment to crafting lecture scripts in a way that the content would remain relevant. As such, our video content focuses on general key concepts that we hoped would endure. In what follows, we outline how we weaved ephemeral and evergreen content types throughout each course to blend current technical information with fundamental concepts.

In Course 1—Exploring Generative AI for Learning Design—we created a series of lecture videos that survey the fundamentals of learning design and consider the use of GenAI tools more broadly: an overview of design processes, partnership with GenAI, educational technology trends, and potential starting points for using GenAI tools within the learning design process. In addition to longitudinal relevance, we also aimed to shape content to be pertinent to learners who have a range of expertise and professional experiences, who embody a spectrum of professional roles, and who work in a variety of educational contexts.

In course 1, we presented the Gartner Hype Cycle to show trends that occur with emerging educational technologies (see Figure 1). When technology is new, there is an over-estimation of what the technology is capable of, resulting in a disillusionment with the technology when it does not perform as expected. Over time, perceptions of the technology stabilize or plateau, and it is during this period that the technology often improves.

In Course 2—Using Generative AI for Learning Design Activities—we grappled with the issue of relevancy, specifically because of its application of GenAI for discrete design learning design tasks. We wanted to provide learners with dynamic examples that show how learning design tasks can be augmented using GenAI tools, such as those related to the development of learning objectives, activities, assessments, and feedback, script writing, visualizations, accessibility, learner personas, and evaluation. We addressed a common design task, that of translating a face-to-face course into an online learning environment. To contextualize

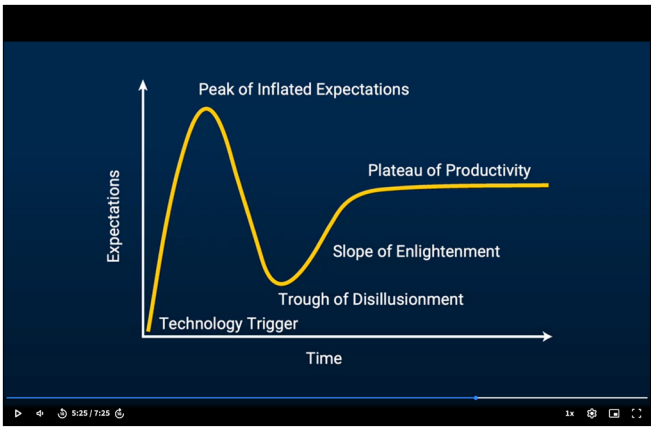

FIGURE 1. Screenshot of "Thinking Beyond the Hype" video, with link to video.

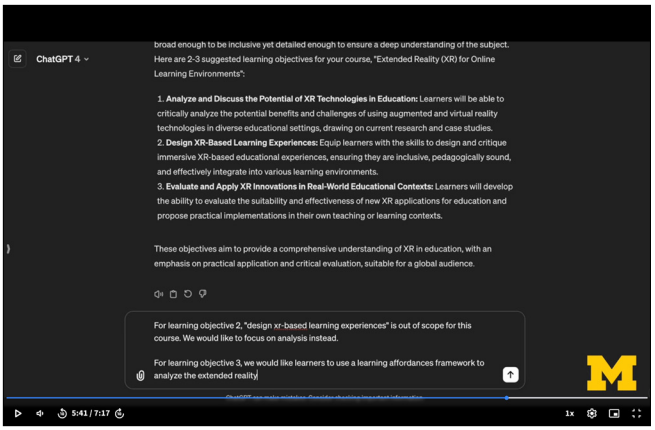

FIGURE 2. Screenshot of Drafting Learning Objectives video, with link to video.

our demonstrations, we integrated a case study where we unpacked how GenAI could serve as a design partner in conceptualizing an online version of a residential course we have taught about educational applications of extended reality. By grounding demonstrations in a sample course, we hoped to show how these examples could relate to an authentic design scenario. For these demonstrations, we captured screen recordings of the instructors using ChatGPT's latest models at the time (i.e., GPT 4) (see Figure 2).

