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# Learning During Stressful Situations

## Optimizing Evidence-based Learning Strategies

The abrupt shift from traditional face-to-face modalities to alternative platforms of learning (such as online classes, self-guided modules, paper-based instruction, etc.), as a result of the coronavirus (COVID-19) pandemic, has affected many educators and students worldwide.<sup>1</sup> Students, in particular, have struggled with issues relating to academics (adjustment to new learning modalities) and mental health (depression, anxiety, and suicidal thoughts).<sup>2</sup> Unsurprisingly, many have fallen behind in their learning.<sup>3</sup>

As the world enters various stages of recovery from COVID-19, students (and educators) are facing new challenges. Students may experience back-to-school anxiety and stress when visiting other places.<sup>4</sup> Furthermore, others may still grapple with grief and trauma from losing a loved one and/or recovering from a disability due to COVID-19 or from the long period of confinement due to pandemic lockdowns and social distancing.

How can teachers help students as they go back to school? What strategies can they use to help students catch up from the “learning loss” during the pandemic?<sup>5</sup> How can educators help students learn during stressful situations, in general?

Focusing on students’ well-being is critical to help them learn and succeed amidst challenging learning situations.<sup>6</sup> Thus, teaching students stress- and anxiety-management techniques is as crucial as introducing effective ways for them to learn and to study. In this article, we first discuss strategies that educators can use to provide student support during stressful situations. Next, we describe evidence-based learning and teaching strategies that can be applied alongside or after implementing the stress-management techniques in order to

promote student gains in learning despite stressful circumstances.

### Optimizing Learning Through Stress Management

By keeping student stress at manageable or adaptive levels, educators can increase their students’ readiness to learn. The following stress-management techniques can be introduced to students during their classes as special activities to promote well-being, or in remedial programs and applied during their free time. They may also be included as part of school-level psychosocial support services. And just as important, teachers can also use these strategies to manage their own stress, since their mental health can also affect student learning.<sup>7</sup>

#### *Fostering Self-awareness*

Stress reactions may result from various triggering factors. One important step in dealing with stress is to foster self-awareness.<sup>8</sup> To do this, teachers can help students learn how to explore and identify their physical, emotional, behavioral, and cognitive reactions when they feel stressed, and the circumstances from which these reactions emerge.<sup>9</sup> Students can also be asked to explore their own strengths in order to increase their awareness of the internal resources that they can use to effectively manage stress.<sup>10</sup>

A handy tool to promote self-awareness and the need for self-care is the acronym H.A.L.T., which stands for “Am I **h**ungry? Am I **a**ngry? Am I **l**onely? Am I **t**ired?”<sup>11</sup> If a student answers “Yes” to any or all of these questions, he or she is then encouraged to reflect on situations that trigger these reactions. The following

stress-management techniques can then be applied as needed, either before or as the stress emerges.

### Managing Difficult Emotions

Negative thoughts like “*This coursework or assignment is too much for me to bear!*” may elicit negative feelings (such as hopelessness), which could be further intensified by stressful events. Reframing, or looking at a situation from a different perspective, is an emotion-regulation technique that can be used to manage negative thoughts and their outcomes, as well as difficult emotions.<sup>12</sup> Reframing can bring about healthier emotions and consequently, more adaptive behaviors.<sup>13</sup>

To implement reframing, ask students to first identify the negative thoughts underlying a negative emotion (for example, loneliness or worry). Next, ask them to reframe these thoughts, depending on their individual perspective (see Box 1). Finally, inquire deeper by asking students to reflect on how reframing helped change their previous feelings and behavior. When implementing this technique, teachers should note their

students’ responses, behaviors, or experiences in order to identify chronically stressed students<sup>14</sup> whose daily functioning has been severely disrupted by stress, as well as those who may become a threat to themselves or others. These individuals can then be referred for further assessment and interventions by qualified mental-health practitioners. However, deciding when and whom to refer may be more challenging on some occasions. Teachers may benefit from additional training on student mental health and the delivery of basic psychosocial support (see Box 2 on page 41).

