

Beyond Zoom Fatigue: Re-energize Yourself and Improve Learning

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College students report that it is harder to focus their attention and stay present while taking classes online. They also feel more isolated, anxious and depressed. Communication is often more challenging since many students appear non-responsive and disengaged when attending large synchronous online Zoom classes. For the instructor, this can be stressful since they do not receive social feedback from the students. To increase students' subjective energy, attention, and involvement and enhance learning in front of screens, we observed that when students were instructed to intentionally provide facial and body responses while attending Zoom classes, they report a significant increase in energy level, attention and involvement ($p < 0.002$) as compared just sitting normally in class. By shifting from passively watching to actively participating, they reported that their learning was enhanced.

“Instead of zoning out and being on my phone half the time. I felt more engaged in the class and like I was actually learning something.” — 21 year old college student

Before the pandemic, roughly, two-thirds of all social interactions were face-to-face—and when the shelter-in-place orders were implemented, we were all faced with the task of learning how to engage virtually. More than 80% of college students reported that taking online synchronous Zoom classes instead of in-person classes was significantly more challenging (Peper, Wilson, Martin, Rosegard, & Harvey, 2021). It is easy to be distracted and multi-task online—looking at Instagram, Facebook, Twitter, TikTok, texting, surfing the internet,

responding to notifications, listening to music, or drifting to sleep (Solis, 2019; Newport, 2016). Hours of watching TV and/or streaming videos may have conditioned people to sit and take in information passively, which inhibits and discourages actively responding or initiating. The information is rapidly forgotten when the next screen image or advertisement appears. Effectively engaging on Zoom requires a shift from passively watching and listening to active and creative participation.

An additional barrier to virtual engagement is that communicating online does not engage all senses. A considerable amount of our communication is nonverbal—sounds, movement, visuals, touch, and body language (Kendon, 2004). Without these sensory cues, it can be challenging to feel socially connected on Zoom, Microsoft Teams, or Google Meet to sustain attention and focus. This is especially problematic if there are many people present on the same screen and each person is represented on the screen in the gallery view as the size of a small postage stamp. Another challenge to virtual learning is that without the normal environment of a classroom, some students are forced to learn in emotionally and/or physically challenging environments, which gets in the way of maintaining attention and focus. The Center for Disease Prevention (CDC) reported that anxiety disorder and depressive disorder have increased considerably in the United States during the COVID-19 pandemic (Bueno-Notivol, Gracia-García, Olaya, Lasheras, López-Antón, & Santabábara, 2021; Leeb, Bitsko, Radhakrishnan, Martinez, Njai, & Holland, 2020; McGinty, Presskreischer, Anderson, Han, & Barry, 2020). Social isolation, stay-at-home orders, and coping with COVID-19 are contributing factors affecting mental health especially for minority and ethnic youth. Stress, anxiety and depression can greatly affect students' ability to learn and focus.

The task of teaching has also become more stressful since many students are not visible, appear still-faced, non-responsive or ghosting (signed in but not actually present). For the presenter/faculty, teaching to non-responsive faces is often stressful; since, the presenter receives no social feedback. The absence of social feedback during communication is extremely stressful. It is the basis of Trier Social stress test in which a person presents for five minutes to a group of judges who provide no facial or verbal feedback (Allen, Kennedy, Dockray, Cryan, Dinan, & Clarke, 2016; Peper, 2020).

The Zoom experience especially in a large synchronous classes can be a no win situation for the presenter and the viewer. To help resolve this challenge, we explored a strategy to increase student engagement and reduce social stress for the presenter/teacher.

Method

Participants

36 college students (Age 24.4, SD=7.8; 11 men and 26 women).

Procedure

Students were asked to rate their frequency of facial and body expression, subjective energy level, attention and involvement on a scale from 0 to 10 after attending a normal Zoom class. Then, for the next Zoom class, they were asked to turn on their camera and respond frequently with facial and body expressions to the presentation as if they were in a face-to-face conversation with another person. For example, students could expressively shake their head “yes or no” and/or use facial expressions to signal to the presenter that they were engaged and listening. Other strategies included giving thumbs up or thumbs down, making sounds, and changing their body posture as a response to the presentation. (For detailed instructions, watch the non-judgmental instructions adapted for high school students by Amber Yang: <https://peperperspective.com/2020/11/24/beyond-zoom-fatigue-re-energize-yourself-and-improve-learning>.) After the class, they again rated their frequency of facial and body expressions, and their subjective energy level, attention and involvement. As a report about an effort to improve the quality of a classroom activity, this report of findings was exempted from Institutional Review Board oversight.

Results

Participants reported a significant increase in frequency of animation (ANOVA ($F(1,70)=30.66, p < .0001$), energy level (ANOVA ($F(1,70)=28.96, p < .0001$), attention (ANOVA ($F(1,70)=16.87, p = .0001$) and involvement (ANOVA ($F(1,69)=10.70, p = .002$) when they purposely implemented and increased their animated facial and body responses as compared to attending normally in a Zoom class (see Figure 1).

More than 80% of the students reported that being animated and responsive helped them stay present, learn more easily, and improve retention of the materials as illustrated by the following quotes.

