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Designing a Self-Paced Learning Experience to Support Learner Self-Regulation

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Abstract: This reflective article examines how course designers utilized multiple frameworks for motivation and educational psychology to support learner self-regulation in an open, self-paced learning experience. The author provides specific applications and opportunities to better support self-regulation in the future in both the forethought and the self-reflection phase of Zimmerman's sociocognitive model of self-regulation. The article concludes with a summary of design decisions that supported self-regulation in this context as well as questions intended to help designers of similar learning experiences consider how to best support self-regulation in their context.

Keywords: expectancy–value theory, goal orientation, goal setting, learner motivation, MOOC, self-determination theory, self-efficacy, self-paced instruction, sociocognitive model of self-regulation

In a traditional university course, instructors decide the methods and means for deploying learning materials and activities. Instructors design for factors such as course duration, pace, sequence, participation requirements, and criteria for success, and these factors shape a learning experience offered in any modality (e.g., online, face-to-face, hybrid). In these traditional courses, the instructor's decisions about these factors create a context that will influence students' goals, motivation, learning strategies, and sense of satisfaction. That is, students must self-regulate their learning to succeed in the context created by the instructor.

Some universities, however, are experimenting with newer models of course delivery thought to leverage the power of distance education by offering courses on a larger scale to a wider audience. These learning experiences, called massive open online courses (MOOCs), are often open for anyone to complete. Their scale—sometimes thousands of enrolled learners—corresponds to decreased instructor–student interaction. As the degree of course openness increases and the extent of instructor interaction decreases, learner self-regulation emerges as a critical component of sustained learner participation and achievement of the learning outcomes. In open, self-paced courses, learners define success by their own criteria and choose to participate on their own time, often without external rewards.

When designing this type of course, the first instinct may be to replace traditional guiding forces, such as an instructor and due dates, with a highly regulated learning environment. For instance, external regulation might lock course progression to require learners to advance at a specific pace, in a specific sequence, or only after achieving a certain score on an assessment. However, controlling learner interactions with the course materials neglects the central role of the "self" in self-regulation and of autonomy in motivation. This approach also assumes that learners have one common goal in participating in the learning experience, and that progress toward that goal can be measured using valid, reliable assessments across all participants.

For those designing an open course intended to reach a large, diverse audience, the question of classroom assessment might be paramount: How does an instructional designer measure what students have learned in relation to a set of predetermined course learning outcomes? Indeed, attempting to replicate classroom assessment in a MOOC-like learning experience presents challenges of alignment, individualization, and scale: What assessments will effectively evaluate higher order

learning outcomes (alignment) so that an instructor/facilitator can provide constructive, personalized feedback (individualization) to *all* learners (scale)?

Designing to address this challenge is one way to plan a MOOC. However, in this article I present an alternative framework for approaching the design of these courses. If we (designers) can divorce ourselves from the need to monitor learner progress toward *our* goals for learners, how can we instead leverage learner self-regulation to help learners achieve *their* goals from instruction? This shift in thought requires designers to recognize that people participate in these learning experiences for a variety of reasons, to achieve a variety of goals, and that traditional classroom assessment aligned with learning outcomes is likely not the best measure of whether the experience has been a "success." In these contexts, the challenge for designers is to provide adequate structure to support learner self-regulation without the oversight of an instructor, while not over-controlling the learning experience.

My purpose here is to reflect upon the ways that existing theories and research can be applied to designing a MOOC-like learning experience to support learner self-regulation. I begin with descriptions of the learning experience, MOOCs, and Zimmerman's sociocognitive model of self-regulation (Zimmerman, 2000). I provide background information from related frameworks (e.g., goal setting, expectancy–value theory, self-determination theory) to rationalize design decisions that support the forethought and self-reflection phases of self-regulation. Each section ends with a list of the specific ways the design team applied self-regulation concepts to course design as well as opportunities for enhancing support for self-regulation in the future. As my purpose is to examine how theory can be effectively implemented in one specific context rather than to generate new evidence, the applications and variables outlined in this article will need future validation in the context of controlled research.

The Learning Experience

This article focuses on a learning experience that was designed for faculty and teaching staff at a large midwestern university with multiple campuses. The project's steering committee selected a series of six topics they considered to be essential components of effective teaching: course design, assessment, the science of learning, active learning, high-impact practices, and creating a positive first impression. The content was organized into a series of learning modules using the learning management system (LMS) Canvas. Each module includes instructional text and videos, self-directed learning activities, and examples of teaching strategies contributed by instructors from across the university system. Because the instructional materials are flexible and self-paced, they are referred to here as a "series of modules" rather than a "course." I refer to these modules as teaching modules (TMs).

One of the important factors that the designers considered is the audience. The target audience for the TMs comprises faculty and teaching staff across the entire university system: instructors with all levels of teaching experience, teaching in all disciplines, and teaching in any modality (face-to-face, online, hybrid). Though the target audience is diverse, one of its predominant characteristics is a professional- or graduate-level education, either completed or in progress (as with graduate teaching assistants). Members of the target audience also have multiple responsibilities in addition to teaching—including administrative, professional, research, and service roles.

The desired outcome of participation in TMs is that instructors will improve and refine their teaching practices utilizing evidence-based approaches to teaching and learning. This article explains in greater detail the strategies employed to support incremental increases in competence for all learners.

The Role of Self-Regulation in Self-Paced Instruction

The TMs are most similar to a MOOC. Characteristics of a MOOC include large enrollment and open access, often at no cost. The TMs enrolled over 900 users in the first 4 months that they were available. The modules are available through the university's public portal to professional learning. Any person with an email address can create a guest account and access the TMs for free.

MOOCs can be characterized by whether they are live or archived. In a live MOOC, an instructor typically sets the pace for the course by making course materials available according to a schedule. Learners also progress through a live MOOC in a cohort, which provides opportunities for them to interact with one another. Instructors may also interact with the learners to provide support throughout the duration of the MOOC. In contrast, in an archived MOOC, the entire set of course materials becomes available to learners upon registration, and they progress through the course at their own pace, often without interacting with any other learners or instructors. (Campbell et al., 2014).

The TMs are similar to an archived MOOC but are designed to offer additional options for support and interaction. All instructional materials are available to all learners upon registering, as in an archived MOOC. Given that the modules can be accessed and completed independently by anybody, the modules are, in this sense, truly open and marketed to a massive audience. However, instructors teaching in the university's system have the option to join a cohort of learners upon registering for the TMs. Some campuses will conduct professional learning communities using the modules. These opportunities bring aspects of traditional live instruction, such as interaction with learners and support from an instructor, to a small set of users who opt in. For the majority of learners, though, the learning experience afforded by these modules is informal and self-paced.

Learners enrolled in MOOCs need the skills to direct their own learning experience. Studies have found that self-regulation processes are necessary "to tackle the lack of personalized tutoring and keep pace" in MOOCs (Alario-Hoyos et al., 2017, p. 119; as supported by Handoko et al., 2019). Also, according to Campbell et al. (2014), "we [MOOC researchers] use self-regulation to explain qualities that learners need to develop in order to engage with and persist in informal, non-credit, yet structured learning environments of MOOCs" (p. 239). Therefore, when designing the TMs to be self-paced and instructorless, and to meet the needs of an audience diverse in their teaching experience, discipline, and modality, the design team carefully considered how the composition of the TMs would promote self-regulation.

Self-Regulation Overview

This article reflects on the design of the TMs within the context of the sociocognitive model of self-regulation as presented in Zimmerman's (2000) cyclical phase model. According to Zimmerman, "Self-regulation refers to self-generated thoughts, feelings, and behaviors that are planned and cyclically adapted to the attainment of personal goals" (Zimmerman, 2000, p. 14). This self-regulation process consists of three cyclical phases: forethought, performance, and self-reflection (Figure 1). Each phase is also broken down into two categories of subprocesses. This overview introduces the three phases at a high level, and the subprocesses within each phase are discussed in context throughout the article.

