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Chapter 1- Resilient Pedagogy and Self-Determination: Unlocking Student Engagement in Uncertain Times

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1.

RESILIENT PEDAGOGY AND SELF-DETERMINATION: UNLOCKING STUDENT ENGAGEMENT IN UNCERTAIN TIMES

Lindsay C. Masland

When the COVID-19 pandemic hit in spring of 2020, like many educators, I experienced a definite disruption in the structure and plans I had designed for my courses. I was teaching a mix of graduate and undergraduate classes—some with as few as seven students, others with as many as 98, some upper-level skills-based courses, others in the broad general education arena, but all of them designed exclusively for face-to-face delivery. In fact, due to some long-standing institutional prejudices against online instruction, the opportunity to teach in a mode other than face-to-face had never materialized over the 10 years I had taught in higher education. Even a one-time request to teach a summer class in the fully online space was denied, so I should have been wholly unprepared to make the "emergency pivot" to virtual, remote instruction. However, despite no real practice in non-face-to-face modalities, I didn't find the pivot to be particularly stressful. I hesitate to make this claim in print, and I understand the immense privilege I have in so doing (e.g., highly functional Wi-Fi, a corner of my bedroom where I could add a desk, a partner with a flexible work schedule and the capacity to share in childcare duties, job security via tenure), but it's true—it only took about a day of strategizing for each of the four different courses I was teaching to figure out how to make the transition.

As a faculty developer, however, I realize that my experience with making the emergency pivot was far from the norm. Like everyone else at every Center for Teaching and Learning around the country, our faculty developers and instructional designers were positively slammed by unprecedented demands on their time as these pedagogical support staff scrambled to provide the resources and consultations needed by (what seemed like) nearly every instructor on our campus. This disparity in experience—between my own relatively smooth transition and the apparently bumpy transition for many of my colleagues, despite none of us being particularly experienced in these spaces—begs the question: why did this happen? Why does a disruption manifest as a blip for some professors and as an insurmountable barrier for others? I think the answer lies in the extent to which professors design their courses to reflect principles of resilient pedagogy.

Interestingly, before the COVID-19 pandemic, use of the term "resilient pedagogy" was minimal. In fact, of the approximately 3,140 results produced via a Google search of the term at the time of writing, only 26 of them existed before March of 2020. Further analysis indicates that the term did not show an appreciable bump in searches until the end of April of the same year. This pattern suggests that, prior to the COVID-19 pandemic, instructors probably were not designing courses in accordance with any sort of *intentional* resilient framework. This is certainly true for me—even as a faculty developer with a PhD in educational psychology, I did not hear this term until the spring of 2020. However, upon reflection, I realized that I have designed my classes with resilient principles in mind for years without realizing it. Instead, likely due to that background in educational psychology and my pedagogical and scholarly interests concerning teacher effects on student success, I had designed my courses according to evidence-informed principles of student motivation and engagement—principles that happen to lead instructors into designing courses that are wonderfully resilient.

Self-Determination Theory as a Tool for Maximizing Student Engagement

Motivation vs. Engagement

It may seem odd to proceed with a chapter about resilient pedagogy without first defining the key construct of the term, but that is exactly what I am going to do. This approach seems better aligned with my own exposure to and embrace of the term. None of what I have designed in my own classes or supported colleagues to design in theirs was created to be intentionally resilient, so it would be inaccurate to make that claim here. Any apparent resilience in my pedagogy has been a side effect of designing for student motivation and engagement, so that is the appropriate starting place for our examination of the ways in which motivation and resilience intersect.

A first appropriate step, then, is to clarify what I mean when I use the terms "motivation" and "engagement." There is disagreement in the literature as to whether these terms can or should be used interchangeably (Fredericks et al., 2004), but for the purposes of this chapter, I will distinguish between the two. I define "motivation" as an *internal drive* that gives energy and direction toward accomplishing a goal. In contrast, I define "engagement" as *evidence* that an individual has the motivation to move toward a goal. From this perspective, as teachers, we should focus our appraisals of student motivation and engagement squarely on the engagement side of things, as this is the portion of the continuum that we can directly observe. Furthermore, given that engagement positively predicts both academic achievement and well-being (Fredericks et al., 2004), we should focus on pedagogical choices that have been shown to enhance engagement.

Figure 1
Relationship Between Motivation, Engagement, and Student Success.

Tripartite Engagement

I also think it's helpful, from both a scholarly and practical perspective, to subdivide engagement into its constituent parts. That is, although teachers might frequently lament a generalized "lack of student engagement" in their classes, the actual target of such lamentations differs widely from teacher to teacher. Some teachers wonder why students turn off their cameras during synchronous virtual meeting times. Others bemoan half-hearted responses in discussion forums. And teachers have always expressed irritation at students who miss deadlines, who neglect to do the reading, and who ask questions that are answered in the syllabus. However, all of these apparent student shortcomings reflect a good bit of variation in this generalized concept of student engagement. As such, a more nuanced understanding subdivides the construct into the three components of behavioral engagement, cognitive engagement, and effective engagement (Fredericks et al., 2004).

Behavioral engagement includes clear participation in the learning environment that indicates persistence, effort, and other behaviors that lead to learning success. Depending on the mode of the course, this could include asking and answering questions, engagement with resources in a learning management system (e.g., page views), or submitting assignments on time. In contrast, cognitive engagement is aligned to strategic and self-regulated actions that indicate higher-order thinking. Some forms of cognitive engagement are easily observable (e.g., submitting quality work, selecting challenging options, responding in generative ways), whereas others might not be (e.g., making private connections between ideas, engaging in metacognitive reflection, choosing to allocate mental effort in beneficial ways). Different still is emotional engagement, which involves an affective connection that leads to interest in, value for, or curiosity about the course. As is the case with cognitive engagement, emotional engagement is sometimes easily observed (e.g., when a student discusses connections between course content and personally relevant situations) and sometimes private to the student (e.g., when a student experiences a flow state while working on course tasks).

Self-Determination Theory

I stated above that student engagement can be viewed as the evidence that a student is highly motivated to succeed at a particular learning task. The temptation here, then, is to view student engagement as out of our hands. That is, if student success is the product of student engagement, and if student engagement is the product of internal student motivation, then responsibility for the whole darn ordeal is simply not our problem (Figure 1). However, this approach represents a view of motivation and engagement that is both depressing (i.e., you mean there's nothing I can do about an "unmotivated" student?!) and one that is theoretically and empirically incorrect. There are many motivational models that could shed light on this conundrum, but a favorite of those seeking to understand the interplay between the environment and the student's internal motivation and engagement is self-determination theory.

