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Commentary

Transitioning your course to online: High-yield modifications for success

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ABSTRACT

Introduction: Faculty everywhere are struggling to transition their on-campus courses to an online format due to the COVID-19 pandemic. We transitioned our graduate pathophysiology and clinical pharmacology courses for advanced practice providers from the classroom to completely online several years ago. These are content heavy courses with relatively high enrollment.

Perspective: Since transitioning we have identified challenges and gathered extensive student feedback that has guided substantial refinement of these courses. In this article we highlight how our approaches to online teaching focus on four basic pillars: organization, course content delivery, communication, and assessment.

Implications: Examples of high-yield improvements that enhance learning are provided.

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Introduction

The COVID-19 pandemic is forcing medical educators to transition in-person courses to an online format with limited preparation, time, and resources, creating challenges related to student engagement, content delivery, and assessment. We transitioned our required graduate clinical pharmacology and pathophysiology courses to an online format several years ago. In this article, we leverage our experiences as well as hundreds of student evaluations to highlight high-yield modifications that are key to teaching online courses successfully.

Perspective

As we transitioned to online teaching, we initially retained familiar aspects of the in-person course, including the syllabus, recordings of lectures made in the lecture hall that lasted ≥ one hour, handouts in a variety of formats, and ad hoc reminders posted to the course site. Communication with students was not a priority as we assumed that they could seek assistance. There were few ways for students to engage with content actively, and assessment tended to favor traditional exams.

We identified challenges using substantial student feedback and refined our online course design to align with best practices.¹ Our approach to online teaching is focused on four pillars: organization, course content, communication, and assessment. We use asynchro-

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nous delivery to provide course content in modules on a weekly basis over the semester, allowing students to learn on their own schedule. This is an ideal approach to use during a pandemic that challenges students to juggle many competing demands and responsibilities. Asynchronous course delivery requires student motivation. Graduate professional students tend to be older, engaged, and motivated as the courses relate directly to their current or future career; however, motivation may be an issue for some student populations or with specific courses (e.g., undergraduates taking required courses unrelated to their major or interests).

Sound organization of the course is fundamental, and a learning management system (LMS) provides the framework. In the absence of regular on-campus meetings, the online course structure holds everything together. Organization and attention to detail are of paramount importance because even a simple glitch such as a broken link can result in a barrage of emails, frustration, and distraction from learning. We divide classes with large enrollment into manageable sections ≤25 students (subdivided into groups of four to six for collaborative group work).

A single faculty member serves as coordinator for each course with responsibility for course oversight, organization, and consistency across the multiple sections. The course coordinator is additionally responsible for orienting and mentoring new and adjunct faculty to the assigned course and standardized processes. An instructor’s manual can be beneficial for orienting faculty and ensuring a high-quality, consistent student experience. Challenges for faculty, particularly those new to online teaching, include maintaining enhanced, ongoing communication with students (rather than communicating in periodic weekly classroom meetings) and designing a strategically organized course that optimizes content presentation and the learner’s experience.

An enhanced syllabus that details expectations thoroughly and a comprehensive schedule grid listing all topics, due dates/times, and assessment details can be accessed together at one place on the course site. As our students are located across different time zones, it is essential to specify date, time, and time zone for live meetings and assignment deadlines. Students are provided access to assessments during a pre-specified window of time to provide flexibility and allowance for different time zones. A simple, standardized content layout organized by week or module provides students with reassuring consistency and predictability. For example, each weekly module is organized on a single page within the LMS and includes objectives, embedded lectures, weekly/module assignments, and supplemental resources (Table 1). Students consistently comment on our course organization and layout, emphasizing its value in their online learning experience.

The online environment provides an easy mechanism for rich content delivery in a variety of multi-media forms. To promote student engagement with content, we provide readings, additional resources, recordings of lectures (divided into short clips of ≤20 min), handouts (on white/light background), and ample practice study questions or case studies with answers. Students resoundingly appreciate being introduced to resources such as clinical practice guidelines or web-based tools that help them apply their knowledge. Students engage in weekly discussion forums that promote higher-level skills as they discuss case study problems or questions about course-related content with one another. In an online course, faculty must move outside the traditional role of content expert to become a learning coach/facilitator. This shift in faculty role requires more frequent but less direct engagement so as to encourage but not dominate or stifle class discussion, thus supporting a learner-centered environment with increased opportunities for learner engagement.