Although that model is now outdated, the application techniques that we presented remain relevant. The key learning design tasks that can be augmented with AI tools, and the process by which users prompt AI, remain the same. Even though we selected an "evergreen" content type (i.e., videos) to demonstrate the use of currently available technologies, we aimed to emphasize transferable skills and adaptable strategies, ensuring relevancy, even as specific tools and models change.

In Course 3—Strategizing the Use of Generative AI in Learning Design—we explored the strengths and limitations of GenAI, how policy matters for integrating GenAI, strategies

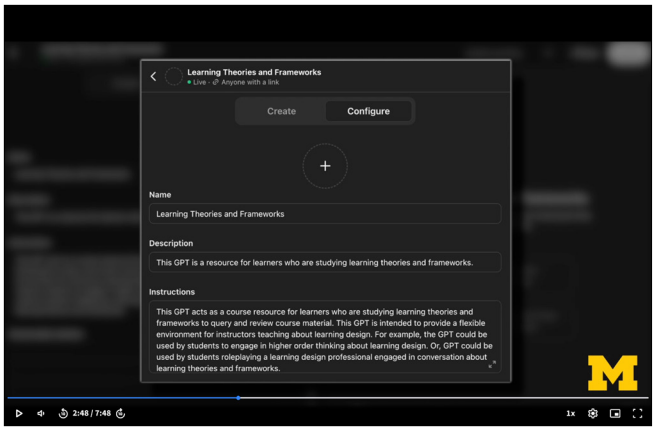

FIGURE 3. Screenshot of Custom GPTs for Learners, with link to video.

to articulate GenAI partnership to stakeholders, and customized chatbots for learning design professionals. The key concepts covered in this course—thinking critically about what AI tools excel at and what they do not, the importance of being mindful of the ethical and legal implications of the tools, and what data is required to create a tool that is truly useful—continue to be major areas of focus in the field. In this course, we created a video demonstration of how to create Custom GPTs using ChatGPT (demonstrations that will eventually be outdated) but, as previously stated, we believed the process of selecting the learning task, writing out the instructions, uploading the appropriate data, and refining results would remain relevant (see Figure 3).

ADDRESSING GOAL 3: NAVIGATING POLARIZING PERSPECTIVES

From the outset of our project, we were aware of strong points of view concerning GenAI use, such as those related to ethical concerns, environmental costs, and job market implications. There were also a mix of realistic and overstated claims about its pros and cons. We were uncertain how our conceptualization of GenAI as a partner in design would resonate in the future as these tools become more mainstream. Our goal was to help learners critically explore various perspectives and consider responsible, practical uses for GenAI that align with its actual capabilities for learning design. We drew on two pedagogical strategies for this: priming and scaffolding.

Priming learners to prepare them for subsequent learning activities is a pedagogical approach used in various contexts, from using podcasts to introduce material that is later explored in a lecture (Popova et al, 2013) to a learning cycle in science education where learners first explore concepts before they are formally introduced and applied (Fuller, 2003). In our series, we primed learners to begin generating their own ideas about GenAI and then continually built on this foundation with reflective activities that explored different aspects of GenAI and its connection to learning design practice.

Another important approach for supporting learners engaging with complex phenomena involves scaffolding, helping them reflect and articulate on their learning, so that they can construct, evaluate, and communicate their own understanding of the content (Quintana et al., 2004). In our series, we supported reflection and articulation by including discussion prompts that focused on key concepts and themes related to GenAI, individual reflection and practice opportunities, and multiple-choice knowledge checks, all of which encouraged learners' active engagement with the material.