Self-determination theory (SDT) is a metatheory of motivation covering everything from intrinsic versus extrinsic motivation to causality attributions, but for our purposes, the most relevant corner of SDT is the basic psychological needs subtheory. The needs subtheory assumes that we are growth-oriented individuals who produce high levels of goal-directed behavior when our psychological needs are met. According to Deci and Ryan, "needs specify innate psychological nutrients that are essential for on-going psychological growth, integrity, and well-being (2000, p. 229) and include feelings of competence, relatedness, and autonomy. An individual's need for competence concerns the hope that our efforts toward growth and well-being will be effective. When competence needs are met, we believe that we have the skills needed for mastery, and we experience a sense of confidence regarding the success of future possible efforts. Our need for relatedness manifests as a desire for security and support. When we feel connected to others, we believe that our goal-directed efforts will succeed. Lastly, our need for autonomy concerns the agency we have in our decision making. Individuals whose needs for autonomy are fulfilled feel that they are able to make choices that are well-aligned to their identities and that will lead to personal growth (Deci & Ryan, 2000). Research indicates that needs fulfillment leads to desired academic outcomes, including enhanced academic achievement and long-term retention of content and skills. These desirable academic outcomes are often preceded by indicators of all three facets of academic engagement, such as enhanced persistence (i.e., behavioral engagement), enhanced depth of processing and creativity (i.e., cognitive engagement), and enhanced enjoyment of work and general school satisfaction (i.e., emotional engagement; Guay et al., 2008).

Although SDT pertains to characteristics of an individual's internal motivational state, research indicates that the extent to which these internal needs are fulfilled is largely governed by environmental inputs (Figure 2). For example, research suggests that students report the highest levels of competence when they are in learning environments that are characterized by clear expectations and consistency of structure (Ryan & Deci, 2020). Frequent informational supports (e.g., clear information regarding assignments and grading structures) and the use of mastery feedback (i.e., feedback that feeds forward into success on future academic tasks) enhance students' feelings of competence as they engage with appropriately challenging learning tasks. The idea is that

highly structured learning environments provide scaffolding that enhances a student's sense of control, which leads to feelings of competence.

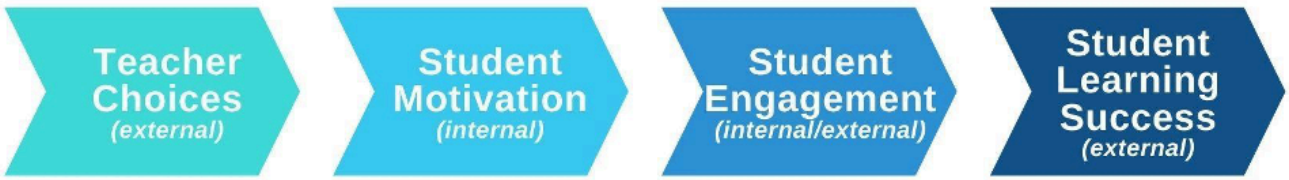


Figure 2
Relationship Between Teacher Choices, Motivation, Engagement, and Student Success

Relatedness needs can also be fulfilled by the environment, as students who feel supported by their teachers show increased levels of all three types of engagement (Fredericks et al., 2004). Instructors in the online environment have long known about the importance of relatedness, focusing on relationships between students, between students and teachers, and between students and the content (Moore, 1989). Of these different interactions, student–student relationships and student–teacher relationships are consistently the most predictive of student success (Bernard et al., 2009).

Lastly, fulfillment of autonomy needs also leads to enhanced academic success, including increased self-regulation, interest/enjoyment, and perceived competence, as well as decreased anxiety (Black & Deci, 2000). Students who experience thwarted autonomy needs show decreased problem solving, creativity, and depth of processing (Grolnick & Ryan, 1987). To enhance feelings of autonomy, teachers can provide meaningful choices in the learning process such that students feel invited to and not coerced into completing learning tasks. When students feel in control of the learning environment, they experience enhanced competence (Jang et al., 2010). Autonomy-enhancing teachers also acknowledge that the learning process can involve feelings such as anxiety, irritation, or disappointment, and they are supportively responsive to such student reactions (Ryan & Deci, 2020).

Intersections Between SDT and Resilient Pedagogy

If an instructor designs a course to maximize student perceptions of competence, relatedness, and autonomy, they will be well on their way to designing something that is resilient to disruptions, even if that isn't their original intention. As mentioned previously, this was my experience. Well before the COVID-19 pandemic, I designed my courses with motivation and self-determination theory in mind. For example, my classes were characterized by a high level of student choice. My rationale was that different students find different things interesting, so if I want to use interest as a motivational lever, then I'm going to need to have a lot of options. I also realized that students seemed to want to work harder for people they like (both in terms of the instructor

and in terms of their classmates), so I had incorporated a lot of ways for us to get to know each other, both as people and in relation to our specific course content. I also knew that if I wanted my students to try hard things and to persist when the going got tough, I needed to have a strong support structure in place —copious information about how to succeed in my course and mastery feedback spurring students forward from assessment to assessment.

Before the pandemic, I had experienced reinforcement for this method of course design—my student and peer evaluations were high and mentioned things like "there to help you every step of the way" and "not easy but put together so well." And although I didn't realize it at the time, it was quite resilient to disruptions. For example, if I had an unexpected snow day or a last-minute invitation to give a talk, this never derailed my courses. I had so many options already in place, both in terms of content we could learn and in terms of exactly how we could learn it, that a disruption may have taken one or two options off the table (e.g., no face-to-face lecture of the day's content), but left others intact (e.g., virtual exploration of the same content, in asynchronous groups using a collaborative Google Doc). So, when COVID-19 hit and the emergency pivot happened, all I needed was a few tweaks to maximize the competence, relatedness, and autonomy in our new learning environment, and we were up and running—choices that I now realize are fully compatible with the resilient pedagogy approach.

Although the precise origins of the term "resilient pedagogy" are unclear to me, I recall a flurry of "academic Twitter action" in the spring and summer of 2020 as faculty developers and instructional designers hurried to frame out an approach to course design that would be resilient to disruptions, both of the pandemic and less-life-altering variety. A variety of adjectives were bandied about—flexible, adaptive, agile, adaptable, pivotal—but the aim was clear: We were searching for a pedagogy that wouldn't crumble when facing a change in modality. According to Josh Eyler, who is quoted in the most popular blog post on the topic, "resilient pedagogy is a course design strategy that helps make your classes, assignments, and assessments as resistant to disruption as possible. The way to think about this is regardless of which modality you're teaching in—online, in-person, or blended—you're designing one time and one time only" (Gardiner, 2020). I'll admit that I think this is a bit of an oversimplification—even in pre-pandemic times, I never "designed once." Designing according to SDT requires instructors to view their students as the complex individuals they are, meaning you have to design for lots of possible identities and lots of possible situations, if you are truly designing to maximize competence, relatedness, and autonomy of the diverse students we teach. As such, I think that resilient pedagogy is less about designing courses with disruption in mind, but instead, about designing technology-enhanced courses that are as mode-agnostic and needs-centered as possible. To this end, the remainder of the chapter will explore the various choices instructors can make in terms of course organization, instruction, and assessment that can lead to maximized student need fulfillment while also maintaining a clear focus on flexibility and resiliency in teaching (Figure 3). For each of the following sections, several practical teaching ideas will be offered, and I will draw clear connections between those ideas and the fulfillment of competence, relatedness, and autonomy needs. I will also give examples of how many of the

pedagogical strategies can manifest in either more resilient or a more constrained presentation, depending on design choices made at the outset.

