

# Teaching Through a Pandemic: Cognitive Load, Mental Health and Learning Under Stress

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By Valentina Iturbe-LaGrave, Director for Inclusive Teaching Practices

The global COVID19 Pandemic has required a lot from educators! From the swift reimagining of classrooms into online learning environments, to altering the architecture of how we communicate, live, love, and parent; the struggle is real. Teaching and learning during this stressful time radically re-centers our whole-selves and wellbeing, while inviting us to **consider the importance of cognitive load, and mental health as our students learn under stress.**

### Cognitive Load

Cognitive Load Theory or CLT helps us understand how unnecessarily complex learning tasks can increase the cognitive load imposed on students, impairing their ability to process new information through working memory, and retain it as long-term memories (Sweller 2012). For example, unnecessary distractions, poorly explained assignments, unclear course expectations, confusing LMS interface, long pre-recorded lectures and inadequate online teaching methods make processing information difficult, thus increasing cognitive load.

Here are some design principles and strategies adapted from Merriënboer and Sweller (2010) to help you reduce cognitive load and optimize your teaching:

- Remove all non-essential content
- De-clutter Canvas modules (ask yourself: “do students need this to proceed?”)
- Break up live or pre-recorded lessons/lectures into 10-minute segments
- Break up complex content into shorter Canvas modules
- Allow students to control the pace/speed of learning
- Use graphs, charts, maps, timelines, and other visuals
- Provide clear and concise instructions
- Provide examples and full solutions to problems for students to study
- Provide completion tasks with partial solutions for students to finish
- Integrate and centralize sources of information for students
- Upload a “Course Glossary” for students
- Provide visual, textual and auditory explanations (multimodal)
- Work your way up to the full complexity of concepts by first explaining isolated elements such as foundational terminology
- Provide prompts to enrich tasks
- Break-up large assignments into several smaller ones
- Create opportunities for collaborative learning and provide clear expectations
- Check-in with students mid-quarter, ask, “what helps you learn best?”

### Mental Health and Learning Under Stress

Because learning is intrinsically linked to the values, **emotions**, belief systems, behaviors, thoughts, and **experiences** a student has in the world (Jin 2012), it is not surprising that learning under stress significantly impacts motivation, cognition, engagement, retention, and participation. We’ve all heard that stressful life experiences significantly impact learning, but the scientific evidence behind this claim is truly sobering. Consider the findings published by Debra A. Bangasser & Tracey J. Shors in *Neuroscience and Behavioral Reviews* (2010):

- Stressful experiences release stress hormones, primarily from the adrenals, which directly impact brain areas engaged in learning
- Stressful experiences indirectly alter the circuits used in learning via intermediary brain regions
- These intermediary brain regions are not integral to the stress response or learning itself, but rather link the consequences of a stressful experience with circuits used to learn associations
- Stressful experience induces physiological, morphological, and cellular changes in learning circuitry

It is clear, then, that students’ learning will be severely impacted during this global health crisis. The fluidity of the situation, replete with unknowns, will influence student and faculty’s ability to engage with one another as the situation unfolds. So, it is imperative to de-clutter our teaching, streamline our content and simplify our communication strategies. Checking-in with students periodically and remembering that we all bring our whole-selves with us into teaching and learning is key. Here are some ideas to help you support student learning during a stressful time:

- Limit number of assignments
- Don’t assign busywork
- Be flexible if students ask for extensions
- Provide recaps of previous lessons for students to situate themselves
- Curate a centralized “Learning Resources” module and include links to sites that can help students further their understanding of course content

Remember that microaggressions and instances of bullying, disrespect, racism and discrimination arise in online learning environments just as in classrooms. The added stress of these situations further corrodes students’ mental health and wellbeing. While it is always critical to recognize, assess and respond to such affronts, it is ever more critical at this time. Consider using Stephen D. Brookfield & Stephen Preskill’s Critical Incident Questionnaire (2016) to assess how students are feeling in your course. Choose one or two questions for students to answer in a Qualtrics survey:

- At what moment in class this week did you feel most engaged with what was happening?
- At what moment in class this week were you most distanced from what was happening?
- What action that anyone (teacher or student) took this week did you find most affirming or helpful?
- What action that anyone took this week did you find most puzzling or confusing?
- What about the class this week surprised you the most? (This could be about your own reactions to what went on, something that someone did, or anything else that occurs).

The Office of Teaching and Learning provides robust resources to support you on this journey! Be sure to check-out our Blog Posts and resources. Be well, be kind and take care of one another.

### Bibliography

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### Location

2150 E. Evans Ave  
 University of Denver  
 Anderson Academic Commons  
 Room 350  
 Denver, CO 80208

