Creating Cadence: Fostering Persistent Engagement in Asynchronous Online Courses

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Author Biography

David Joyner is a Senior Research Associate and the Associate Director for Student Experience in Georgia Tech's College of Computing, focusing on its online programs. Since starting as a faculty member after completing his PhD, he has taught 37 online classes across 13 semesters with a total enrollment of over 11,000. For his efforts, he has won the USG Board of Regents' Teaching Excellence Award for Online Teaching, the Georgia Tech Curriculum Innovation Award, the Georgia Tech College of Computing Dean's Award, and the Georgia Tech Lockheed Excellence in Teaching Award.

Introduction

The current boon of affordable, scalable online degrees is supported by the modern internet as a medium to construct high-quality, fully asynchronous learning experiences. The asynchronous nature of these programs accommodates working professionals who are unable to carve out consistent and prescribed times for the pursuit of a degree, but who nonetheless have the dedication and ability to succeed at the programs' content.

However, these classes' asynchronous nature breaks some of students' assumptions about the structure of college courses. Scheduled meetings do more than just support disseminating lecture material or facilitating synchronous activities; they establish a classroom cadence and set students' expectations for the pace and routine of the course. Without meetings, these expectations are lost. Moreover, the persistent availability of asynchronous material removes scarcity from the experience, and while this is one of the medium's strengths, it may also lure students into unhealthy procrastination.

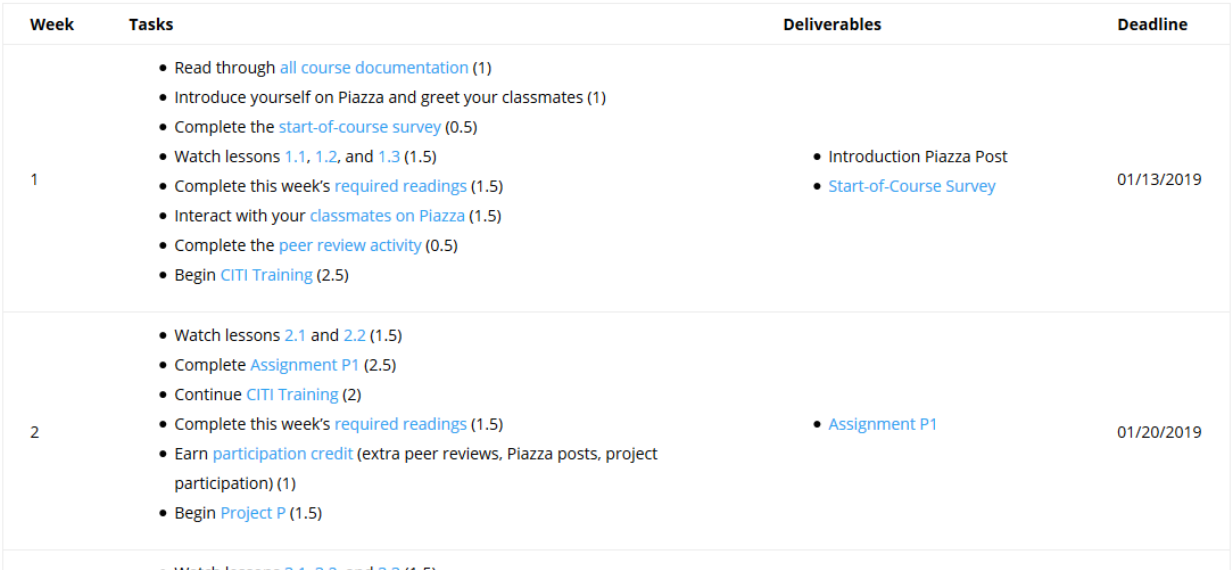
Thus, asynchronous online classes must actively accomplish that which traditional classes accomplish passively through required lecture attendance: creating cadence and incentivizing persistent engagement.

Creating Cadence & Incentivizing Engagement

Recreating cadence for the online environment requires first, creating a consistent temporal structure to a class; and second, communicating that structure to students. Synchronous classes have an implicit structure in their lecture meeting times; students generally expect assignments, readings, and other material to follow that schedule. Online, no such unit of time exists, and so one must be established.

We recommend taking as a minimum unit of time one class-week; this means setting assignment deadlines at the same time each week, attaching lecture and reading tasks to individual weeks rather than days (too specific) or sections of material (too general), and targeting an even distribution of work across the multiple weeks of the semester.