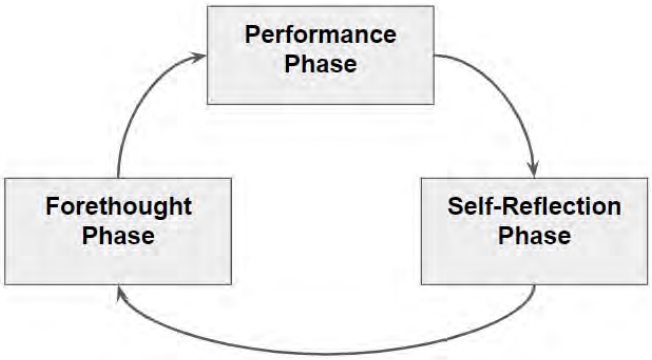

Figure 1. Self-regulation cycle.

In the *forethought phase*, learners plan and set goals for learning. Beliefs about their own ability and effort as well as the intrinsic value of both the task and learning for the sake of learning will influence how learners approach the learning experience. These forethought processes and motivational beliefs are preliminary to the learning process itself. The *performance phase* describes the metacognitive and volitional control processes that learners use during learning to keep themselves on track to meet their goals. While setting a goal in the forethought phase is the motivational aspect, the volitional control strategies in the performance phase "protect goals by directing and controlling one's energy toward them" (Alderman, 2008, p. 146). In the *self-reflection phase*, learners evaluate their performance against a set of criteria, assign causal attributions to aspects of their performance, and react emotionally and cognitively to the performance. These evaluations and reactions feed forward to influence future forethought processes, reflecting the cyclical nature of Zimmerman's model.

The volitional control strategies of the performance phase are difficult to attend to in a self-paced, MOOC-like learning experience because they are not observable in this context and there is no facilitator or teacher to provide real-time support or strategies. I believe that it is, therefore, critical to attend carefully to design elements that support forethought-phase processes, because these processes inform the setting of goals, and the goals provide the motivation for applying the volitional strategies described in the performance phase. The bulk of this article focuses on design in the context of the forethought phase. It is also important for designers to attend to the third phase—self-reflection—because it is through reflecting on the quality of the performance and the reasons for that performance that learners can adjust their goals and strategies appropriately to achieve success in subsequent learning experiences. The last part of this article focuses on the self-reflection phase.

Design Considerations for the Forethought Phase

The forethought phase, which broadly includes processes related to planning and motivation, is further classified into the subprocesses of *task analysis* and *self-motivation beliefs* (Figure 2). Task analysis includes goal setting and strategic planning, while self-motivation beliefs include self-efficacy, outcome expectations, intrinsic interest or value, and learning goal orientation. Each subprocess in context is described below.

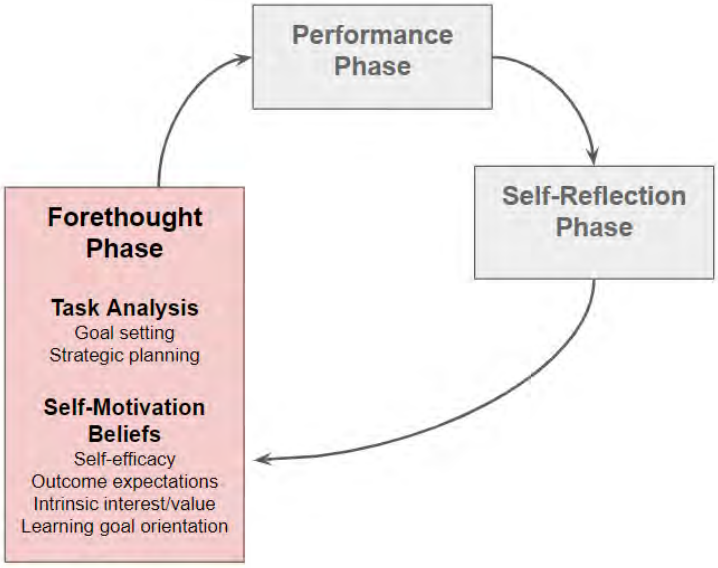

Figure 2. Forethought phase subprocesses: task analysis and self-motivation beliefs. Adapted from Zimmerman, 2002, p. 67.

TM Design in the Context of Audience Goals for Learning

In Zimmerman's forethought phase of self-regulation, goals explicitly appear in both the task analysis (goal setting) and self-motivation beliefs (learning goal orientation) subprocesses. Goals have been frequently found to be important to learning. As described in Alderman, "goals and goal setting play a central role in self-regulation (Schutz, 1991)," and they help direct attention, action, and effort; support persistence; and encourage planning and self-evaluation (2008, pp. 106–107). Though Zimmerman separates goal setting as a task analysis activity, the goals that one sets for oneself will reflect one's self-motivation beliefs. Therefore, I talk about goal setting and self-motivation beliefs before discussing strategic planning.

People routinely balance multiple goals across different domains of their lives (family, work, leisure, etc.), and it is not uncommon for goals to conflict with one another. For example, consider the working professional who must balance pursuit of workplace goals (e.g., promotion) with self-care goals (e.g., adequate sleep), the pursuit of which might be complicated if, for instance, pursuing the workplace goal of promotion requires being on call after business hours.

As described in the Introduction, the TM designers assumed that the target audience for this series of modules would typically have several categories of responsibilities within the workplace domain alone, each with its own goals and corresponding requirements to meet those goals. Several examples of goals that the designers anticipated would motivate the learner are:

- Expand repertoire of teaching strategies
- Document teaching excellence
- Earn a certificate
- Support a tenure or promotion application
- Fulfill a departmental requirement
- Improve teaching practices
- Learn about a specific topic

These goals are diverse, and they require a range of engagement and skill levels to achieve. Learners who enroll in the TMs can be expected to engage differently with the materials, in accordance with their goals. As noted by Alario-Hoyos et al. (2017), completion rates for MOOCs are not the best metric for their success, given that TM stakeholders cannot assume that every learner entered the module series with the intention of completing and passing it. The following section describes how the designers applied this background information to the design of the TMs, as well as opportunities for improving support for the goal-setting aspect of self-regulation in the future.

Application 1. To support the task of goal setting, the TMs include a detailed introduction that explains the purpose of the series (the need it addresses) and how to get the most out of the series (the possible outcomes and the resources available to achieve those outcomes). These are presented in an introductory module in the Canvas LMS.

Application 2. To support the presumed diversity of the audience and audience members' various goals, the designers used the Canvas site to build in flexibility of progression. The modules appear in a recommended sequence, but learners can progress through the modules in whatever order they choose after completing a required registration survey. This allows learners to self-select their sequence of progression based on their own goals and assessment of their current skill level. To balance this approach, the modules reference and link to one another in-text wherever the content refers to a previously covered concept, to allow learners to easily visit that content if needed.

Application 3. To support the presumed diversity of the audience and audience members' various goals, the designers created the TMs with the flexibility to be used in a variety of contexts. The TMs contain activities that can be completed individually or in groups. Accordingly, university instructors can choose to work through the modules individually or as part of a facilitated cohort. All instructors can contact their campus center for teaching and learning for feedback on the work they completed during their participation in the TMs. Additionally, instructors completing all of the quizzes can earn a certificate, a process that is automated using the Canvas LMS. However, the quizzes are not required, allowing learners who are pursuing informational goals to proceed without barrier.