Once the series was live, the university's online learning center was responsible for monitoring discussion forums to ensure safe and respectful interactions. The instructors have begun reviewing discussion posts and plan to add introductory videos preceding each prompt to provide high-level scaffolding informed by insights from the analysis of learners' posts. We also incorporated several integrated third-party tools that allowed for increased peer-to-peer interaction, including a workbook for recording learners' responses to instructor prompts (see Figure 4), a gallery tool for posting visual and textual examples that can be shared and commented on by peers, and a tool for annotating and commenting on instructor-provided graphics.

By adopting the strategies of priming and scaffolding, we aimed to help learners identify key considerations surrounding GenAI use and externalize their thinking for personal reflection and peer discussion. We posited that these experiences would help learners navigate the complex and polarizing aspects of GenAI, regardless of shifts in public sentiment.

Learner Engagement: Reflection, Discussion, and Practice Opportunities

In Course 1—Exploring Generative AI for Learning Design—we asked learners about their goals for the series and prompted them to reflect on and discuss their initial, high-level ideas about how they might integrate GenAI into their learning design practice. This served as a priming activity to encourage early thinking about GenAI before addressing the topic in our instructional videos. After we presented the material in detail, learners were prompted to apply these ideas in various ways, such as by sketching and uploading their own design process maps tailored to their specific contexts, identifying areas in the design process where promising opportunities to use GenAI might exist. These activities built on each other as learners progressed through the course, moving from a general brainstorming activity based on intuition to a more concrete, guided ideation exercise using existing design frameworks. At the end of Course 1, learners completed a short multiple-choice

In this workbook activity, you will use a Generative AI tool (e.g., ChatGPT) to experiment with either a brainstorming task or a refining task, such as those we've discussed earlier in the course. You will need to decide whether your experiment will be based on a current, real-life project or based on the scenario we provide below.

Sample Scenario: You are tasked with creating a microlearning module aimed at improving digital literacy skills for adult learners. The module will be part of a larger program offered by a community education center. The goal is to equip learners with the essential skills needed to navigate the digital world, including understanding online safety, using productivity tools, and engaging with digital content effectively.

Target Audience: Adult learners with varying levels of prior digital knowledge.

Duration: 15-20 minutes per microlearning module.

Delivery Mode: Online, self-paced.

Key Topics:

- Online safety and privacy
- Basic productivity tools (e.g., word processors, spreadsheets)
- Evaluating the credibility of online sources

Part 1: Choose Your Focus

Decide whether to focus on:

- **Brainstorming with Generative AI:** Drafting objectives, scripts, accessibility improvements, assessments, feedback.
- **Refining with Generative AI:** Aligning course goals to outcomes, roleplaying as a learner persona.

Consider the stage of your project to determine your focus area.

Part 2: Describe Your Context

Briefly describe your current project or use the provided sample scenario.

- If you opt to use a current project, include details about the learning experience
- If you opt to use the scenario provided, provide a few additional details of your own to make the scenario come to life as well as an explanation of what you hope to learn.

Note: If you choose the sample scenario, it may be more straightforward to focus on brainstorming with GenAI, since you do will not have as many ready- made materials to use as the basis of your experiment.

Part 3: Scope Your Experiment

Identify a specific learning design task, which should be either a brainstorming task or a refining task:

- Describe the task and desired outcomes
- Aim to deepen your understanding of how GenAI augments design practice

Describe how the task you have chosen will deepen your knowledge of How GenAI could support learning design tasks

Part 4: Experiment and Document

Use a Generative AI tool (e.g., ChatGPT) to execute your chosen task.

Document:

- The prompts you used.
- The results achieved.

Part 5: Reflect on the Outcome

- Evaluate the effectiveness of your experiment:
- What worked well? What didn't?
- Was the effort worthwhile? Why or why not?
- What did GenAI enable you to accomplish?
- How did GenAI support brainstorming or refining?
- Would you recommend this approach? Why or why not?"

FIGURE 4. Reflection exercise in Course 2.

knowledge check covering key takeaways from the lectures and readings to reinforce what they had discussed and learned.