### Exercising Positive Emotions

This strategy revolves around actively nurturing positive emotions such as compassion and gratitude (Philippians 4:8). One way to practice compassion and lovingkindness is to visualize oneself and others (loved ones, friends, or even enemies) and repeatedly utter (either verbally or mentally) wishes of goodwill and love to the individual(s) one has in mind.<sup>15</sup> This could be done during breathing exercises, meditation, or at

## Box 1. Reframing Negative Thoughts

Negative Thoughts	Reframed Thoughts
“This class requirement is too hard for me. I’m going to fail this course.”	<p>“I know this is difficult, but if I do it one task at a time, it may be more manageable to accomplish.”</p> <p>“This is not the first time I have ever been stressed with schoolwork. I know that this, too, shall pass.”</p> <p>“I don’t have to do this all by myself. I can ask my peers or my teacher for extra support.”</p>
“I am utterly helpless and worthless during this crisis.”	<p>“This situation is hard for everyone. I could try learning new skills, practice healthy habits, and maintain manageable routines to keep me going.”</p> <p>“There’s no shame in asking for help. I could try it sometimes.”</p>
“It is all my fault that I am in this dire situation.”	<p>“Some circumstances are beyond my control.”</p> <p>“I shouldn’t blame myself/I cannot take all the blame. I can learn lessons from this experience as I move forward.”</p>
“I will never recover from this (loss, failure).”	<p>“People go through the recovery process in different ways. It could take time, but I can try to find helpful coping strategies along the way.”</p> <p>“This difficult phase of my life can be a learning opportunity.”</p>
“These difficult emotions are overwhelming. I think I’m getting crazy.”	<p>“Yes, difficult emotions can be overbearing but it doesn’t mean I’m crazy. These feelings are normal reactions to an abnormal situation.”</p> <p>“It’s natural to experience difficult emotions from time to time. Having difficult emotions doesn’t have to stop me from attending to other aspects of my life that matter more.”</p> <p>“I’ve had difficult emotions in the past; and like any other emotion, they just go away at some point.”</p>

## Box 2. Resources for Teachers

There are several professional resources that can assist teachers in learning how to support students' mental health in the classroom. Whether through professional development offered by the local conference or union offices of education, local state or national education agencies, or through courses (in-person or online) offered by local colleges and universities, Adventist educators have several options to pursue more training in this area. Here are a few resources:

### **Adventist Learning Community (ALC)**

<https://www.adventistlearningcommunity.com/>

ALC offers several self-paced courses on a variety of topics. For example, see *Ways Teachers Can Prepare Themselves to Teach Amid COVID-19 and More* at <https://www.adventistlearningcommunity.com/courses/ways-teachers-can-prepare>.

### **General Conference (GC) Health Ministries Youth Alive**

<https://youthaliveportal.org/mentalhealth>

GC Health Ministries launched in 2020 the COVID-19 Mental Health Initiative. For video and downloadable resources available on the Youth Alive platform, visit [https://youthaliveportal.org/mentalhealth?\\_ga=2.82765270.1946586977.1629306261-2076005842.162930626](https://youthaliveportal.org/mentalhealth?_ga=2.82765270.1946586977.1629306261-2076005842.162930626).

### **Well-being Information and Strategies for Educators (WISE)**

<https://mhttcnnetwork.org/free-smh-course>

The National Center for School Mental Health at the University of Maryland School of Medicine and the Mental Health Technology Transfer Center Network (MHTTCN) have created a free self-paced online course for educators on how to promote well-being in students and identify and respond to mental health needs of children and adolescents.

### **Child Mind Institute**

<https://childmind.org/>

A U.S.-based independent nonprofit, Child Mind Institute provides resources for children and families coping with mental-health challenges. The resource provides information on a variety of topics (<https://childmind.org/topics-a-z/>) and a portal to request school talks and educator workshops (<https://childmind.org/our-impact/school-and-community/school-talks/>).

any other time as determined by the individual. To exercise gratitude, one could simply reflect on the events of the day (for example, before going to sleep at night) and meditatively recollect the things for which he or she is thankful—extraordinary happenings or even simple things such as having good weather.<sup>16</sup> Other ways of expressing gratitude that are practiced in an individual's culture may also be incorporated into this exercise.

Teachers may also encourage the use of this technique when reaching out to students who are in emergency situations such as being stranded in temporary shelters (like evacuation or isolation facilities). Ultimately, the goal is to encourage reflection and positive thoughts and emotions.