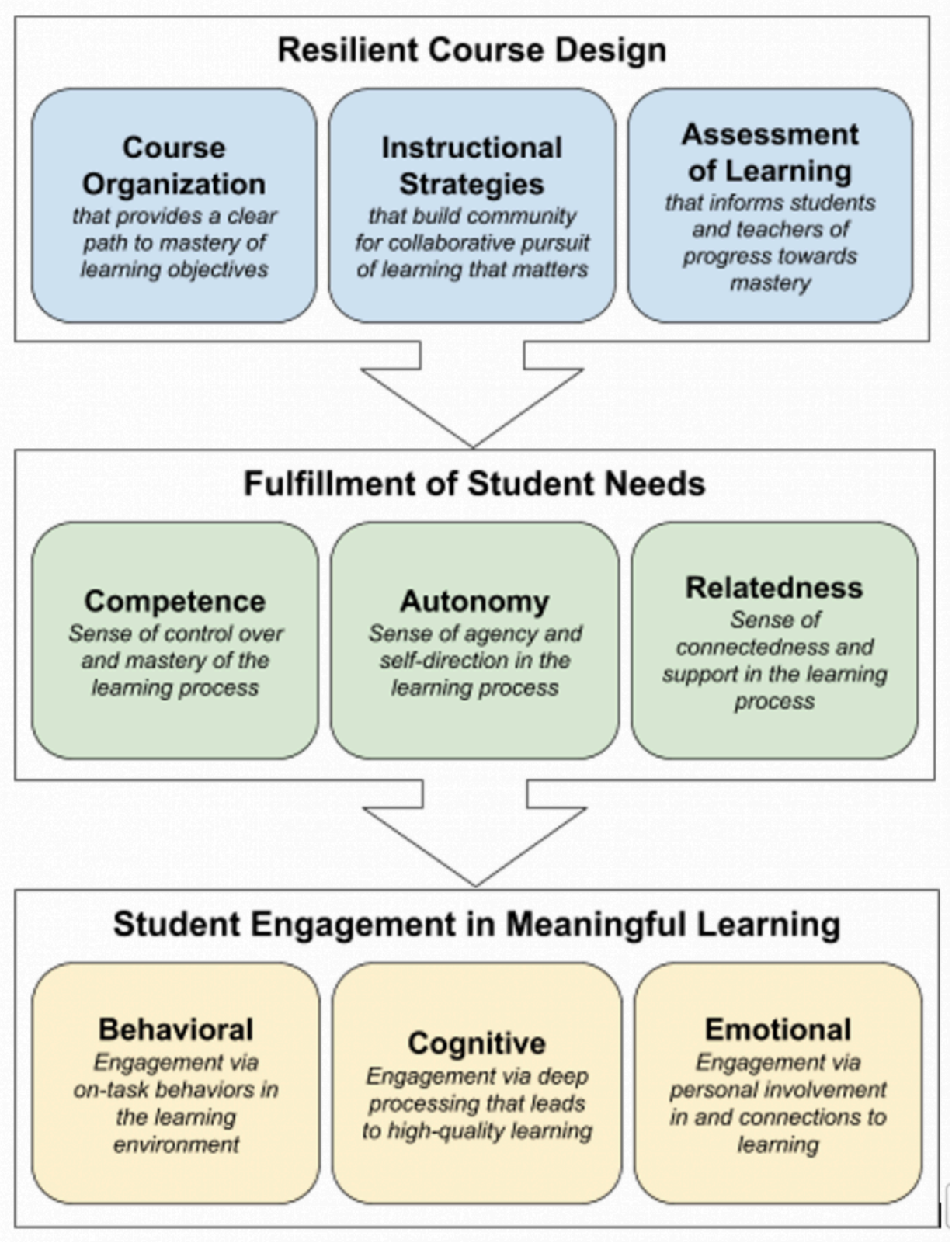


Figure 3
A Conceptual model for Student Need-Fulfillment as the Mechanism for Effects of Resilient Course Design on Student Engagement

Resilient, Needs-Centered Pedagogy

Choices in Course Organization

Course Rhythm

In a traditionally organized course, the instructor might segment the class into units, with each unit covering a certain number of textbook chapters, typically delivered via lecture, possibly punctuated by class discussions or group activities, and bookended by a unit exam. Instructors with this "course rhythm" will be quite challenged when it comes to disruption, particularly if their goal is to neatly replicate the previously existing course format in a way that engages students. However, even in a fully face-to-face environment, it's unlikely that students experiencing this course rhythm will experience maximal need fulfillment. Although this repeatable pattern might meet the competence needs of some students, a single method for distributing content (i.e., lecture) followed by infrequent assessments (i.e., the unit exams) may thwart the autonomy needs of some. Therefore, to maximize student competence via a supportive structure, instructors should consider selecting the rhythm of the course before committing to the content. It is certainly breaking with the hallowed tradition of backward design to suggest this (Fink, 2013), but for a resilient, needs-focused course, I suggest that instructors start with course structure (even before designing learning objectives!). In fact, regardless of whether a course is virtual or not, centering course design choices around the interactions students will have is an excellent starting place. In other words, resilient instructors should consider the constellation of student to content, student to student, and student to instructor interactions present in their course, as these interactions become an important lever for enhancing student engagement (Moore, 1989; Garrison, Anderson, & Archer, 2010). Designing a repeatable pattern of intentional course interactions allows for students to habituate to the course's unique rhythm faster, thus reducing the cognitive load required to acclimate to an instructor's structure and freeing cognitive processing resources for the task of internalizing the content, skills, or lens of the course.

The ideal course rhythm depends on a variety of factors, including the student population, the length of the term, and the instructor's personal and institutional resources, but all effective rhythms will intentionally repeat a set of student interactions that leads to feelings of competence (due to the clear structure) and relatedness (due to the interactions among students and with the instructor). For example, in a six-week summer course, students might be invited into course interactions most days of the week (Figure 4), given that most institutions constrain the number of summer courses that can be taken simultaneously to one or two. In contrast, a semester-long course might constrain interactions to several days a week, especially if students take four or five courses simultaneously and might also be balancing work and/or family demands. Alternatively, a semester-long course might commit to a repeatable pattern for interactions, such that assignments are always due on Tuesdays, but might have such due dates fall every other Tuesday (Figure 5).