In Course 2—Using Generative AI for Learning Design Activities—we followed a similar approach. We began by asking learners to reflect on what they had learned so far and the potential opportunities and concerns they saw regarding GenAI tools. We asked learners to engage in a small thought exercise with an example project—an online course in virtual and augmented reality—and reflect on how GenAI might assist in its development. After this reflection, we provided learners with tangible examples (i.e., video demonstrations) that showed how GenAI could support content development for the example course, including drafting learning objectives, brainstorming activities and assessments, developing scripts, and improving accessibility. Finally, learners participated in a hands-on practice activity, incorporating AI to experiment with one of the design tasks demonstrated earlier in the course and critically reflecting on the outputs (see Figure 4).

In this activity, you will create a strategy for developing a custom GPT that supports either learning designers in a project context or learners in a learning situation. You will decide whether to focus on building a resource for learning designers throughout the course design process or creating a personalized assistant for learners.

Note: You do not have to create the custom GPT itself, although you are welcome to do so if you have access to Generative AI tools that allow you to develop a custom GPT (e.g., ChatGPT).

Follow the guidelines below and then submit your workbook entry following the instructions provided.

Activity Guidelines

Part 1: Choose Your Focus

Decide whether to focus on:

- **Supporting Learning Designers:** Creating a custom GPT that can act as an experienced advisor with complete knowledge of the design project.
- **Supporting Learners:** Developing a custom GPT that functions like a personal tutor, guiding learners through a specific learning situation.

Part 2: Describe Your Context

Briefly describe the project or learning situation you are focusing on:

- If you opt to support learning designers, identify and describe a particular learning design context that the custom GPT will support.
- If you choose to support learners, describe a specific learning activity or situation that the custom GPT will support.

Part 3: Scope Your Custom GPT

Identify the key functionalities of your custom GPT:

- **Learning Designers:** What specific questions, advice, or resources will the custom GPT provide?
- **Learners:** What types of questions or activities will the GPT be prepared to address and/or support?

Part 4: Plan Your Resources and Materials

Consider the resources and materials that you will need to include:

- **Learning Designers:** What content, templates, or data will be essential for the custom GPT to function effectively in a design context? What is a strategy for keeping design resources up to date?
- **Learners:** What course content, examples, or supplemental materials will the GPT need to access to support learners effectively? What is a strategy for keeping learning activity resources up to date?

Part 5: Develop Your Strategy

Outline the strategy for building your custom GPT:

- Describe how you will implement your custom GPT, including how you will manage and update the resources it uses.
- Consider any challenges you might face in developing or maintaining the GPT and propose solutions.

Part 6: Reflect on the Process

Evaluate the potential impact of your custom GPT strategy:

- How do you envision your custom GPT improving the design process or learning experience?
- What are the potential benefits and drawbacks of using a custom GPT in the context you've chosen?
- Would you recommend this approach to others in your field? Why or why not?"

FIGURE 5. Reflection exercise in Course 3.

In Course 3—Strategizing the Use of Generative AI in Learning Design—we took a big-picture approach and provided several reflective opportunities. We encouraged learners to reflect on the larger impacts of GenAI on learning design, discussing its pros and cons. We asked learners to envision how they might engage educational stakeholders about using GenAI, reflecting on how to navigate challenging conversations and respond constructively when encountering resistance or over-enthusiasm. We provided discussion prompts on overarching issues, such as leveraging GenAI tools while being mindful of copyright and intellectual property, data privacy and security, and balancing human creativity with AI capabilities. In a final discussion prompt around strategy, we asked learners to reflect on their own contexts and identify the practical applications or use cases most valuable for their professional work. Within a final workbook activity, we asked that learners develop a plan for creating a custom GPT specific to the use case they identified in the discussion board (see Figure 5).