### *Nurturing Spirituality*

By nurturing spirituality, individuals can be provided with more wholistic psychosocial support, which is especially meaningful in times of crisis, calamities, or stressful life transitions. Spiritual interventions have been associated with positive psychosocial outcomes in students<sup>17</sup> and can be implemented at the school level to help students cope with challenging learning environments and various personal challenges. Learning institutions can provide students with spiritual-support programs and access to opportunities that will help them maintain a healthy spirituality while dealing with their struggles. Teachers and administrators can modify existing programs in the school or initiate spiritual-wellness activities applicable to the existing crisis. However, these activities must be carefully planned so that they consider and respect the varying spiritual orientations and religious traditions of each student. The stress-management techniques outlined above are merely complementary measures that educators can introduce and use in their classrooms and are not meant to replace formalized services that address students' serious mental-health issues. Schools without existing academic-support programs can initiate them, while those with support services already in place may need to streamline and more actively mobilize their programs to deal with current circumstances.

### **Teaching Evidence-based Learning Strategies**

Effective, evidence-based learning strategies that are applicable in a variety of learning situations (in-person or online),<sup>18</sup> can also help students learn better during stressful times. They may also increase student engagement,<sup>19</sup> which will be useful for educators dealing with students returning to the classroom whose motivation and morale have been affected by the pandemic and lockdowns.

### Retrieval Practice

Also called the “testing effect,” retrieval practice is a cognitive strategy that involves recalling memorized information. The act of retrieval itself strengthens memory and facilitates deeper learning and long-term storage of information. Retrieval practice has been shown to enhance the learning of students of all ages, from preschool through college level.<sup>20</sup> Moreover, this technique has been shown to decrease cognitive load, enhance metacognition, and boost student confidence.<sup>21</sup> For students experiencing back-to-school anxiety and stress, retrieval practice is one of the best techniques teachers can introduce, given that this strategy also reduces test anxiety.<sup>22</sup>

Instead of the usual rewriting and highlighting of notes from the teacher’s presentation or textbook, which is passive and time-consuming, students can be instructed to create flashcards from notes, complete practice tests, or create and answer their own practice

quizzes. To use retrieval practice in engaging ways, teachers can employ the Socratic method of teaching (teaching by asking rather than by telling),<sup>23</sup> or online tools during their lectures, such as Kahoot!, Flipgrid, PollEverywhere, and Quizlets (see Box 3). To maximize the benefits of retrieval practice, teachers should instruct students to think of testing as a tool to enhance rather than monitor the status of their learning.<sup>24</sup> The above-mentioned online technologies should also be used as retrieval tools rather than competitive activities to better maximize student participation and reduce anxiety.

### Spaced Practice

The benefits of retrieval practice can be augmented when used in tandem with spaced practice, another highly effective learning strategy. Spaced practice, which is the opposite of cramming, involves studying material in a distributed fashion (spreading it out over time) rather than in a single, long session.<sup>25</sup> Spacing

## Box 3. Examples of Online Tools That Incorporate Evidence-based Learning Strategies\*

Online Tool	Description	Reference
Kahoot! <a href="https://kahoot.com">https://kahoot.com</a>	A game-based learning platform, where teachers can create quizzes accessible via a web browser or the Kahoot application.	Sherlock A. Licorish et al., “Students’ Perception of Kahoot!’s Influence on Teaching and Learning,” <i>Research and Practice in Technology Enhanced Learning</i> 13:9 (July 21, 2018): 1-23. doi.10.1186/s41039-018-0078-8.
Flipgrid <a href="https://flipgrid.com">https://flipgrid.com</a>	This tool allows students to use 15-second to 5-minute videos to respond to prompts. Teachers provide feedback, and students respond to one another’s videos.	Tyler M. Kiles, Julia Vishenchuk, and Kenneth Hohmeier, “Implementation of Flipgrid as a Self-reflection Tool for Student Engagement—A Pilot Study,” <i>Innovations in Pharmacy</i> 11:4 (December 2, 2020): Article 15, 1-4. doi.10.24926/iip.v11i4.3340.
PollEverywhere <a href="https://pollev.com">https://pollev.com</a>	Teachers create questions in various formats (multiple-choice, open-ended, etc.) to which students can respond in various ways. Students and teachers see the results in real time.	Eiman Abdel Meguid and Matthew Collins, “Students’ Perceptions of Lecturing Approaches: Traditional Versus Interactive Learning,” <i>Advances in Medical Education and Practice</i> 8 (March 17, 2017): 229-241. doi.10.2147/AMEP.S131851.
Quizlets <a href="https://quizlet.com">https://quizlet.com</a>	A great tool for students to create and use flashcards.	Arin Whitman, Kim Tanzer, and Eric Nemece 2nd, “Gamifying the Memorization of Brand/Generic Drug Names,” <i>Currents in Pharmacy Teaching and Learning</i> 11:3 (2019): 287-291. doi.10.1016/j.cptl.2018.12.014.