Figure 4
Sample Course Rhythm for a 6-week, Upper-Level Elective Course Presented Online with Optional Synchronous Meetings

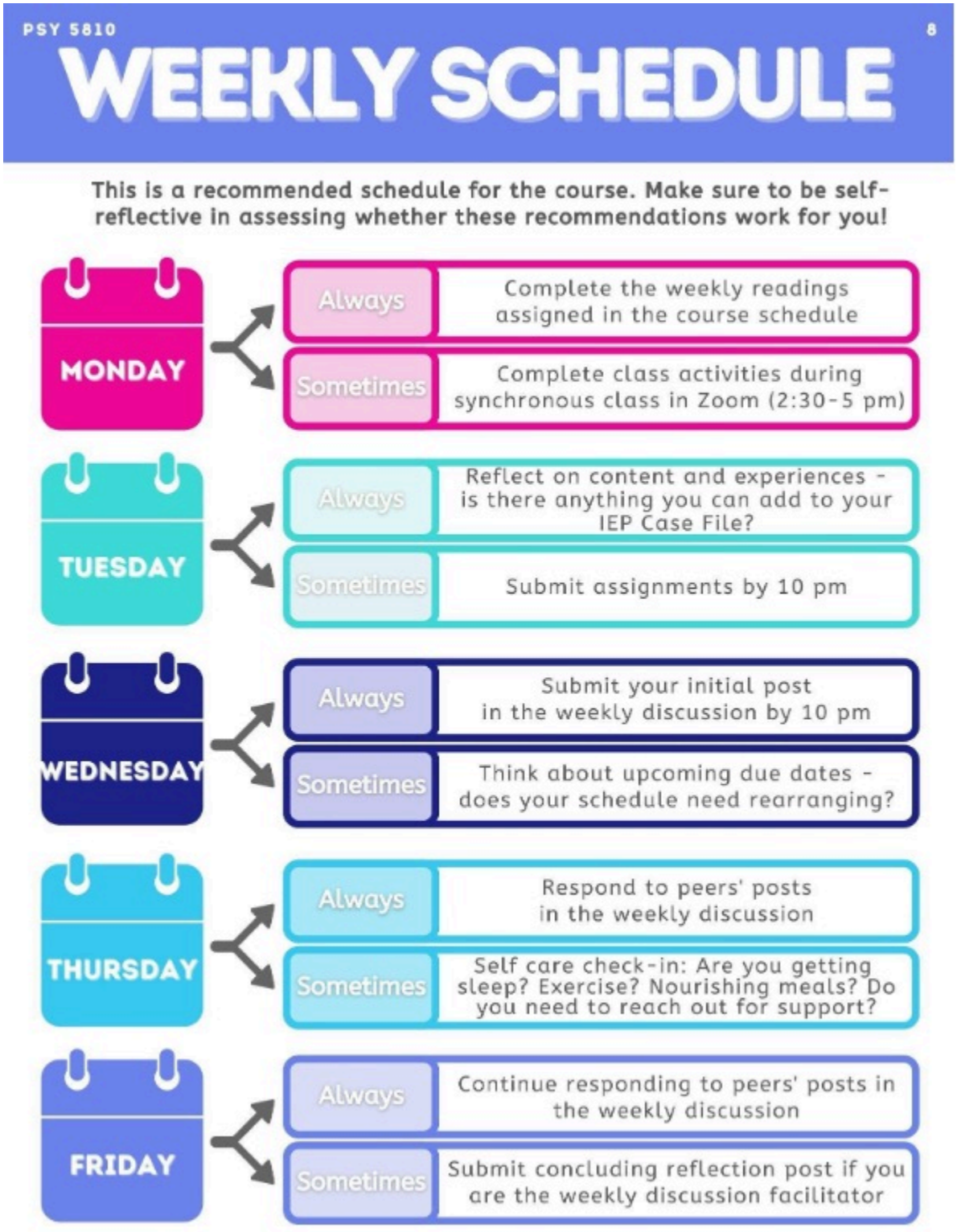


Figure 5
Sample Course Rhythm for a 16-week, Graduate Course with Required Synchronous Meetings Every Two Weeks

Note how both sample schedules include opportunities for students to interact with content, with the instructor, and with each other, thus fulfilling relatedness needs. After several weeks in either course, students would acclimate to the rhythm, freeing up cognitive resources to focus on mastering course objectives. Additionally, notice how the language in both samples invites students into the learning experience—this is a subtle, but important point. Highly structured courses run the risk of becoming constraining, both for the students and the instructor, because the structure can veer more toward control than support. However, when students are given clear rationales for the structure, their autonomy and competence are enhanced (Ryan & Deci, 2020), and they display increased attention, effort, and participation (Jang et al., 2010). Finally, notice how both course rhythms include course components that are synchronous and asynchronous and that would be amenable to face-to-face or virtual delivery. For example, in Figure 4, the schedule was designed for a primarily online course. However, the content-focused Monday interactions could be delivered via lecture and the student-to-student group activities could happen live in the classroom, if that modality was needed or preferred. Equivalently, though, the same learning objectives could be met in a fully online mode, as long as the focus remains on need fulfillment via learning interactions. Content delivery could happen via live Zoom, prerecorded, or curated lectures, and group activities could happen synchronously via Zoom or asynchronously via Slack or Google Docs. Designing with mixed modes in mind from the beginning of a course is a particularly resilient choice—students gain familiarity with both synchronous and asynchronous components from day one, so, should a modality-changing disruption occur, students are already well-rehearsed in the virtual components of the course. In short, when the same interactions happen on the same days and in the same rhythm, regardless of the modality in which those interactions occur, students feel competent, autonomous, and related to others, thus paving the way for high academic engagement.

Scaffolded Syllabus

Another important component of a needs-focused, resilient course design is a structured syllabus that clearly specifies the path to mastery, regardless of the modality in which the course is completed. The connection between a well-designed syllabus and student success is documented in the literature, as student-centered syllabi have been shown to affect both motivation and engagement (Richmond et al., 2016; Young-Jones et al., 2019; Nusbaum, Swindell, Plemons2021). Constructing a syllabus through a needs-focused lens simply takes things to the next level. In other words, if our intention is to enhance student feelings of autonomy (i.e., that success is within their control) and competence (i.e., that they have the needed skill and structure to succeed), then the syllabus must not only be an informational document but a representation of the path that students should take in pursuit of such success.

Notice how in Figure 6, which is a screenshot of a portion of a course syllabus calendar, that in addition to the expected due dates, the instructor has included recommendations for when to start preparing for each of the assessments. These recommendations include both when to start and continue studying for exams and when to begin work on reflection papers. Although some instructors may view such an approach as

unnecessary "hand holding," if the focus is on fulfilling competence needs, this choice makes sense. Although we want students to be able to do this sort of metacognitive planning on their own, the reality is that some college students have not acquired these skills yet. For example, those with executive functioning deficits, which are common in students with learning disabilities and attention deficit/hyperactivity disorder (Grieve et al., 2014), and metacognitive weaknesses, which are common in first-generation students (Williams & Hellman, 2004), are less likely than their peers to be able to plan effectively. By providing such students with a complete road map to success, their feelings of competence and autonomy are bolstered, leading to academic engagement and academic success.