Examples for Learners: Looking "Behind the Curtain" of The MOOC Design

Aside from reflective activities, we also wanted to show learners how other learning designers might use GenAI. While we included external examples, we recognized that the series itself could serve as a context to demonstrate how we used GenAI in developing the series. This approach allowed us to be transparent about our own thinking while

keeping it grounded in a context familiar to learners. In doing so, we aimed to exemplify how designers can navigate GenAI's complex and polarizing aspects by critically reflecting on our process and modelling balanced, creative use of these tools and models.

We implemented this through a feature called "Behind the Curtain," which illustrated how we—as more experienced designers—used GenAI in the series' design. This approach allowed us to authentically portray our design process, make our thinking about GenAI explicit, and connect its use to specific course design decisions. We described our approach to using and evaluating GenAI output, our decision-making process for determining how we used—or chose not to use—the outputs, and our reflections on the values and trade-offs of employing GenAI in design.

Our "Behind the Curtain" examples spanned the series. In Course 1, we showed how GenAI helped us create digital assets, such as the main series image and other course images for the course. We elected to experiment with GenAI here to generate course images, exploring its creative potential beyond text-based applications and adding a visual use case for MOOC learners to review (see Figure 6).

In Course 2, we illustrated how we used GenAI to develop multiple-choice knowledge checks and elaborative feedback for those assessments. We turned to GenAI to assist with drafting assessment items because this aspect of course design is extremely time-consuming. We also anticipated that this use case would resonate with our MOOC learners, as it represents a practical and increasingly common application of generative AI in educational design.

Finally, in Course 3, we demonstrated how GenAI assisted in brainstorming and developing workbook activities for learners to reflect on how they were envisioning GenAI as an intellectual partner in their work. We chose to use GenAI to expand and clarify activity instructions to ensure we would not overlook details that learners would need to fully engage with each task.

For each example, we outlined the design challenge we faced and how we hoped to use GenAI to address it. We described the GenAI tool and model used, the prompt we formulated, the output received, and our evaluation of its strengths and weaknesses. We also detailed any iterations we performed, how we ultimately used—or modified—the output for our design tasks, and the advantages and disadvantages of using GenAI for each activity.

In some respects, taking learners "behind the curtain" aligns with the concept of worked examples (Ward & Sweller, 1990) and their importance in helping learners understand content (Atkinson et al., 2000). While worked examples are often applied in math and science education, they can also be valuable in design education (Rourke & Sweller, 2009).

FIGURE 6. Image for the specialization created with the support of DALLE and Adobe Illustrator.

DISCUSSION

The MOOC format offers the possibility of "anytime, anywhere" learning, so they are an appealing option for working professionals, lifelong learners, and even full-time students (Blackmon & Major, 2014). As designers and instructors, we were motivated by the opportunity to create an openly available course geared toward learning designers on a cutting-edge topic. The support we garnered from our institution allowed us to rapidly design, develop, and share a MOOC series with a global audience of learners. As we embarked on this effort, we quickly recognized that our topic's characteristics presented some unique challenges and requirements, specifically addressing its newness and ubiquity, sustaining its relevance, and navigating its polarizing aspects. In this regard, our situation was somewhat daunting, as we developed the series early in the adoption cycle of GenAI tools and in the very public MOOC format. We did not—and still do not—fully know how our materials will age.

Now that the series has been available on Coursera for over a year, we have an opportunity to review learner feedback and data to consider how we might iterate on our original design. This will allow us to consider areas of the course we would like to revise based on how learners are interacting with the series. There are many sources of data to consider, including learner completion data, assessment data, and discussion forum posts. We are currently exploring various methods for analyzing these data, including qualitative ethnography approaches (Shaffer, 2017).