Application 4. Because the TMs are similar to a MOOC, the designers cannot measure their success by number of completions, because they cannot assume that all learners entered the site with the goal of completing the module series. I created a comprehensive learning analytics plan intended to gather information about the ways that learners interact with the site. I collaborated with university data engineers, who created data visualization dashboards based on the learning analytics plan. The data are deidentified and presented in aggregate. These data provide information such as:

- Order of module progression
- Percentage of modules completed
- Midmodule dropout rates (i.e., how many people progress to each page within a module)
- The amount of time between learners' first activity on the site and most recent activity on the site
- The amount of time between one module's completion and the next module's completion
- Frequency of returning to a page on the site

The data show patterns of engagement with the site and whether any specific patterns correlate with specific outcomes, such as quality of the final deliverable. The data can also be used as a starting point for qualitative measures that give insight into how learners' actual use compares with their intended use.

Opportunities for the future. Reflecting on the current TM design in the context of goal setting suggests several changes that might better support self-regulation. First, the TMs could include a

specific goal-setting activity. Certain properties of goals (e.g., specific vs. vague, proximal vs. distal) impact their power to motivate. Asking learners to articulate their reasons for enrolling in the TMs and guiding them through the process of setting effective goals could support their motivation. Additionally, the TMs could help sustain this motivation by including activities throughout that ask learners to reflect on their progress toward those stated goals.

Another opportunity is to use the Canvas LMS to collect the responses to goal-setting activities, which would further increase the information available to measure the success of the TMs. The project committee recognizes that series completion is not necessarily the best measure of success for this MOOC-like set of modules. A logical proxy would be to collect the learners' goals and analyze whether patterns of activity (as identified by the dashboards described in Application 4 above) reflect the actions thought to support those goals. For instance, the design team could cross-reference the goal-setting data with the data that show percentage of modules completed to find out how many learners *whose stated goal* was to complete the entire series actually did so.

TM Design in the Context of Learning Goal Orientation

Although achievement goal theory has branched into more complex perspectives over time (Daniels et al., 2008), the underlying intention has been to classify motivations for learning into different categories of goal orientation. The early models of goal orientation included Ames's model of mastery and performance goals (Alderman, 2008, p. 87). Mastery goals reflect a learner's aspiration to *build* competence, while performance goals reflect a learner's wish to *demonstrate* their competence publicly. Similarly, Dweck distinguished between learning and performance goals: Those with a learning goal seek greater understanding, mastery, and competence from an intrinsic value of learning, while learners with a performance goal tend to be focused on outward displays of competence, such as comparing themselves with others, and extrinsic motivating factors (Alderman, 2008; Dweck, 2002). Zimmerman's model for self-regulation uses the term "learning goal orientation," which he describes as "valuing the process of learning for its own merits" (Zimmerman, 2002, p. 68).

In practice, people often combine learning and performance goals (e.g., as described in Alderman, 2008; Daniels et al., 2008). Additionally, as described in Patrick and Ryan (2008), teacher behaviors and classroom environment can influence students' perceptions of the extent to which the class is oriented toward a mastery goal structure, which "involves a perception that students' real learning and understanding, rather than memorization, are valued and that success is accompanied by effort and indicated by personal improvement" (p. 100). This suggests that the attributes of the learning experience can provide cues to learners about whether it emphasizes *learning* or *performance*. As described previously, the goal of the TMs is for all enrolled instructors to increase their competence from their baseline skill level, rather than to perform at a uniform level of competence on an assessment. A "uniform level of competence" is an example of an externally imposed standard that may not be compatible with self-regulated learning in all MOOC-like learning experiences. The course design, then, ideally reflects a learning goal structure.

Application 1. In the early phases of design, the committee decided to embed quiz questions on every content page in the LMS using a formative assessment tool, Quick Check (developed at the university). These questions prompted learners to simply *recall* information and earn a minimum score to unlock the next page. In later phases of the design, the committee decided to move all of the quiz questions to one longer Canvas quiz at the end of the module and to write the quiz questions so that they ask learners to *apply* concepts from the module. Using the feedback option in Canvas quizzes, the committee designed the quiz such that every answer option for every question provides learners with detailed, answer-specific feedback, and incorrect answers refer to the page in the module where the

supporting information can be found. This approach models a learning goal structure by encouraging application of concepts rather than rote memorization.

> *Example question from Module 4, Active Learning:*
> An African Studies instructor wants her students to meet the following learning outcome:
>
> > "Students will be able to identify the names, capitals, and locations of all of the countries in present-day Africa by labeling them on a blank map."
>
> Which of the following active learning strategies best aligns with her learning outcome?
>
> *Incorrect answer example:* Students each create a flashcard about a country and key cultural or historical attributes that will help them remember the country and capital. Students walk around the room quizzing each other, exchanging their cards every few rounds. At the end of class, they debrief and explore what was hard to learn and why; as well as what will help the information "stick" for them.
>
> *Incorrect answer feedback example:* Incorrect—This is an active learning strategy, but it is not aligned with the stated learning outcome because it doesn't emphasize location of the countries. For further review, refer to the "How do you select an active learning technique?" page.
>
> *Correct answer:* Students fill in country and capital names on blank map of Africa with today's borders. They check with a neighbor, amending any incorrect answers. The next day, the students do the same exercise from memory, discussing and correcting in small groups afterward. Then, the instructor projects a blank map and students compete in a Jeopardy-style quiz to correctly label countries and capital cities on the map.
>
> *Correct answer feedback:* Correct—This exercise asks students to engage in problem-solving, reflecting, discussing, or writing activities that [align] with the learning outcome of identifying the names, capitals, and locations of all of the countries in present-day Africa and to be able to label a blank map with current borders drawn.

Application 2. The committee replaced the embedded quizzes (Quick Check questions) with "Reflect and Practice" boxes interspersed throughout the content. These boxes ask instructors to pause and immediately apply concepts that they just read about to examples from their own teaching practice. These prompts are also provided as a downloadable Word document at the beginning of each module. Learner responses are not collected on the site itself.

By asking learners to apply concepts within their own sphere of experience, with the goal of enriching their understanding of how the TM concepts apply in their own everyday teaching practices, this approach models a learning goal structure. In contrast, the earlier choice to embed simple multiple-choice questions with one clear, correct answer risks shifting the focus away from relative improvement of one's own teaching practice (a learning goal) to a focus on getting the answers correct (a performance goal).

> *Example:* Reflect and Practice: Do your formative and summative assessments align? Reflect on the alignment of your formative and summative assessments: In a course you've recently taught or plan to teach, do the skills and knowledge you ask students

> to practice during the formative assessments align with the skills and knowledge you ask students to perform during the summative assessments? Do the formative assessments allow students to practice performing the final summative assessment tasks? If not, what would you change to align them with one another?

Application 3. For a variety of reasons, designers of online courses often avoid assigning open-ended responses, essays, or projects if the instructor does not intend to provide detailed feedback to each student. In the context of this MOOC-like series of modules, one of the concerns about asking learners to complete complex, open-ended learning activities is that there are very limited resources for providing feedback to all learners. This type of feedback cannot be automated by current LMS tools, and there is no person staffed to fill this role for the TMs. However, the TM committee determined that including this type of question was essential to this project, because one of the main goals of the project was to provide instructors with specific, scaffolded foundational tools to develop *and* document their effective teaching practices. Instead of limiting the site design to activities that can be automatically graded, the designers integrated complex, open-ended questions so that learners can *choose* the context in which they participate to receive feedback (e.g., peer review, cohort, center for teaching and learning consultation, etc.). These open-ended questions are also provided to learners as a downloadable Word document and are not collected in Canvas.

The sets of complex, open-ended questions model a learning goal structure. Their purpose is to guide the learners to apply module concepts to their teaching practices and refine those practices over time. Rarely can teaching practices be evaluated according to what is "right" or "wrong"; by creating a space for instructors to *practice* and *refine* without being "right" or "wrong," the TMs model a learning goal structure (see Appendix A).