It bears noting that there are more and less resilient ways to incorporate a scaffolded syllabus into a course. If the instructor types out every single piece of metacognitive planning needed to excel in the course into a Word document, and if the course experiences a midterm disruption that removes days from the class, the instructor will need to go back into the syllabus and modify the dates for every single one of those metacognitive supports. However, if the supports are set up in a truly scaffolded manner (i.e., faded scaffolding with progressively fewer supports as the course progresses; Hao, 2016), there will be fewer things that need tweaking. Additionally, if the instructor uses a cloud-based app to host the syllabus (e.g., Google Docs), then any changes can be made directly into the document, which decreases the time-intensive steps of removing the old syllabus from the learning-management system, creating a new syllabus, and then reuploading it. Such flexibility is just as handy in managing snow days as it is in handling the effects of a global pandemic.

Dates	**Monday** *(in class)*	*(between classes)*	**Wednesday** *(in class)*	*(between classes)*	**Friday** *(in class)*	*(after class)*
Week 6: Sept 23-29	*TOPIC for 9/23: Group differences-Gender, Sex, and Sexuality* • Which gender differences matter in the classroom? • How to support students with identities that are different than yours	CHOICE: 1. Read Ormrod Ch. 5. 2. Complete "Intelligence Webguide."	*TOPIC for 9/25: Individual differences-Intelligence* • What is IQ and how is it measured? • Does IQ matter in the classroom?	CHOICE: 1. Complete "Special Education Law Webguide."	*TOPIC for 9/27: Students with special needs- Special education law* • Why do ALL teachers need to know about special education?	CHOICE: 1. Complete "LD and ID Webguide." 2. Begin working on "Field Note 2."
Week 7: Sept 30 - October 6	*TOPIC for 9/30: Students with special needs-Specific learning disabilities and intellectual disabilities* • How can you teach students with learning disabilities and intellectual disabilities?	CHOICE: 1. Complete "ED, ADHD, and Autism Webguide." 2. Begin studying for Exam 2. REQUIRED: 1. Finish working on Field Note 2.	**DUE by 11:55pm: Field Note 2** *TOPIC for 10/2: Students with special needs-Emotional and behavioral disabilities* • How can you teach students with emotional disabilities, ADHD, and autism?	CHOICE: 1. "Differentiating Instruction Webguide." 2. Continue studying for Exam 2.	****Exam 2 opens on AsULearn at 7am, October 4th**** *TOPIC for 10.4: Differentiating instruction to meet the needs of all* • What is DI? • What would it look like in your classroom?	****Exam 2 closes on AsULearn at 11:55 pm, October 7th**** CHOICE 1. Begin working on Culminating Paper #1. REQUIRED: 1. Take Exam 2 Multiple Choice. 2. Take Exam 2 Essay.

Figure 6
A Screenshot of a Course Syllabus Schedule for an Undergraduate General Education Course

Choices in Instruction

Student Survey

After an instructor has developed a needs-focused, resilient course rhythm and syllabus, the next step is to begin the actual instruction of the course. At this point, a focus on learning objectives comes into play, but before launching into content, an intermediate step is needed if the course is to retain its emphasis on student engagement via self-determination theory. That is, how can you be sure you are meeting student needs without first asking students what their needs are? This is where a student survey comes into play, a technique that has been recommended in service of inclusive excellence across a wide range of social identities (Sathy & Hogan, 2019), but that can also work double duty as a needs-fulfillment device for all students (Masland et al., 2020). Specifically, early on in the term, instructors can invite students to share relevant personal information that will allow instructors to tweak the course to better meet their needs. The exact questions asked will depend on a variety of factors, but here are several that may make sense to include:

- *Why are you taking this course?* (Related: what do you hope to get out of this course? Is there something you are hoping we will cover?)
- *Who do you hope to be when you graduate?* (Career-related questions as well as general identity- or goal-focused questions might fit here)
- *Is there anything you are worried about with regard to this course?* (This type of question can also evaluate the learning environments of students, i.e., whether they have the necessary technology to be successful in the course, whether they expect course disruptions, etc.)
- *What do you need to be successful in this course?* (This question type can include things students will need to muster or manage themselves—thus inviting metacognitive reflection—as well as things students expect from their instructor)
- *Is there anything you would like to share with me that will help me to teach you better?*

Asking questions like these can serve a variety of functions in a course. For example, every time I personally deploy a student survey, several students mention, despite no prompt to do so, that they "already feel great about this course simply because of this survey." This outcome suggests that students are experiencing the fulfillment of a relatedness need—by showing interest in and care for students' feelings about the course, instructors help to bolster student engagement before any instruction has even occurred. Given that increases in student-perceived relatedness have been shown to predict longitudinal increases in both emotional and behavioral engagement (Furrer & Skinner, 2003), this is a desirable outcome. Additionally, student responses can be used to tailor the course in a variety of ways, including content of focus, parameters around

assignments, creation of activity or project groups, and more. When instructors make even small tweaks in a course and when they point out that such tweaks were made based on information gleaned from the survey, student autonomy needs can be fulfilled. That is, students feel that they have control over their success in the course because the course has been, at least in some small way, tailored to meet their needs. Such support is particularly important in academic contexts characterized by disruption—when the instructor is aware of what their students are contending with, it becomes easier to tailor the course in a resilient, autonomy-focused way. And, as is the case with relatedness, perceptions of autonomy early on in a course predict academic engagement later in the middle of a course, which predicts academic achievement at the end (Jang et al., 2012)—a desirable outcome indeed.

Content Menus

Another important aspect of the instructional process is deciding what you will teach. In traditional settings, this sharing of content might occur in the context of a face-to-face lecture with occasional group activities or discussions in which the instructor decides exactly what will be learned and how. However, such a teacher-focused approach to instruction can attenuate feelings of competence and autonomy for students. Also, expecting to deliver all content via live lecture is a particularly nonresilient choice because, even though face-to-face lectures can be converted to synchronous lectures delivered via Zoom in response to a disruption, this is very taxing for both instructors and students to endure (Serhan, 2020).

A more resilient choice, therefore, is to utilize content menus as the primary way to distribute content. That is, instead of relying on a single mode (i.e., the lecture), instructors can build redundancy into their courses by pulling together a list of ways that students can access content, including relevant textbook pages, original sources, curated video lists from YouTube, and short recorded lectures. Making this choice requires the instructor to be comfortable with the reality that each student will interact with the content in a unique way—something that will maximize student autonomy but may challenge the instructor's need for control. A way to make sure this "choose-your-own-adventure" approach to content interaction works is to connect all of the various resources to the learning objectives or essential questions for each unit. In the screenshot below, taken of a Moodle module in a summer course on resilient pedagogy, students were invited to make their own choices of content, aligned to meeting the goals of the unit (Figure 7). In a face-to-face, hybrid, or HyFlex course, a live lecture could be included as an option in the content menu, but that lecture becomes one of many potential paths to mastering content. Although content menus challenge the traditional approach of all students interacting with the same content and in the same way, this instructional strategy is a resilient, needs-focused choice. That is, students see their competence bolstered when the goals or objectives are clearly specified and aligned to content, and the ability to choose which resources they can engage with to master objectives is a boon to their autonomy. Further, if the course experiences a disturbance, the mechanism for content delivery is not fully disrupted; instead, only one of a variety of options is compromised.