As we have shown in this design case, we leveraged salient characteristics of GenAI tools to address three overarching

design goals through a variety of strategies. To address the new and ubiquitous nature of GenAI tools, we drew on Norman's (2010) notion of translational developers to serve as intermediaries who translate domain concepts about AI into practical applications. To ensure lasting relevance, we sought learning objectives that would result in enduring understanding. We also distinguished between ephemeral and evergreen content to inform the selection of content types. To equip learners with skills for navigating the polarizing aspects of GenAI, we provided priming and scaffolding activities that allowed them to reflect on and articulate what they were learning, sharing newfound insights with their peers.

Our design case illustrated how we confronted these challenges and how our own responses took shape within the context of GenAI and learning design. We found that the three issues we identified—introducing complex domain concepts to new audiences, maintaining relevance amid rapid change, and navigating divergent or contentious ideas extend beyond GenAI and resonate with issues we are facing within our broader design practice. Engaging with Norman's (2010) notion of translational developers prompted us to reflect on our role in connecting research to practice, a stance we have not previously articulated explicitly in our work. Similarly, examining the distinction between ephemeral and evergreen content helped us clarify how we make practical design decisions when time and resources are constrained. Finally, considering priming and scaffolding in relation to polarizing ideas allowed us to recognize strategies we already use, as well as opportunities to employ them with greater intention.

We see this design case as both an account of our work with GenAI and a moment of reflection on how we as designers navigate emerging domains more broadly. The experience sharpened our understanding of our own design commitments and affirmed the value of approaching new challenges with curiosity, clarity, and optimism.

ACKNOWLEDGEMENTS

We would like to acknowledge the support of the Center for Academic Innovation in supporting the development of the Generative AI as a Learning Design Partner series, especially Clare Brown, Design Manager and Alfredo Guevara, Media Designer.

REFERENCES

Atkinson, R. K., Derry, S. J., Renkl, A., & Wortham, D. (2000). Learning from examples: Instructional principles from the worked examples research. *Review of Educational Research*, 70(2), 181-214. https://doi-org.proxy.lib.umich.edu/10.3102/00346543070002181

Blackmon, S., & Major, C. (2017). Wherefore art thou MOOC: Defining massive open online courses. *Online Learning Journal, 21*(4). https://doi.org/10.24059/olj.v21i4.1272

Boling, E. (2010). The need for design cases: Disseminating design knowledge. *International Journal of Designs for Learning,* 1(1). https://doi.org/10.14434/ijdl.v1i1.919.

Branch, R. M. (2009). *Instructional design: The ADDIE approach.* Springer.

Choi, G. W., Kim, S. H., Lee, D., & Moon, J. (2024). Utilizing generative AI for Instructional Design: Exploring strengths, weaknesses, opportunities, and threats. *TechTrends, 68*(4), 832-844. https://doi.org/10.1007/s11528-024-00967-w

Czerkawski, B. AI and the learning experience design: From divergent creativity to convergent precision. *TechTrends* (2025). https://doi.org/10.1007/s11528-024-01032-2

Drake, J. R., O'Hara, M., & Seeman, E. (2015). Five principles for MOOC design: With a case study. *Journal of Information Technology Education: Innovations in Practice,14*, 125–143. https://doi.org/10.28945/2250.

Fuller, R. G. (2003). "Don't tell me, I'll find out": Robert Karplus—A science education pioneer. *Journal of Science Education and Technology, 12*(4), 359-369. https://doi.org/10.1023/B:JOST.0000006340.89395.e6

Hodges, C. B., & Kirschner, P. A. (2024). Innovation of instructional design and assessment in the age of generative artificial intelligence. *TechTrends, 68*(1), 195-199. https://doi.org/10.1007/s11528-023-00926-x

Howard, C. D. (2011). Writing and rewriting the instructional design case: A view from two sides. *International Journal of Designs for Learning, 2*(1). https://doi.org/10.14434/ijdl.v2i1.1104

Javed, M., Akhtar, A., & Yusufzai, A. K. (2015, December). Classification of web pages as evergreen or ephemeral based on content. In *Proceedings of the 2015 International Conference on Computational Intelligence and Communication Networks* (pp. 1381–1385). IEEE. https://doi.org/10.1109/CICN.2015.268

Kumar, V. (2012). *101 design methods: A structured approach for driving innovation in your organization*. John Wiley & Sons.