\* For other online tools and applications, refer to the following websites: <https://www.nwea.org/blog/2019/75-digital-tools-apps-teachers-use-to-support-classroom-formative-assessment/>; <https://www.learningScientists.org/blog/2020/8/13-1>.



promotes “a little bit of forgetting,” which is actually helpful in encoding and long-term storage of information, since the process of retrieving or recalling stored information strengthens neural connections and helps to solidify what is learned.

For students who have just returned to the classroom after the pandemic, daily quizzes may further intensify their stress and anxiety. Educators can instead plan to space the use of practice quizzes and assessments to reduce student stress and effectively incorporate both spaced and retrieval practice. They can also train their students (especially young learners) to design personal study schedules that effectively use spaced practice. Moreover, starting a lecture with a brief review of previous materials and giving cumulative assessments are effective strategies to facilitate recall of materials learned during the past day, week, block, or semester. Assigning homework on previous topics can also ensure that already-acquired information remains fresh within the students’ minds.

### *Interleaving*

Stressed-out students may find it very hard to learn complex and difficult subjects, such as math and calculations. Interleaving, a learning strategy that entails presenting or studying materials in a mixed rather than blocked or sequential fashion, is a method that can help students deal with subjects that involve calculation or require problem-solving skills.<sup>26</sup> Interleaving trains the mind to decide which strategy to use to solve a particular problem and to identify similarities and differences between ideas and concepts.<sup>27</sup>

Teachers can use this technique by incorporating online tools such as applications (e.g., Quizlet, Quiz Champ, etc.) that provide built-in interleaving algorithms (see Box 3 on page 42). They can also personally teach their students how to use this strategy effectively (i.e., to mix different but related learning materials such as calculating volumes of different shapes, rather than unrelated ones such as math problems and vocabulary themes).<sup>28</sup> Teachers can also creatively devise instructional tools and help students design study methods and/or schedules that combine interleaving and the above-discussed learning strategies.

### *Dual Coding*

Dual coding involves using words and pictures to teach or learn content.<sup>29</sup> This technique, however, does not involve evaluating one’s learning style (e.g., auditory, visual, kinesthetic) and studying according to that “style,” which does not really accelerate student learning.<sup>30</sup>

Teachers can use dual coding by combining texts and

pictures/illustrations in their presentations/lectures. The use of infographics, diagrams, cartoon strips, and videos are attention-grabbing and engaging ways of using this technique. Students can use this approach to rewrite texts from books and create visuals that accompany the texts. They can also be instructed to re-create the visuals from memory and describe them using text, to integrate both dual coding and retrieval practice.

The above list is certainly not exhaustive, and decades of research have identified several other evidence-based teaching and learning strategies.<sup>31</sup> Note, however, that the effectiveness of the above-described learning strategies has been demonstrated in “normal” laboratory or classroom environments; and thus, studies are needed to establish their efficacy amidst stressful situations. During these challenging times, psychosocial support and stress-management skills may be introduced to optimize effectiveness and facilitate continued use of evidence-based learning strategies by students. In any case, teachers must inform learners that evidence-based learning strategies create “desirable difficulties” (i.e., considerable but desirable amount of effort), which underlie their beneficial outcomes.<sup>32</sup>

As Christian educators, it is our responsibility to train our students to become “thinkers, and not mere reflectors of other people’s thoughts.”<sup>33</sup> The use of evidence-based learning strategies can facilitate deeper processing of content and transform students into active learners who are more likely to succeed in their learning endeavors.

In conclusion, student learning is often affected by stressful conditions. Educators can play an important role in creating a supportive environment for students—one that employs evidence-based strategies and nurtures positive mental health to effectively maximize learning amidst difficult situations. 🍃

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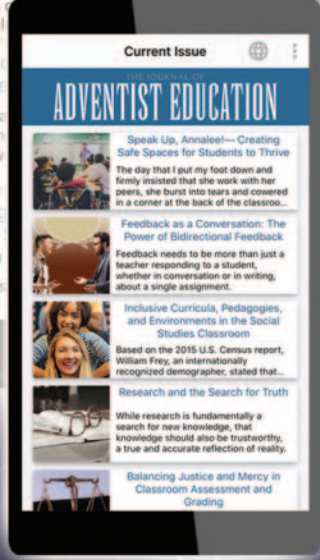
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