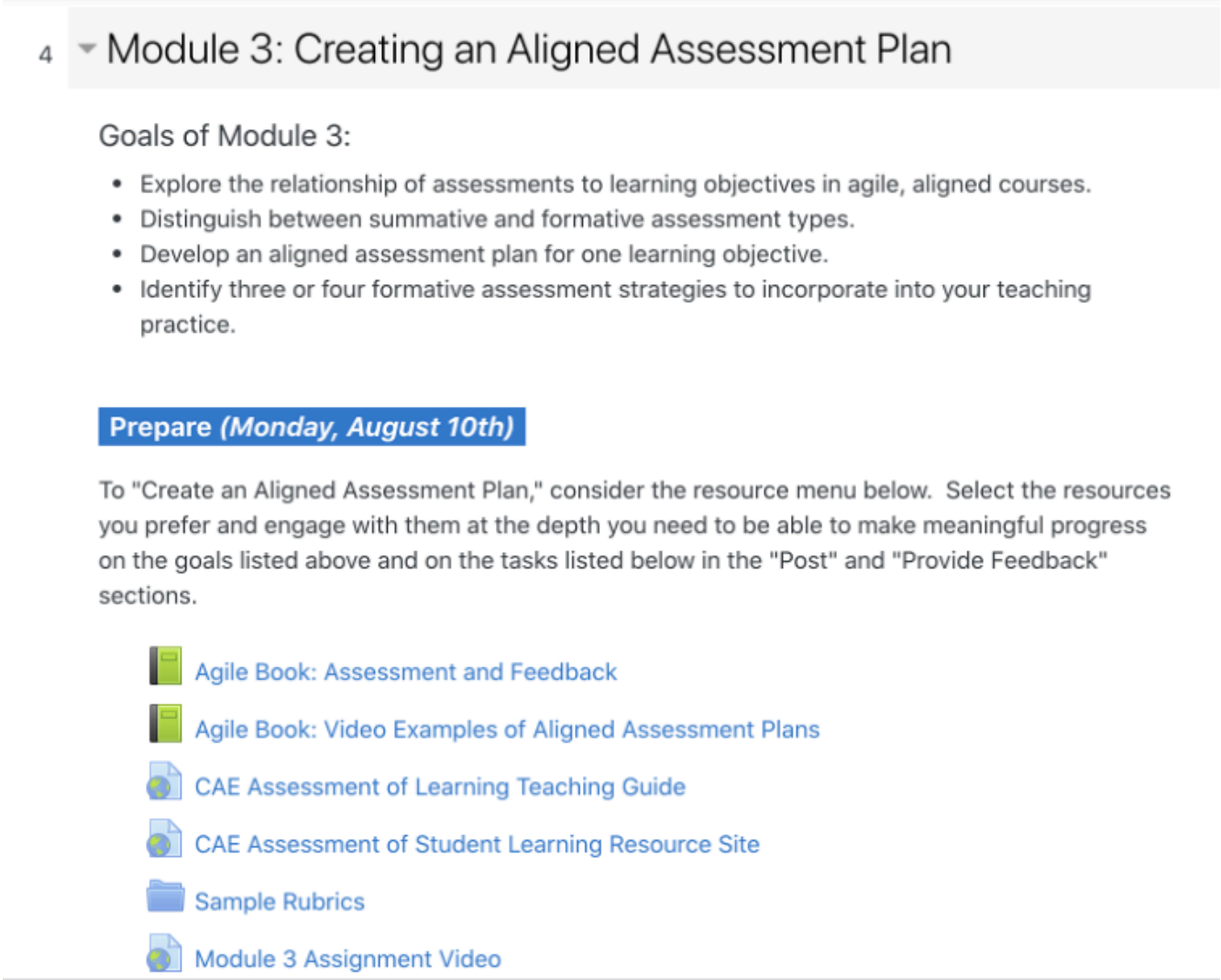


Figure 7
A Screenshot of the Content Menu for a Module of a Fully Online Moodle Course

Group Work

Although student surveys and content menus will do a lot to bolster the autonomy and competence of students, to really maximize the relatedness that students feel, we need to focus on student–student interactions in our courses, regardless of the modality. In fact, some research suggests that, of the three types of student interactions in virtually enhanced courses (i.e., student–content, student–instructor, student–student), it is the student–student interaction that is most predictive of student success (Bernard et al., 2009). Group interactions can foster this relatedness, but only if structural choices are made with relatedness and resiliency in mind. For example, placing students in intentional groups based on the results of the student survey is preferable to using randomly created groups, particularly if the groups have a longitudinal aspect to them. When students know they have been placed in groups for a specific reason (e.g., shared background experiences, career aspirations, work styles, etc.), they feel increased belonging and

relatedness. This pedagogical choice is particularly important for students with marginalized identities, as group work has been shown to decrease anonymity, center cooperative learning, provide needed scaffolding, and validate lived experiences (Yazedjian & Kolkhorst, 2007). To make groups particularly resilient, students should be placed into them at the start of the semester, or if a changing group composition will be utilized, the structure for group work should be established early and repeated frequently. For example, if the course has a face-to-face component for group activities, they can still keep track of their work in a shared Google Doc, Google Slide, or Padlet. This way, if the course or an individual experiences a disruption, the process for group work will not be similarly disrupted, as students will be well-rehearsed in the virtual process for maintaining a record of group work.