Opportunities for the future. Though the TM designers chose to include a variety of activities that cannot be automatically graded, feedback *is* important for self-regulation and for learning. Chiappe et al. (2016) noted the importance of digital rubrics in the context of "open assessment of learning": "The use of rubrics can also facilitate feedback and improve self-efficacy and self-regulation of learning" (p. 51). The main area of opportunity, then, is to develop detailed rubrics that instructors can use to self-assess their work. These rubrics should be detailed enough so as to provide actionable feedback, but flexible enough to accommodate the diversity of the audience and their practices. Detailed rubrics can help learners direct their efforts toward achieving their learning goals while focusing on improvement rather than performance. Including rubrics provides another (more self-directed) means by which instructors can receive feedback on their work, in addition to the cohort participation and teaching and learning center consultations.

TM Design in the Context of the Remaining Self-Motivation Beliefs

Zimmerman's (2000) simplification of self-motivation beliefs to four key subprocesses (self-efficacy, outcome expectations, intrinsic interest/value, and learning goal orientation) can be traced to other theoretical frameworks, including self-efficacy (Bandura, 1977), self-determination theory (Ryan & Deci, 2000), expectancy–value theory (Wigfield & Eccles, 2000), and achievement goal orientation (Ames, Dweck; discussed previously). Though it may seem that each of these frameworks aligns with the four self-motivation beliefs as outlined in Zimmerman's model, there is a great deal of conceptual interplay.

Figure 3 shows my conceptualization of how these frameworks can be thought to interact with one another. Central to these self-motivational beliefs is *self-efficacy*. Self-efficacy provides a useful starting point to explain how the other subprocesses in Zimmerman's self-motivation beliefs, particularly outcome expectations and intrinsic interest/value, interplay to sustain learner motivation.

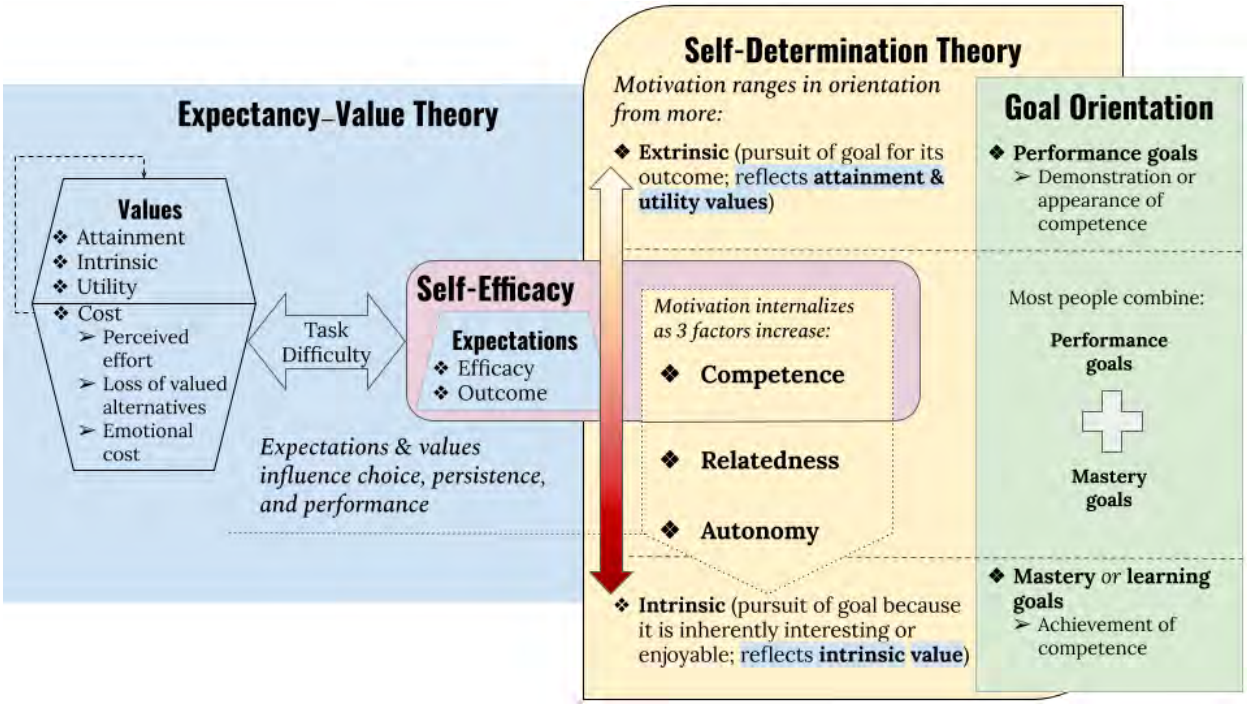

Figure 3. Author's interpretation of the interplay between expectancy–value theory, self-efficacy, self-determination theory, and goal orientation. Self-efficacy and competence are central to intrinsic motivation choice, persistence, and performance.

The concept of self-efficacy is elaborated in Bandura's (1977) work, where self-efficacy refers to a learner's belief that they are capable of achieving a specific future task. These *efficacy expectations* are distinguished from *outcome expectations*, or, the belief that a specific action will result in a specific outcome. It is possible for a person to believe that a certain action will yield a certain outcome but not to believe that they are personally capable of performing the necessary action. Eccles and colleagues additionally incorporated self-efficacy into their expectancy–value theory, where expectations form one of the two main drivers of "individuals' choice, persistence, and performance" (Wigfield & Eccles, 2000, p. 68). Ryan and Deci (2000) incorporated a closely related concept—*competence*—as one of the three necessary factors for *intrinsic motivation* (under their self-determination theory). Competence also appears in goal orientation: Those with *performance goals* are concerned with appearing competent to others, while those with *mastery* or *learning goals* are concerned with actual, measurable increases in competence.

Clearly, supporting learners' self-efficacy or perception of competence is important from the perspective of several important frameworks for motivation. Indeed, the link between self-regulation, motivation, and self-efficacy or competence is best summarized in this quote from Schunk (2012), which again articulates the importance of goals in self-regulation:

> People motivated to attain a goal engage in self-regulatory activities they believe will help them (e.g., organize and rehearse material, monitor learning progress and adjust strategies). In turn, self-regulation promotes learning, and the perception of greater competence sustains motivation and self-regulation to attain new goals (Schunk & Ertmer, 2000). (p. 431)

This quote also highlights the importance of increasing competence in sustaining motivation for learning. The audience for the TMs is made up of instructors, most of whom have completed a graduate- or professional-level degree. However, course designers cannot assume that their prior academic accomplishments will seamlessly translate into sustained motivation in a MOOC-like learning experience; in fact, increasing competence may be perceived as a valued outcome that can sustain motivation to learn when the cost (effort, loss of valued alternatives) is high. Returning to the expectancy-value framework, "cost is a negative motivational component that subtracts from the overall level of value a student has for the task" (Flake, 2015, p. 233). A learner who perceives that their learning efforts come at a high cost (e.g., high time commitment) with little payoff (actions will not lead to a valued outcome) may not choose to persist. Together with Zimmerman's second self-motivation belief, *outcome expectations*, the combination of increasing competence and achievement of valuable outcomes might drive continued learner persistence even when the cost is relatively high. Self-regulated learners believe not only that they are capable of performing the actions needed to succeed but also that those actions will lead to a valued outcome.

Expectancy–value theory and self-determination theory also intersect in their conceptualization of intrinsic interest/value, which is Zimmerman's third self-motivation belief in the forethought phase of self-regulation. Motivation that reflects a greater degree of intrinsic interest drives someone to action because the pursuit of the goal is inherently interesting or enjoyable. In contrast, motivation that is more extrinsic in nature drives someone to action because that action will lead to a specific outcome. Again, one sees a link between outcome expectations, values, and motivation.

Importantly, more intrinsic forms of motivation become increasingly essential in the context of a self-paced, flexible learning environment in which learners are responsible for setting their own goals and self-regulating to achieve those goals. Self-determination theory proposes that competence (a factor related to self-efficacy) is one of three critical factors for intrinsic motivation. The other two critical factors for intrinsic motivation under self-determination theory are relatedness (the need for connection with others) and autonomy (the need for choice).