Online course faculty communicate frequently in a variety of ways. We provide weekly class updates, optional live meetings using chatrooms or video conferencing, open discussion forums for initial introductions and content questions/answers, prompt feedback on assessments, and collection of mid-course student evaluative feedback. At the beginning of each semester, we record a video introduction that provides a course overview and highlights expectations for netiquette in course discussions and emails. To keep communications manageable for faculty, we maximize group communications and reserve individual communication for personal issues. In our pharmacology course, the “Pharm Chat” room is a popular communication tool that serves multiple functions and is easily accessible through one click on the course menu bar. A chat room tool is available as an option within our LMS; it allows real-time, text-only communication between course site members, and we use it to host a weekly live chat for interested students. Additionally, the chat room tool has an archive capability so that students can refer to previous chat discussions or post content/course questions throughout the week. Interactions that faculty might view as inconsequential (e.g., simple weekly updates, check-in announcements, brief comments accompanying assignment grades) can be valued highly by students and can strengthen faculty-student connections. Faculty accessibility and communication are essential to success in an online environment in which connection and community are emphasized.

| Module content                   | Description                                                                                                                                 |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Overview and learning objectives | Overview of the topic and learning objectives.                                                                                           |
| Checklist                        | A list of requirements for the module. The checklist is built into the LMS, so the student can “check off” each requirement when complete.    |
| Required readings                 | A list of textbook or other required readings.                                                                                          |
| Lecture presentations            | Lectures are embedded within the LMS for students to view. The lectures are broken into smaller segments (approximately 20 min in length) to promote engagement. A link to lecture handouts is provided. Lecture transcripts may also be provided. |
| Study questions (ungraded)       | Opportunity for students to engage with content and assess their knowledge.                                                              |
| Assignments                      | Module-related assignments are provided via links (e.g., graded quiz or case study assignment).                                           |
| Supplemental resources            | Supplemental resources are provided to enhance student learning (e.g., published literature, additional videos, case studies, current clinical practice guidelines). |

LMS = learning management system.
Online assessment can take many forms, including tests, quizzes, case study assignments, discussion posts, and team projects. We have found that the use of multiple forms of assessment promotes student engagement with the course material. For example, we utilize unfolding case studies that require students to make connections between course modules. Although our courses are asynchronous, we assign group projects (four to six students per group) to encourage students to become engaged and feel connected with their classmates. In our pathophysiology course, students prepare an end-of-semester disease exemplar presentation that requires them to apply key pathophysiological concepts to a common disease. Each student group completes a narrated slide presentation that is posted to the discussion forum so that other groups can provide a scholarly response. Although we allow each group to choose their preferred means of communication, we provide a dedicated discussion forum in the LMS so that communications and documents can be stored in a single place.

While we use traditional exams in our pharmacology course, we also use multiple alternative assessment approaches such as an open-resource quiz that requires students to use current immunization and antimicrobial prescribing guidelines to prescribe appropriate therapy in multiple case scenarios. Students frequently comment that this assessment is a valuable experience that helps them learn how to use relevant resources. In our advanced pathophysiology course, students are permitted to use course resources during their exams. To promote integrity during exams and ensure that students are well-prepared and understand the concepts, we (1) use higher level questions requiring an application of knowledge, (2) avoid the use of fact-based questions, (3) set aggressive time limits, and (4) randomize the question order.

Implications

In summary, our experiences have allowed us to identify specific key essentials for successful online teaching: (1) Meticulous course organization and structure are fundamental to learning; (2) The online environment can be leveraged to deliver content or assessment in multiple formats; (3) Frequent communication is essential to increase engagement, promote connections, and foster motivation; and (4) Creation of varied and frequent opportunities for learner engagement are key. Prioritizing these high-yield modifications can facilitate online success.

Declaration of competing interest

None.

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