Figure 1, below, shows an excerpt of the full course calendar of a class constructed according to this philosophy. Each week of the term has multiple associated tasks, each with an expected time to complete that task. For this class, expected time allotments add up to 10 hours for every week, indicating that the workload is evenly distributed. Assignment deadlines are each Sunday at midnight, which establishes in students the expectation that they need only look forward toward the next Sunday; they need not worry about overlooking a mid-week deadline. They are free to determine when during the week they may find 10 hours to pursue their coursework.



Week	Tasks	Deliverables	Deadline
1	• Read through all course documentation (1) • Introduce yourself on Piazza and greet your classmates (1) • Complete the start-of-course survey (0.5) • Watch lessons 1.1, 1.2, and 1.3 (1.5) • Complete this week's required readings (1.5) • Interact with your classmates on Piazza (1.5) • Complete the peer review activity (0.5) • Begin CITI Training (2.5)	• Introduction Piazza Post • Start-of-Course Survey	01/13/2019
2	• Watch lessons 2.1 and 2.2 (1.5) • Complete Assignment P1 (2.5) • Continue CITI Training (2) • Complete this week's required readings (1.5) • Earn participation credit (extra peer reviews, Piazza posts, project participation) (1) • Begin Project P (1.5)	• Assignment P1	01/20/2019

Figure 1: A section of a full course calendar from a class designed with this cadence-creating paradigm in mind.

It is important to note that this structure is about more than merely having a synchronous schedule. A class structure that scattered deadlines throughout the semester without a clear structure, including mid-week deadlines and varying feedback turnaround times, would be synchronous but would not have cadence. Cadence, as the musical analogy echoes, reflects a repeated, structured rhythm. A well-structured cadence is one that students can feel and recall easily; if students must repeatedly refer back to a synchronous schedule, then a true cadence is not possible.

Once a structure is established, it must be communicated to students in order to create a cadence or routine for the class. Part of this is shown in the figure above: the representation of the calendar matches its underlying structure, highlighting weeks as the unit of time. This is not sufficient on its own, however: the online class should not require students to always "pull" information at the right time, but rather should push information according to the proper schedule. Thus, we recommend using regular announcements to set expectations. We send weekly start-of-week announcements which reiterate all the assignments and tasks for the week. Reliably receiving this at the start of every week creates in students an expected routine that they will start each week with an agenda that, if followed, will lead to success in the course.

The specific details of the structure may vary for other classes; more traditional students may prefer mid-week deadlines, and certain classes may need smaller or larger units of time. The key part is to create some consistent underlying structure similar to what is dictated passively by scheduled lecture times. This, in turn, allows students to dedicate more of their cognitive resources to understanding the course content rather than keeping up with the course structure.

These strategies for creating cadence provide a structure that supports student success in the class, but they still rely on students to embrace that structure. Students may be aware of that structure but still choose to procrastinate or disappear from the course for weeks at a time. In order to foster consistent engagement, that engagement must be properly incentivized.

We recommend incentivizing that engagement through required authentic weekly activity. Activities like "Watch these videos" or "Post X times to the forum" force students to be aware of the course, but they do not incentivize authentic engagement. Instead, engagement can instead be incentivized by breaking large assignments into smaller intermittent milestones. This requires students to remain authentically invested in

the class, while also fostering a beneficial formative feedback cycle. In the class described in Figure 1, for example, students are required to complete a written assignment every week of the semester.

The risk in this structure is alienating students who truly *need* the flexibility of the online environment; these students can be accommodated by providing assignments well enough in advance that they may work ahead, while still requiring students prone to procrastination to maintain the required weekly schedule.

Reflections

In an online environment, it is remarkable how small actions can make big differences. We initially experimented with sending weekly announcements as an organizational structure for ourselves to ensure we were aware of everything we expected students to do each week, but student feedback has indicated these simple announcements are the most-appreciated thing we do. They remark that it indicates that the class is organized, shows that the instructor is engaged (which can be invisible in an asynchronous class), and helps them focus on the class content instead of the structure.

The classes that use these strategies have shown among the highest completion rates in the online Master of Science in Computer Science program, typically over 90%. A major reason for this is that students are less likely to overlook an oddly-placed deadline or fall irrecoverably behind the schedule; smaller weekly milestones mean even if a student does fall behind, they are more likely able to recover. Finally, students regularly rate online classes using these strategies highly on organization and instructor respect, indicating that students correctly perceive these strategies as intending to support them.