What does all of this mean for course design in the context of a MOOC-like learning experience? In what follows I reduce the implications for course design to a few key takeaways before describing applications and opportunities for the future:

- Provide opportunities for building competence along with a system for learners to track their own increases in competence.
- Offer choices about the outcomes that learners can pursue as part of the learning experience.
- Create opportunities for interaction with peers.

Application 1. As described previously in the section on learning goal orientation, the designers of the TMs incorporated a variety of complex, open-ended questions that ask the learners to apply their new knowledge to their own teaching practices. The goal of these activities is to encourage incremental increases in competence as the learners practice application, no matter their starting skill level. See Appendix A for the full set of questions for Module 2: Assessment.

Application 2. Those learners who participate in a facilitated cohort have additional opportunities for feedback that can increase their perceptions of self-efficacy or competence. This also provides an opportunity for relatedness, one of the three critical factors for intrinsic motivation. Participating in a cohort is a choice that learners can make if it aligns with their valued outcome expectations (which also supports learner autonomy).

Application 3. The TM design includes a variety of learning activities that can support a variety of outcome expectations and motivations. Some can be completed individually (Reflect and Practice; open-ended Putting the Evidence into Practice questions; quiz questions) and others can be used to facilitate group discussions. All modules include questions that guide instructors through the process of documenting their teaching excellence to support those who are actively pursuing tenure or promotion. Instructors who are interested in a credential signifying their completion of the TMs can complete quizzes that are automatically graded in the LMS to earn a certificate.

Application 4. As mentioned previously, the modules are built in a suggested sequence, but all materials are made available through the Canvas LMS upon completing a registration survey. This supports learner autonomy, as learners can self-select their sequence of instruction based on interests and skill sets.

Application 5. The TMs include contributions from instructors across the entire university system. One type of contribution—"Faculty Voice" boxes—intersperses anecdotes from faculty and teaching staff throughout the text to provide examples of concepts in action (see Figure 4 for an example). A second type of contribution—"Teaching Strategies Showcase" pages—includes step-by-step instructions for implementing effective teaching strategies that their peers utilize (see Appendix B for an example). These features support relatedness by connecting instructors—albeit asynchronously—with their peers across the university system. The teaching strategies further support competence and self-efficacy because they provide easy-to-follow guides to help instructors implement strategies known to be effective in their own practice.

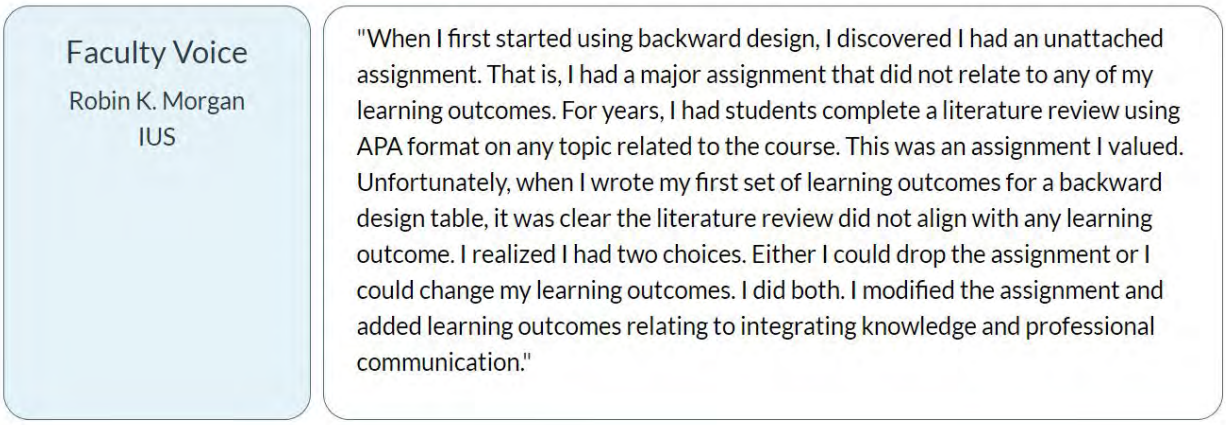

Figure 4. Example of a Faculty Voice from Module 1: Course Design on the topic of aligning assignments with learning outcomes.

Opportunities for the future. One of the challenges in designing a fully self-paced, asynchronous learning experience is to provide the kind of feedback that helps learners measure gains in competence to support their self-efficacy. As mentioned in the earlier section on goals, the design of the TMs could be enhanced by adding rubrics and other self-evaluation tools or processes that will help learners track their progress.

To provide the designers with information about how the instructional materials and activities impact learner self-efficacy, the site could administer pre- and postmodule attitude questionnaires that ask learners to self-assess their level of confidence in applying the concepts to their practice before and after participating in the TMs. This would indicate whether modules favorably impact self-efficacy.

Another opportunity to improve relatedness and add opportunities for feedback to build competence would be to design a peer mentoring system as a feature in the TMs. In a peer mentoring setup, more experienced instructors could be paired with less experienced peers in pairs or groups to work through the modules in a way that meets their goals. Peer groups could participate in, for example, goal setting, real-time collaboration, or peer review, among other activities.

Finally, it will be important to collect qualitative information from participants about their reasons for working on the site. What outcome do they expect from their participation? Were the modules successful in guiding them to attain that outcome? This will illuminate areas of opportunity for the design team to consider other features or functions of the learning experience that could support other goals not previously considered.

TM Design in the Context of Strategic Planning

In the earlier sections on goal setting and self-motivation beliefs, I first expanded the discussion by introducing relevant frameworks to rationalize design decisions before articulating applications and opportunities for the future. This provides a solid background for understanding the importance of the last component of the forethought phase—strategic planning—as a self-regulatory process important for directing one's action toward achieving one's goals (Figure 5).

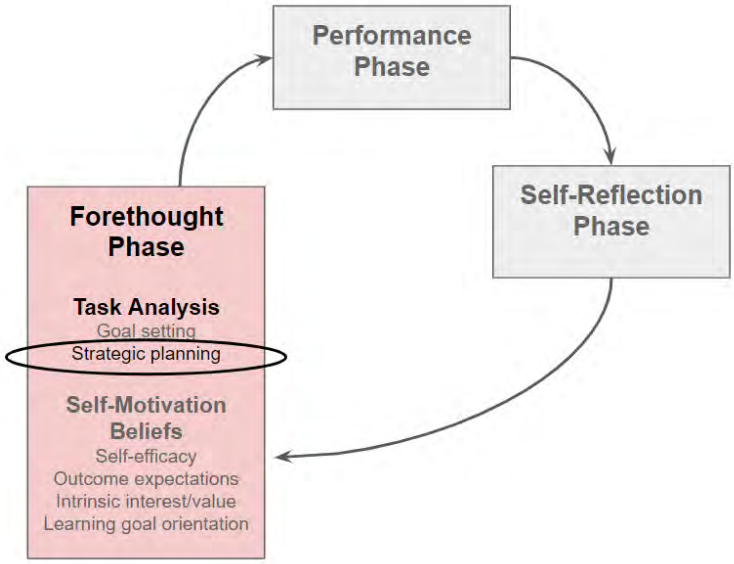

Figure 5. Forethought phase of self-regulation highlighting the strategic planning component of the task analysis subprocess.

Once learners have set goals, it is important for them to plan strategies for staying on track to achieve those goals. For example, according to Schunk (2012), "Effective use of time appears partly to be a function of students' use of goal setting and planning (Weinstein and Mayer, 1986)" (p. 437). I have already discussed the goal-setting aspect of task analysis and highlighted some aspects of the TMs related to strategic planning, such as providing introductory materials that explain how to get the most out of the series (the possible outcomes and the resources available to achieve those outcomes). This section, then, focuses primarily on time management as a strategic planning subprocess.