Mohammed, A. J., El Hag, I. A., Ibrahim, R., & Khan, M. H. (2025). Investigating the impact of a blended learning system on student satisfaction: A case study. *Knowledge Management & E-Learning*, *17*(1), 72–89. https://doi.org/10.34105/j.kmel.2025.17.006

Marmoah, S., Hamidah, H., Zulela, M. S., Hakam, K. A., & Rukayah, R. (2023). The change of curriculum in society 5.0 era: Challenge and future direction. *International Journal on Advanced Science, Engineering and Information Technology*, *13*(6), 2676–2681. http://dx.doi.org/10.18517/ijaseit.13.6.19655

Molenda, M. (2015). In search of the elusive ADDIE model. *Performance improvement, 54*(2). https://doi.org/10.1002/pfi.21461

Norman, D. A. (2010). The research-practice gap: The need for translational developers. *Interactions, 17*(4), 9-12. https://doi.org/10.1145/1806491.1806494

Popova, A., Kirschner, P. A., & Joiner, R. (2014). Effects of primer podcasts on stimulating learning from lectures: How do students engage? *British Journal of Educational Technology*, *45*(2), 330-339. https://doi.org/10.1111/bjet.12023

Quintana, R. M., Haley, S. R., Magyar, N., & Tan, Y. (2020). Learner and user experience design: A bidirectional approach. In M. Schmidt, A. Tawfik, Y. Earnshaw, & I. Jahnke (Eds.), *Learner and user experience research: An introduction to the field of learning design and technology (pp. 234-250)*. EdTechBooks. https://edtechbooks.org/ux/integrating_lxd_and_uxd

Quintana, C., Reiser, B. J., Davis, E. A., Krajcik, J., Fretz, E., Duncan, R. G., Kyza, E., Edelson, D., & Soloway, E. (2004). A scaffolding design framework for software to support science inquiry. *Journal of the Learning Sciences*, *13*(3), 337–386. https://doi.org/10.1207/s15327809jls1303_4

Quintana, R. M. & Quintana, C. (2024). Generative AI as a Learning Design Partner [MOOC specialization]. Coursera. https://www.coursera.org/specializations/generative-ai-as-learning-design-partner

Rourke, A. & Sweller, J. (2009). The worked-example effect using ill-defined problems: Learning to recognise designers' styles. *Learning and Instruction*, *19*(2), 185-199. https://doi.org/10.1016/j.learninstruc.2008.03.006

Shaffer, D. W. (2017). *Quantitative ethnography*. Cathcart Press.

Sharples, M. (2023). Towards social generative AI for education: Theory, practices and ethics. *Learning: Research and Practice, 9*(2), 159-167. https://doi.org/10.1080/23735082.2023.2261131

Ward, M., & Sweller, J. (1990). Structuring effective worked examples. *Cognition and Instruction*, 7, 1-39. https://doi.org/10.1207/s1532690xci0701_1

Weil, D., & Mayfield, M. (2020). Tomorrow's critical design competencies: Building a course system for 21st century designers. *She Ji: The Journal of Design Economics and Innovation, 6*(2), 157–169. https://doi.org/10.1016/j.sheji.2020.03.001

Wiggins, G., & McTighe, J. (2005). *Understanding by design* (2nd ed.). Association for Supervision and Curriculum Development.

Zhu, M., Bonk, C. J., & Sari, A. (2017, October). Instructor experiences in designing and delivering MOOCs in higher education. In *Proceedings of E-Learn: World conference on e-learning in corporate, government, healthcare, and higher education*, 2017, Vancouver, British Columbia, Canada (pp. 502–508). https://doi.org/10.24059/olj.v22i4.1495