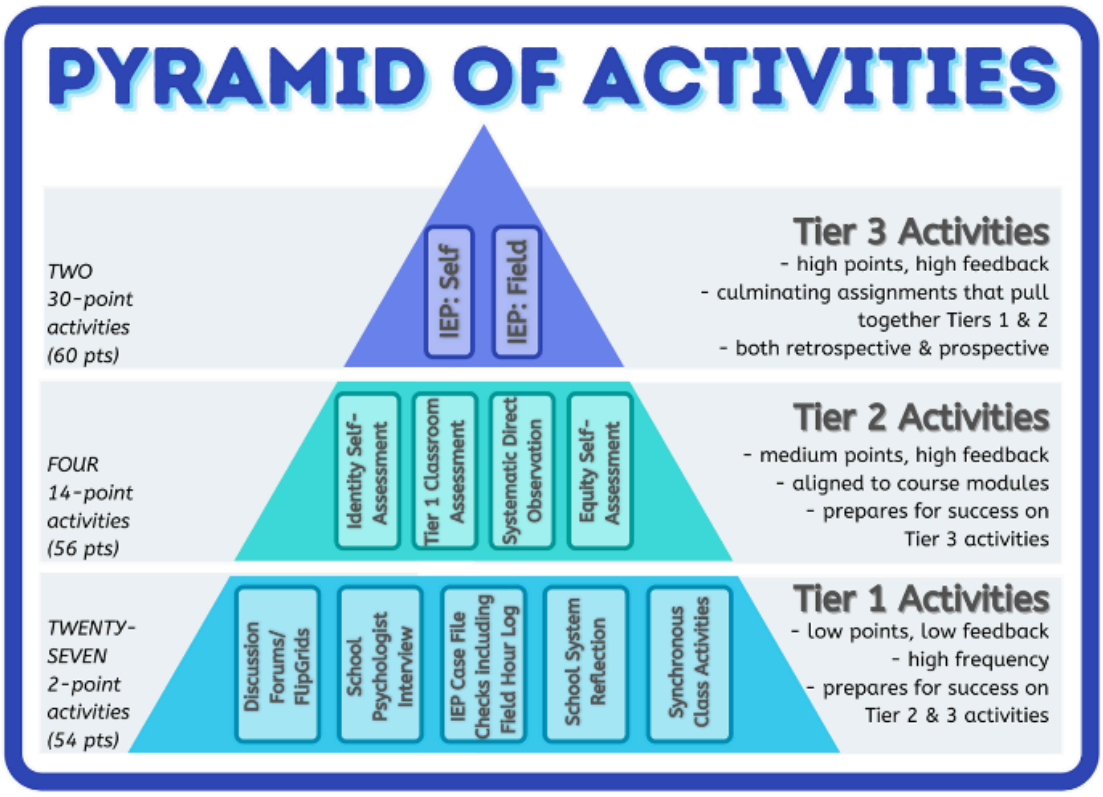
For example, in both face-to-face and hybrid or online versions of the same course, I have routinely placed students into groups based on shared career aspirations. I'll then present the groups with a video that demonstrates the real-world applicability of some of the course principles, and I'll ask them to evaluate those applications from the lens of their intended career (e.g., How might a kindergarten teacher incorporate the techniques in the video into a lesson on counting?) I'll ask them to keep a record of their work in a shared Google Doc, which I can also access. For groups meeting face-to-face or synchronously through a video platform, they might have their conversations "live," but they would still record their ideas in the Google Doc. If I am at the lectern or on Zoom during this process, I can observe their reflections in the shared Doc in real-time, and I can leave comments on their work, offering timely scaffolding of their thinking. On the other hand, if these group interactions are happening asynchronously, the same back and forth can still occur. I can use the "Version History" feature of Google Docs to see who has contributed what, and I can still leave scaffolding comments on their work. Regardless of the modality, though, planning for intentional groups that participate in a collaborative product serves as a resilient choice.

Choices in Assessment

Tiered Assessment Plan

After designing course structure and beginning course instruction, a time will come for course assessments. Of course, in the backward design model, an instructor will have made assessment choices well before delivery of the instruction, but in the students' experience, assessments typically come after at least some of the instruction. In a resilient, needs-focused course, instructors need to find a way to make assessments feel like another tool for students to experience competence, relatedness, and autonomy. Therefore, a tiered assessment plan is recommended that balances low-stakes and high-stakes assessments, all aligned in pursuit of the mastery of course objectives. Although many instructors may already design their classes with a balanced assessment system in mind, I think that explicitly sharing the design of the system with the students is an important piece in fulfilling their needs. For example, the syllabus screenshot of a tiered assessment approach

in Figure 8 shows students not only what the assessments are but also shares a rationale for why the course has been designed this way.



Everything that we will do together in this class is arranged into the above Pyramid of Activities. We'll have very little lecture or passive learning--instead, you'll be participating in a series of discussions, activities, and reflections that will help you to construct your own understanding of how this field works currently and how you might like it to work in the future.

In total, you'll participate in 33 learning activities. That might sound like a lot, but it translates to around 2 things per week during the semester, and it includes things like showing up to our virtual class. The activities are arranged to reflect the conditions that research indicates leads to the most learning-- a lot of low-stakes activities that prepare you for success on higher-stakes activities and assignments. So, although the relative number of points at each of the tiers is roughly equivalent, there are many more activities at the lowest tier. This means that it is possible to miss some of these or to submit "not quite there work" at the lowest tiers and still end the class in a good place. This also means that if you work hard and incorporate the feedback from both myself and your peers, you should feel more than prepared to excel at the higher-stakes activities at the top of the pyramid.

Figure 8
A Screenshot of the Tiered Assessment Plan from a Course Syllabus of a Graduate Course

Sharing the rationale for course design choices has been linked to increased autonomy (Ryan & Deci, 2020), as students aren't left asking, "Why do I have to do this?" when the rationale is explained plainly. In fact, students have been shown to expend greater effort in classes when autonomy-supportive rationales are provided, and highlighting how assessments and other learning tasks will enhance their future competence

leads to increased behavioral engagement (Reeve et al., 2002). Also, notice how the use of language like "we" and "us" invites a sense of relatedness into the course, and explicit explanations of the scaffolding structure are poised to bolster students' feelings of competence.

Incorporating a lot of assessments into a tiered assessment plan has important implications for course resilience, as well. If a disruption occurs and an assignment must be moved or deleted, the entire structure does not fall. Because plans of this nature build redundancy into the system at the outset (i.e., in the form of multiple assessments measuring goal mastery and with multiple low-stakes assessments preparing students for success on later higher-stakes assessments), instructors who design their courses this way can typically delete an assessment or two and still feel confident that the assessment plan will fulfill student needs as they move toward mastery of course content and skills.

To further enhance the resilience of this approach, virtual submission of assignments is recommended. Even for a face-to-face class, beginning the term with virtual assignment submission means that students will be well-practiced in the submission process in the event that a course disruption removes the face-to-face component. Additionally, virtual assignment submission makes it easier to relax submission constraints—that is, since assessments no longer have to be submitted within the bounds of a single course period, instructors can give wider submission windows (e.g., on the order of hours or even days). I personally made this choice well before the advent of COVID-19, when I realized that confining assessments to a single course period disadvantaged those students with slow processing speeds, weak executive functioning, and still-growing metacognitive skills. Essentially, I realized that I was inviting error variance into my assessments by administering them during the course period because assessment scores captured not only mastery of course material but also variance related to many other irrelevant cognitive variables. To remove such variance from my assessments, I moved all of them to online submission, I set the submission periods to three days, and I tweaked the prompts to invite creative, divergent responses that would be difficult to cheat on. I was rewarded for this choice with student evaluations proclaiming my supportiveness, with in-class test responses showing a depth of reasoning I had never seen before, and with a pretty easy pivot to virtual learning in the spring of 2020.