In a self-paced learning experience, where participation competes with other valued alternatives and there is little external structure to keep learners on track, time management is an important strategy learners use to protect their efforts at achieving their goals. Time management strategies have been found to be among the most important self-regulation strategies for MOOC completion (Kizilec et al., 2016, as cited in Alario-Hoyos et al., 2017). Schunk (2012) wrote, "Time is an important dimension of self-regulation…" (p. 437). Additionally, Alario-Hoyos et al. (2017) found that many learners lack the time management skills necessary to complete a MOOC and concluded that helping learners follow a routine and providing workload estimates can better support learner self-regulation, and specifically, time management.

Application 1. At the point of registration for the TMs, learners are provided with an estimate of total amount of time (in hours) needed to work through the content.

Application 2. The introduction page of each module provides the estimated time (in hours) that it will take learners to work through the content in the module.

Application 3. Facilitated cohorts provide additional structure (e.g., regular meeting time, schedule for module completion) to motivate participants to manage their time to advance through the TMs at the cohort pace.

Application 4. The TM designers paid great attention to site-user experience, recognizing that—particularly in the absence of an instructor who can clarify questions—intuitive site organization and comprehensive instructions are critical for minimizing barriers to success. Before launch, I conducted informal usability testing with three site users to confirm that the point of entry to the TMs was clear. Clear site organization and clear outcomes help reduce the amount of time learners spend orienting themselves to the site and provide immediate access to the information that learners need to set goals and plan strategies for achieving those goals.

Opportunities for the future. The current time estimates are rough estimates, provided in hours. The time estimates are also limited to the amount of time needed to read through the module content and do not include time needed to respond to the complex, open-ended questions that ask instructors to document their teaching excellence. Although these are helpful as a starting point, there are several opportunities for refining these estimates and providing more information that can better support learner time management.

First, learners are currently prompted to complete a Qualtrics survey at the end of each module in Canvas. These surveys could ask learners to self-report their total time spent completing the module—including both reading and activities—and to clarify whether they spent their activity time designing a course from scratch or revising an existing course. Additionally, all learners are required to complete a registration survey in the Canvas LMS before accessing any content. The registration survey provides the designers with critical information about their actual audience (campus, years of teaching experience, teaching discipline, etc.) that they cannot get by any other means. To improve the effectiveness of time management estimates, the designers can cross-reference self-reported completion time from the Qualtrics surveys with data from the Canvas registration survey to look for trends in how long instructors take to complete the content. For instance, do instructors with less than 1 year of teaching experience tend to take a certain amount of time to complete the module compared with instructors with 5 or more years of teaching experience? Together, the Qualtrics and Canvas surveys could yield insight into important trends related to completion time that can, in turn, be provided to learners to help them better understand their anticipated time commitment (e.g., for instructors with 5+ years of teaching experience revising an existing course, expect this module to take 2 hr to complete; for instructors with less than 1 year of teaching experience designing a new course, expect this module to take 5 hr to complete).

Another opportunity for the future is to provide a recommended schedule for completing the entire series of modules. The current estimates (in hours) provide only a limited view of the actual

time commitment, because it is not expected that learners will read all the content in one sitting and complete all practice activities in one sitting, even within one module. The learning analytics plan I developed includes metrics that measure the length of time between module completions. For instance, how much time passed (in days) between a learner's completion of the introduction module and their completion of Module 1: Course Design? These data are available because the course was set up with module completion requirements in the Canvas modules, and they provide some insight into the number of days that learners typically spend working through each of the modules. This information could then be used to provide a suggested schedule. For instance: Expect to spend 5 hr over the course of 2 weeks completing Module 1. An aggregated, suggested module completion schedule provided in the TM introduction could help learners set proximal goals for themselves and manage their time to meet those goals.

It is important to note that the data have not yet been formally analyzed, so the above examples are provided only with the intention of illustrating *the potential applications* of the data and are not based on observed trends. Should there be no identifiable trends upon data analysis, the data will—at minimum—help refine general estimates of module completion time in both hours and days.

Finally, the data visualizations also provide information related to site usability that the designers can use to better support learners' strategic planning in the future. For instance, the data visualizations show the first four pages that each user accesses and their sequence of access. Though the home page currently offers two points of entry to the site (one for first-time users and one for returning users), early data show that the vast majority of people follow the path for returning users the first time they enter the site. This kind of information can help inform a redesign of the home page and introductory materials to streamline the user experience, minimizing the amount of time and energy learners must spend acquainting themselves with the site and bringing information necessary for strategic planning to the forefront.

Design Considerations Related to the Self-Reflection Phase

As mentioned in the Introduction, the second phase in Zimmerman's self-regulation model—the performance phase—describes the processes that learners use "in the moment" to stay on task. These volitional control strategies cannot be observed or supported in a MOOC-like learning experience. I believe that it is, therefore, critical to attend carefully to design elements that support the forethought phase subprocesses as previously described, because these subprocesses inform the task of goal setting. The goals then provide the motivation for applying the volitional strategies described in the performance phase. Likewise, it is important for designers to attend to the third phase—self-reflection—because it is through reflecting on the quality of their performance and the reasons for that performance that learners can adjust their goals and strategies appropriately to achieve success in subsequent learning experiences (Figure 6). Self-reflection is also important from the perspective of self-reaction, because a sense of satisfaction with the learning experience and a desire to approach a valued outcome (rather than to avoid an unpleasant outcome) sustains learner motivation.

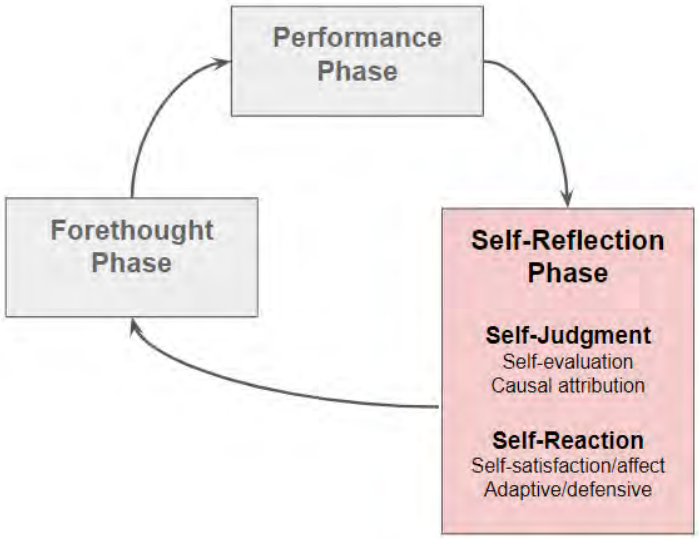

Figure 6. Self-reflection phase of self-regulation, including self-judgment and self-reaction subprocesses. Adapted from Zimmerman, 2002, p. 67.

Additionally, effective teaching is practiced and refined over time. Therefore, self-reflection is important in the context of the self-paced TMs because the goal is for every learner to improve upon their current skill level rather than for every learner to achieve the same common level of competency. This goal is evident in methods that others use (in combination with classroom assessment) to teach leadership competencies, which is similar to teaching effective instructional practices in that each person starts with unique skills and areas for opportunity, and related behaviors must be practiced, adapted to different contexts, and improved over time: "The purpose of self-assessment is to help the student determine whether or not his or her self-directed learning has resulted in an improvement of his or her leadership as a personal competency" (Spee, 2003, p. 230). Similarly, the primary goal of the TMs is to stimulate learners' self-reflection and self-directed improvement in teaching competencies rather than demonstrated achievement on a single, comprehensive classroom assessment.

Application 1. As discussed previously with learning goal orientation, the designers chose to deemphasize multiple-choice, auto-graded activities to support a learning goal orientation focused on incremental improvement from each learners' starting level. The open-ended questions (see Appendix A) facilitate self-reflection on individual teaching practice and integration of concepts in the modules into those teaching practices. The anticipated result is an iterative process that mirrors the self-regulation phases in Zimmerman's model, wherein self-evaluation and self-reflection yield insight that helps refine one's goals, efficacy, and outcome expectations, and other self-motivation beliefs related to effective teaching.