“I never realized how my expressions affected my attention. Class was much more fun” -22 year old college student

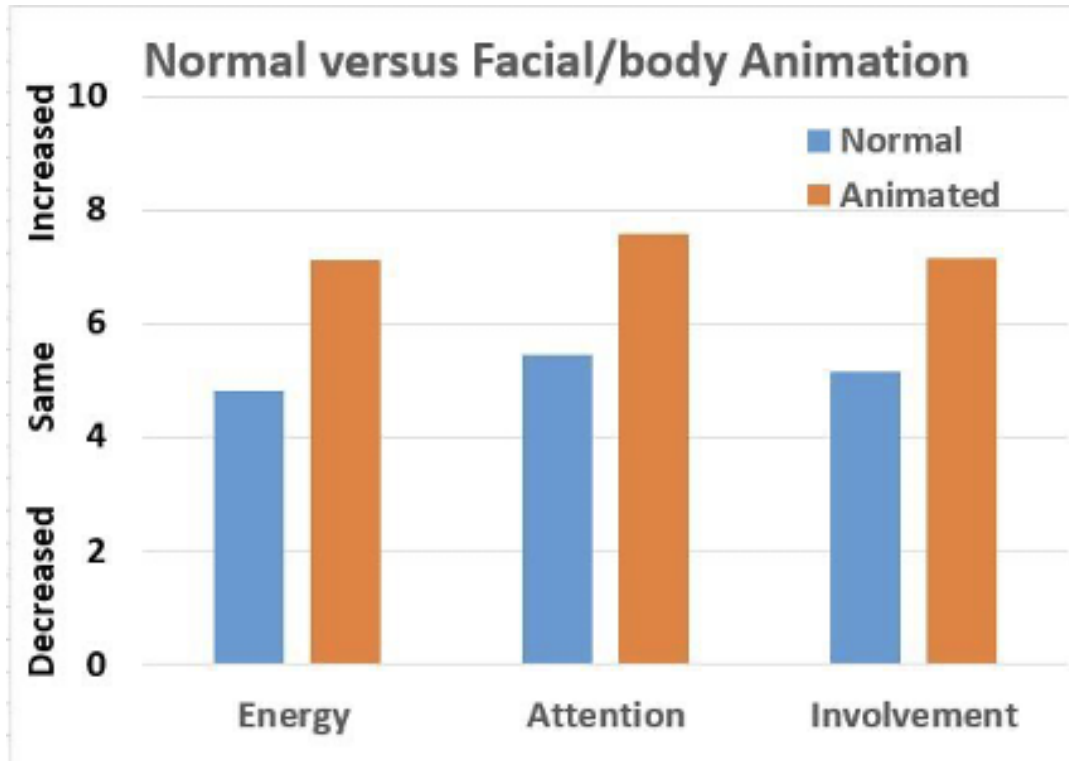


Figure 1. Change in subjective energy, attention and involvement when the students significantly increased their facial and body animation by 123 % as compared to their normal non-expressive class behavior.

“I can see how paying attention and participation play a large role in learning material. After trying to give positive facial and body feedback I felt more focused and I was taking better notes and felt I was understanding the material a bit better.” –28 year old medical student

For a few students, it was challenging to be animated as they felt shy, self-conscious and silly and kept wondering what other students would think of them. For a few others increased animation interrupted their normal attention or focus.

Discussion

Having students compare two different styles of being in a Zoom class can be a useful pedagogic assignment; since, it allows students to discover whether being animated and responsive

with facial/body expression improves learning as compared to sitting back in a non-response style. Most students were unaware how much their body posture impacted their thoughts and emotions. For example, in previous studies when students were asked to sit in a slouched position, they reported that it was much easier to recall hopeless, helpless, powerless and defeated memories and it was more difficult to perform mental math in the slouched position. While in the upright position, it was easier to access positive empowering memories and easier to perform mental math (Peper, Lin, Harvey, & Perez, 2017; Peper, Harvey, Mason, & Lin, 2018). The following exercises adapted from the American actor Alan Alda (2018) illustrates how body posture effects emotional experience.

Explore how body posture affects emotional recall and feeling.

1. Stand up and configure your body in a position that signals defeat, hopelessness and depression (slouching with the head down). While holding this position, recall a memory of hopelessness and defeat. Notice any negative emotions that arise from this.
2. Shift and configure your body into a position that signals joy, happiness and success (standing tall, looking up with a smile). While holding this position, recall a memory of joy and happiness. Notice any positive emotions that arise from this.
3. Configure your body in a position that signals defeat, hopelessness and depression (slouching with the head down). While holding this position, recall a memory of joy, happiness and success. Do not change your body position. End this configuration after holding it for a little while.
4. Shift and your body in a position that signals joy, happiness and success (standing tall, looking up with a smile). While holding this position, recall a memory of hopelessness and defeat. Do not change your body position. End this configuration after holding it for a little while.

What most people experience is that when body posture and expression are congruent with the evoked emotion, it is almost always easier to experience the emotions. On the other hand, when the body posture expression is the opposite of the evoked emotion (e.g., the body in a positive empowered stance while recalling hopeless defeated memories) it was much more difficult to evoke and experience the emotion. This same concept applies to learning. When slouching and lying on the bed while in a Zoom class, it is often more difficult to stay present and not drift off. On the other hand, when sitting erect and upright and actively responding to the presentation, the body presence/posture invites the brain to focus for optimized learning.

Conclusion

While attending a synchronous large Zoom class, it is easy to slouch, drift away, and be non-responsive which can exacerbate zoom fatigue symptoms and decrease our capacity to learn, focus, and feel connected with the people around us. Take charge and actively participate in class by sitting up, maintaining an empowered posture, and using nonverbal facial and body expressions to communicate. The important concept is to express your involvement and actively participate within the constraints of your own limitations. Even if participants cannot physically express the animating, they may benefit if they emotionally, and with intention, participate even though their body cannot show any outward expression. By engaging our soma, we optimize our learning experience as we face the day-to-day challenges of the pandemic and beyond.

I noticed I was able to retain information better as well as enjoy the class more when I used facial-body responses. At times, where I would try to wonder off into bliss, I would catch myself and try to actively engage in the class with body movements even if there is no discussion. Animated face/body was a better learning experience. –21-year old college student.

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