Tiered Feedback Plan

A well-designed assessment plan will invite a good bit of resilience and needs-fulfillment into a course, but as we know from studies of effect sizes in meaningful student learning, teacher feedback on those assessments is one of the tools that can move the lever the most (Hattie, 2015). Ideally, we would be able to give maximum quantities of truly helpful feedback to every student in every class, but this approach is simply impractical. Except in a few choice situations, most of us have too many students across too many courses taking too many assessments to make "ideal feedback" a reality. However, by using a tiered approach to feedback (to accompany a tiered approach to assessment), instructors can work smarter, not harder in pursuit of delivering

the sort of feedback that will both fulfill needs and maximize resilience—not only to course disruptions but also to the realities of nonpandemic higher education.

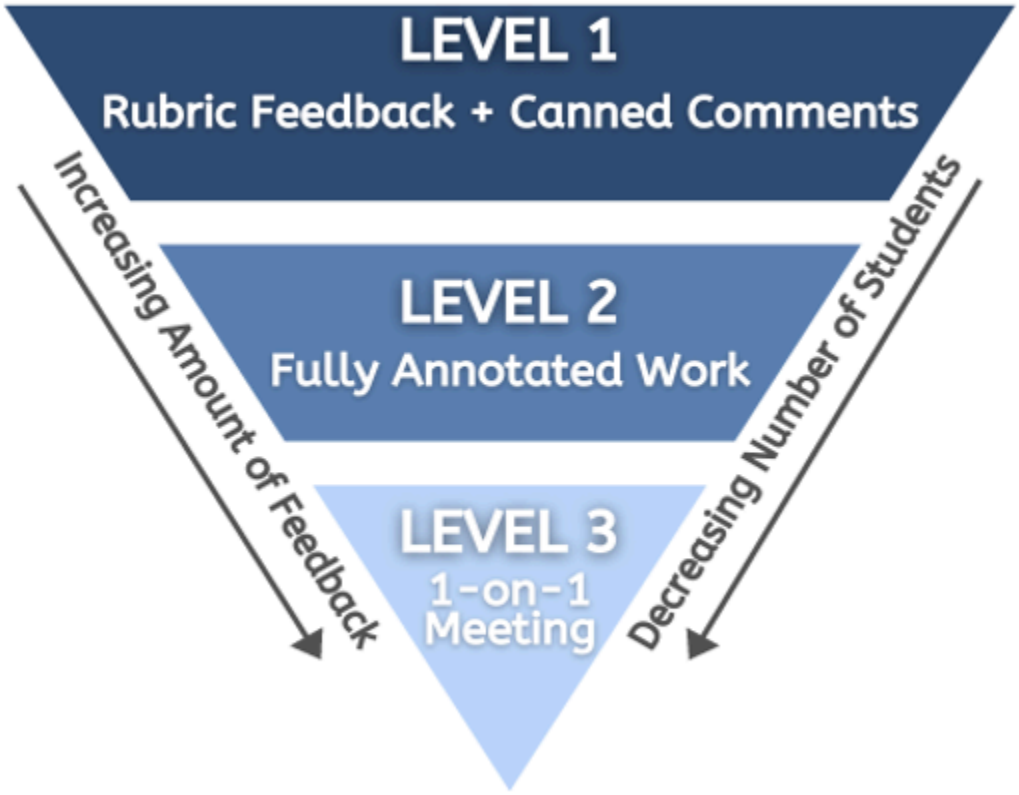


Figure 9
A Tiered Feedback Approach to Grading

In a tiered feedback approach to grading (Masland, 2017), instructors design strong rubrics for all assignments (Figure 9). Rubrics have the needs-fulfillment advantage of enhancing student competence and autonomy (Ryan & Deci, 2020), while also serving a resilience function of saving time while grading. To the extent feasible, these rubrics should be very similar, if not identical, from assessment to assessment, as rubric familiarity will reduce cognitive load for students and teachers alike. To grade according to a tiered approach, all students should receive Level 1 Feedback, which consists both of ratings on a well-designed rubric and of any "canned comments" the instructor has saved in either a word processing document or directly into the learning management system, if the technology allows. Each comment should be worded according to best practices in instructor feedback (Hattie & Timperly, 2007) and should focus on the aspects of the task/product that were effective and on specific steps to take to enhance less-effective aspects on future tasks. After delivering Level 1 Feedback, students are informed of how to access and interpret their feedback, perhaps with the accompaniment of a metacognitive wrapper activity designed to invite student reflection regarding their mastery of current and future assessments (Chambers, 2020). If worded correctly, students will experience

this feedback as a fulfillment of all three SDT needs, even in cases of weak academic performance. At that point, students are invited to request Level 2 Feedback, if they feel their Level 1 Feedback was insufficient. The instructor should take care to explain that this feedback is available to any student—from the strongest performers to the weakest—and that it is offered as a means of additional support to any who request it. In my own experience, I have found that 20% or less of the class will make a request for Level 2 Feedback. It is at this point that instructors can provide tailored point-by-point mastery feedback they wish they had the time to provide to every student. After Level 2 feedback is deployed, students who are still struggling can be invited to request a Level 3 feedback meeting, which typically takes the format of half pep talk, half designing a student-specific plan for success on future assignments. By allocating instructor effort in this way, all students receive need-fulfilling feedback that matches instructor effort to instructor need, and this feedback provision occurs in a stable system that is resistant to course disruptions.

Moving Toward Resilient, Needs-Focused Teaching During the Pandemic and Beyond

Throughout this chapter, I have proposed a series of pedagogical choices across the different levels of course organization, instruction, and assessment that will strengthen the design of any course. I approached these choices through the complementary lenses of self-determination theory and academic engagement, and I have attempted to demonstrate that designing courses with student need fulfillment in mind will cover much of the ground in creating a resilient course characterized by high levels of student engagement. I must admit, though, that while writing this piece I wondered whether we need a new teaching approach called "resilient pedagogy" at all. It is true that the COVID-19 pandemic has invited unprecedented levels of reflection among teachers everywhere. As an educational psychologist, a faculty developer, and a teacher, I have been heartened by the conversations that are suddenly taking place in faculty meetings and departmental emails. Instructors have been asking about accessibility, student workload, community-building, and equitable assessments with unparalleled depth and frequency. Our faculty development workshops have been filled to the brim, sometimes with 900% more participants than is typical. So, it makes sense that we would all scramble to frame out a new pedagogy that is equal to the magnitude of the disruption we've experienced.

It's important to remember, though, that disruption has always existed in the learning environment. It has manifested as conference travel for instructors or as snow days for institutions. And although we may not have been entrusted with learning about the realities of our students' pre-pandemic lives, the disruption has always been there for them. It lives in the student taking care of family members, the student who can't pay the bills, the student battling mental health challenges, the student battling systems of oppression not designed for them. Despite these long-lived disruptions, many students have excelled. They have excelled in classrooms that are student-centered, that are universally designed, and that are inclusively excellent, pandemic or no. This, I believe, is the task of a resilient pedagogy—to count a pandemic as just one of many

disruptions that have always conspired to threaten the most vulnerable of our students and to use the inevitability of these disruptions as the impetus for building an empowering and liberating learning environment for all.

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