Application 2. Recognizing that many learners value immediate, specific feedback, and that there is a need for some mechanism for learners to objectively evaluate whether they are on the right track with module concepts, the designers balanced the self-reflective nature of the TMs by including quizzes at the end of each module. The designers wrote these questions to be very applied, so that learners can evaluate their conceptual understanding of how the theories and strategies apply in real-world situations rather than evaluating simple recall. Additionally, every answer option for every question includes answer-specific feedback written to guide the learner's thought process. Correct answers include reinforcing feedback and incorrect answers include corrective feedback. All incorrect answers include a reference back to the page in the module that includes the relevant content so that learners who wish to revisit the source of information can easily do so. Also, although a minimum

score is required for the certificate, there is no minimum score required for instructors to progress through the modules. These design features give learners a choice in the extent to which they engage in self-evaluation, which also helps support learner autonomy. Review the earlier section on learning goal orientation for a sample quiz question, answer responses, and feedback.

Application 3. The TM design supports self-satisfaction by guiding instructors through the steps needed to plan their courses and document their teaching excellence. Completing the activities and responding to the prompts within the TMs yields course plans and teaching strategies that instructors can begin to use immediately in their teaching practices. Additionally, instructors can submit these documents to a teaching portfolio or dossier to document their application of evidence-based practices to their own approach to teaching, which supports self-satisfaction by providing a means to achieve professional goals (e.g., tenure).

Opportunities for the future. The TM design could better support self-evaluation by including examples of artifacts that instructors generated through their participation in the TMs. These examples could be annotated by the designers to highlight the specific ways that they effectively integrate module concepts. These annotated examples provide a standard by which other instructors can self-evaluate their own work. As mentioned previously, including rubrics or other self-evaluation guides (e.g., including information about how to evaluate whether a new teaching strategy was successful) can support self-evaluation.

To better promote self-satisfaction, the designers could add pre- and postmodule (or series) measures that ask learners to evaluate their self-efficacy, strengths, and areas of opportunity. A postseries evaluation could also integrate a question that asks learners to identify one key takeaway from each module and to explain how they will apply that takeaway to improve their teaching practice. These evaluations can promote self-satisfaction by showing learners their measurable increases in self-efficacy and competence.

Conclusion

In a fully self-paced learning experience, the assumption that all learners need to be evaluated for competence against a uniform level of standard may need to be set aside. In these MOOC-like learning experiences, learners self-regulate to set and achieve their own goals without the guiding framework for success provided by an instructor. For designers more experienced with planning instructional experiences with clear learning outcomes that every learner is expected to achieve based on predetermined criteria, it can be discomforting to relinquish control over the learning experience to the learner. Yet, autonomy and choice are important for learner self-regulation and motivation. How, then, can designers structure an open learning environment that supports learner self-regulation processes while not controlling the learners? Recognizing that the definition of a successful learning experience itself may differ between learners, designers, and other project stakeholders, I have provided several specific strategies that can support learner self-regulation in these contexts. The list below summarizes these strategies and also provides questions that designers might consider when approaching the design of an open, self-paced learning experience.

- Provide a clear explanation of the purpose of the learning experience (what need does it address?).
    - Who is your audience, and why should they be interested in participating in this learning experience?
- Provide a variety of possible outcomes that support the diversity of learners' goals and values.

    - What motivates your audience? What are their goals, and how does the learning experience generally support achievement of their goals? Can you reasonably expect a diversity in learner goals, or relative uniformity in learner goals?
    - What specific outcomes can learners achieve by participating in the learning experience that align with their valued goals?
    - How can you support effective goal setting when it is expected that learners will have different goals for participation?
- Explain the resources available to help learners as well as their anticipated commitment to achieving their valued outcomes. Remember to leverage resources outside the LMS when possible.
    - What resources might this particular audience need to achieve the possible outcomes?
    - What resources might be available to learners in the context of their authentic environment (the context in which their learning will be applied)? For example, are there resources available through their community or larger organization that could augment the resources within the learning experience itself?
    - What resources can be incorporated into the course that support effective self-evaluation?
    - How much time (in hours) over the course of what period of time (in days or weeks) will learners need to invest to maximize their return on investment?
- Consider the ways that the learning activities support or undermine the larger goal of instruction.
    - Are the course concepts specific and measurable in such a way that mastery is best demonstrated by performance at a baseline level of competency, utilizing a universal assessment, upon completing the learning experience?
    - Are the course concepts focused on behaviors and strategies that are expected to be refined and practiced over time, where using a self-graded, universal assessment is misaligned with the learning goal by emphasizing performance over growth?
    - How can you provide opportunities for self-assessment that are most likely to support learners' transfer of course concepts to their authentic environment?
- Build flexibility into the learning experience so that learners can progress at their own pace and sequence. Provide options for how they engage in the learning experience.
    - How diverse is the entry skill level of your audience, and how does that impact your decisions about pace and sequence?
    - When there is a great diversity in skill level, how can you use the LMS to organize the learning experience to balance the structure that novices need with the flexibility that experts desire?
    - How can you leverage the larger learning context—outside of the learning experience as organized in the LMS—to offer additional options for learner engagement? For instance, how can you build strategic partnerships with other departments, organizations, or individuals so that they can fill in the gaps in interaction and feedback?
- Provide a variety of tools to help learners self-evaluate their work and their progress toward their goals.
    - How will learners know if they are on track with the larger goal of instruction? With their individual learning goals?

    - What strategies or activities can you build in to the course to help learners see their gains for themselves?
    - What outcomes are anticipated to result in learner satisfaction? How can you ask learners to reflect on their experiences in a way that increases their self-satisfaction?
- Collect and analyze data with redesign in mind.
    - What specific data will give you valid measures of actual learner usage patterns, and how can these data illuminate potential problem areas in course design that may negatively impact learner self-regulation?
    - What information can you collect via subjective self-report measures to cross-reference with the user-generated data?
    - What interesting patterns or insights do the data show that require follow-up? (Note that user-generated data show only the "what" and will often require follow-up with qualitative measures for insight into the "why.")
    -

Other questions for designers to consider include:

- What do the course designers and project stakeholders consider a successful learning experience? How might their definition of success differ from the individual learner's ideas of success? When anticipating a gap between designer/stakeholder definition of success and learner definition of success, how can designers use qualitative and quantitative measures to gain insight into whether the course design is acceptable according to learner standards for success, or whether the course design needs revision to better support designer/stakeholder standards?
- When making decisions that give learners choice and flexibility, what is gained (e.g., in terms of supporting diverse goals and learner autonomy) and what is lost (e.g., in terms of maintaining the integrity of the learning experience)? Is the anticipated benefit worth the anticipated cost? Can the cost be expected to devalue the learning experience in a way that might negatively impact the quality and reputation of the learning experience?

This reflective article has demonstrated the specific ways that designers considered self-regulation when designing an open, self-paced learning experience for university faculty and teaching staff. The goal has been to model their thought processes to provide a framework that others might find helpful when designing similar courses in the future. Designers of similar learning experiences need to consider the characteristics and goals of the anticipated audience as well as the overall purpose of instruction when determining how to best support learner self-regulation and balance opportunity for self-regulation with the structure needed to uphold the integrity of the learning experience. The analysis of user-generated data in the form of learning analytics, cross-referenced with qualitative, self-report measures will provide additional information about learners' goals, engagement, self-efficacy, and satisfaction that can be used to strengthen support for self-regulation in future revisions.

Appendix

Appendix 1. Sample of Complex, Open-Ended Questions from Module 2: Assessment.

The following questions fall under the section "Putting the Evidence into Practice."

NOTE: We strongly encourage you to work through the process of writing and revising learning outcomes from the "**For further engagement**" page of Module 1 before beginning these activities. This increases the likelihood of alignment in the course and that your assessments will yield valid data evidencing your effective teaching practices.

1. Use the assessment guide table below to develop an assessment plan for the same course that you looked at in Module 1.
    - Add your course-level learning outcomes to the first column.
    - Identify specific diagnostic, formative, and summative assessments that you can use to evaluate student achievement of each learning outcome. If you need ideas, refer to the examples from this module.
    - As you work, think about whether the assessments you're selecting provide direct or indirect evidence of student learning. Try to include a mix. Indicate this in your assessment guide however you prefer (e.g., add a column, add a D or I in parentheses next to individual assessments, etc.).
    - As you're planning, think about whether your assessments align with one another and show progression toward mastery of a learning outcome. Do your formative assessments allow students to really practice what they need to be successful on the summative assessments? Do they match the summative assessments in the type of assessment and skill level?

LEARNING OUTCOMES	DIAGNOSTIC ASSESSMENTS	FORMATIVE ASSESSMENTS	SUMMATIVE ASSESSMENTS	ANALYZE THE RESULTS
Statement of what students will know or be able to do upon course completion	*Measures a student's current knowledge and skills*	*Measures what a student is learning during instruction; Instructors and peers provide feedback*	*Measures what a student has learned at the end of a unit/module, semester or program*	*Evaluate achievement of learning outcomes; Revise instructional materials, teaching methods, assessments and learning outcomes to help students be more successful*
Example: Compare and contrast meiosis with mitosis.	Pre-test/Post-test	Match the image with the correct stage for each process Quiz Discussion Self-assessment	Exam Portfolio	Students confused interphase as a part of mitosis on the final exam; Need to create a lesson that reveals common mistakes and misconceptions

2. After you've completed the assessment guide, it's time to build on your **Course Map from Question 3 in Module 1**. Add the strategies from your completed assessment guide to the second column of your **Course Map**. As you work, think through the alignment of your assessment with unit-level outcomes. Do you notice any unit-level outcomes that will not be evaluated either directly or through evaluation of more complex outcomes? Revise your assessment plan so that unit-level outcomes will be evaluated either directly or as part of evaluation of another more complex learning outcome. If needed, revise your learning outcomes to eliminate outcomes that you recognize as nice-to-know but not critical for the course.
3. Choose one Classroom Assessment Technique (CAT) to implement throughout a semester to collect data for the purpose of improving student learning. What data will that CAT yield? Analyze the data during and across the semesters. How will your analysis inform your teaching and improve student learning? Refer back to the suggestions from this module. For more information, consult Angelo and Cross (1993). Add your CAT to your **Course Map**.
4. Choose one of our course-level learning outcomes and identify three methods that you have not used before that would allow students to demonstrate to you that they have achieved this learning outcome. Refer to the discussion of Universal Design for Learning in **Module 1** and in **Module 2** for ideas. Add these options to your **Course Map**.
5. Document indirect evidence of student learning. For example, this could include student achievements (e.g., graduate or professional school or employment, honors, presentations on and off campus, scores on national exams) associated with work in your courses. What are some examples of indirect evidence that you have seen in the past and expect that you could see in the future? Think about ways that you can actively plan to collect indirect evidence the next time you teach. For instance, you can ask students to self-report their involvement in related professional and academic events. As described in the video by Greg Siering, connect this indirect evidence to your teaching activities.
6. Choose an assignment for which you have no rubric.
    a. Add a template for the rubric formatted based on what's in Canvas.
    b. What outcome(s) are you assessing?
    c. What are the categories of criteria that you will assess? How many categories will you include in your rubric? Try to make sure that your categories do not overlap with one another so that you aren't double rewarding or double penalizing students for the same thing.
    d. List the criteria for proficiency, unacceptable work, and exceptional work for each category.
    e. Now you're ready to write descriptions for each category of your rubric. As you write, ask yourself (or a colleague or student) if the descriptions are clear.
7. Identify one source of data that you collect across semesters in relation to student learning. This might be pre- and posttests on exams. Reflect on these data. What do these data reveal about student learning in this course? What changes will you make to your teaching practices as a result?

Appendix 2. Sample Strategy from Module 6: Creating a Positive First Impression.

Title: Getting Started Online
Strategist: Robin K. Morgan

Context for This Strategy

The first "day" online is similar to the first day of class in a face-to-face course. However, I may only have a few minutes to engage my online students. After a few minutes, my students will have already formed an impression of my course and may have decided to drop. It's critical that I create a welcoming and clear environment that begins to build a community of learning.

Materials Needed to Implement This Strategy

- Kaltura video that welcomes students to the course and provides an introduction
- Image of myself
- Diagnostic assessment
- Introductory discussion

Step-by-Step Implementation

1. Creating a Home landing page for my course
    a. When students click on my course, I want them to feel welcomed to the course and excited about what we'll be studying. Using Canvas Pages to create a welcoming page is as easy as creating a Word document.
    b. The content for this page includes:
        i. A welcome statement introducing myself and why I'm excited to teach this course, such as "Welcome to XXX. I'm Dr. Robin Morgan and I'll be your instructor for this course. I'm excited to begin our discussion of Sleep and Dreams. Most of us have had weird dreams or had difficulty sleeping at one time or another. Together, we'll be exploring these topics and many others relating to Sleep and Dreams."
        ii. It's not necessary to include a picture of yourself but it's more welcoming if you do so. The best pictures are more casual than the professional headshot commonly used in academic settings.
        iii. Provide a brief description of what you'll be covering in this course. If well written, I'll insert the description of the course from the course catalog. If the course catalog description isn't so well written, I still include it but I also summarize it using more learner-centered language.
        iv. Explain how the course will be structured and provide students a clear description of how to get started in the course.
2. Creating a diagnostic assessment
    a. In all of my courses (face-to-face and online), I begin by discovering what my students already know. A simple pre-test, composed of 5–10 True/False and Multiple Choice questions based on course learning outcomes, is built in Canvas Quizzes. For my students, the pre-test is not required but is associated with 5 points extra credit. Typically, 100% of students complete the quiz.
    b. The questions on my pre-test quiz are built into later quizzes or exams, providing me a post-test. I look at the difference between pre-test and post-test scores to gauge how much students have learned in my courses—a direct assessment of student learning.
3. Creating an Introductory Discussion

a. My introductory discussions begin with a Kaltura video in which I introduce myself and provide some information or a question that is not available elsewhere. If I'm asking students to take part in an introductory discussion, I think it's only fair that I participate as well.
    i. I always include a question or some information in my introductory video that allows me to gauge whether students have watched it.
    ii. I use Kaltura videos since they are relatively easy to make fully accessible.
b. As part of my introductory discussion, I ask students to watch a video or read an article relating to course content. In my Sleep and Dreams course, I ask students to watch a brief video listing 10 Facts about sleep and dreams. They are then asked to share which fact was most surprising to them.
    i. In some courses, I focus on misconceptions. In other courses, I focus on controversial topics. In all cases, my goal is to get students thinking about the course topics immediately.
    ii. I also ask students to share their name, their discipline, and if they have ever taken an online course.
    iii. I make a point to also include a warning for students to share only information they are comfortable being discussed. As I teach psychology, I occasionally have students share information that is extremely personal; it's my practice to warn students against this since I cannot guarantee confidentiality.
c. Students are asked to create a video using the Canvas video creation tool. Since most computers have cameras, this is an easy tool for students to use, requiring only Canvas.
    i. Students must post their videos before they can view the videos or comments of their classmates.
    ii. Once students have posted their video, they communicate with one another by writing.

Student Response to This Strategy

Probably the best student response is that, depending on the course, 95%–100% of my students watch my introductory video and complete the introductory discussion. Students report that they believe they can talk to me, stop by my office, or contact me even after the course is complete. These types of responses suggest that my efforts to build a welcoming community are working.

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