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Developing our students' level of mindfulness during these unprecedented times

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Developing our students' level of mindfulness during these unprecedented times

Abstract

The pandemic has provoked disruptions in students' lives and studies worldwide, which has caused them to feel moderate to high levels of anxiety and stress. Universities have responded by offering online counseling and communicating self-help recommendations via their websites. Curiously, the role that professors could play to reduce this emotional hardship has been ignored in the literature. This instructional paper describes how and why three professors in Mexico include a brief, daily mindful practice in class to help their students cope with the negative emotions that may arise. Psychological and educational research has indicated that the development of mindfulness reduces emotional pain and increases one's sense of well-being. Importantly, the focused-attention meditation described herein does not require an experienced mediator. A script to guide the practice is being used by the three professors, and could serve as a starting point for willing professors. Educators may also discover that the practice improves academic achievement because it activates executive functions (e.g. inhibitory control; working memory), thereby enhancing cognitive functioning. The paper also presents several practical implications involved with the practice, as well as initial reactions from professors and students.

Keywords

mindfulness, anxiety, professor's role, pandemic, emotional regulation, executive functions

Pre-pandemic research indicated that university students suffer from anxiety, loneliness, and depression. For example, in the U.S, 19,000 college students were surveyed about their emotional well-being (American College Health Association, 2018). Results revealed that 49% had felt "overwhelming anxiety" within the month prior to being surveyed, and 24% had felt so depressed that "it was difficult to function." Other negative emotions that were reported included being overwhelmed with things to do (57%); exhausted (55%); very lonely (31%); and very sad (33%). Similar results were found among 14,000 university students from eight industrialized countries surveyed by the World Health Organization (Auerbach et al., 2018). Their finding was that 35% of college students experience a major mental health disorder (e.g., anxiety, depression, panic disorder).

Not surprisingly, the transition to online classes and disruptions to students' lives have exacerbated this situation. In China, 7,000 college students were surveyed (Cao et al., 2020), finding that 21% of students reported experiencing increased anxiety due to the pandemic. In Spain (Ozamiz-Etxebarria, 2020) and Saudi Arabia (AlAteeq et al., 2020), about half of thousands of students surveyed have reported a moderate to severe emotional impact due to the outbreak. Researchers in North America have observed similar tendencies (e.g., Chirikov et al., 2020 in the United States; Gonzalez-Jaimes et al., 2020 in Mexico).

Universities have attempted to ameliorate this situation in two ways. First, through their websites, they have listed public and campus-based counselling support services (e.g., University of Wollongong Australia offers online mental health programs and counseling). Second, higher education institutions have listed tips to help students navigate the pandemic on their own (e.g., Ohio State University suggests students maintain a routine, prioritize sleep, and stay connected with others). However, the role that university professors can play to help students cope at this time has been ignored in the literature. This paper will close this gap by suggesting that university professors adopt a proactive role by implementing a brief mindful practice at the beginning of each class to help students cope emotionally with the disruptions caused by the pandemic, while simultaneously improving learning. Class time during the pandemic is an opportunity for professors to show concern for their students' lives and help them navigate through this unusual period. The intervention described herein is an example how bad times can bring out the best in teachers. It is important to clarify here that the scope of the article is not empirical, but rather a description of a pedagogical technique.

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Psychologists have used mindfulness, or "paying attention, on purpose, in the present moment, and non-judgmentally" (Kabat-Zinn, 2013), to help people cope with ailments such as anxiety (la Cour & Petersen, 2015); stress (Van Dam et al., 2014); test anxiety (Galante et al., 2018); and depression (Haukaas et al., 2018). Educational institutions, aware of such benefits, have invited students with depression (Dundas et al., 2016); attention deficit disorder (Lester & Murrell, 2019); and international students (Corti & Gelati, 2020) to take part in courses that include mindful practice. Results have been positive: reduced anxiety, increased self-efficacy, self-leadership, and academic achievement (e.g., Corti & Gelati, 2020; Altinyelken, 2019).

Importantly, mindfulness also promotes positive emotions by enhancing one's level of happiness (Lomas et al., 2017), self-compassion (Neff & Germer, 2017) and emotional intelligence (Charoensukmongkol, 2014). It also improves cognitive functioning (Moore & Malinowski, 2009) and emotional regulation (Van Dam et al., 2018)—factors that underpin learning and improve achievement (Tang et al., 2014). Consequently, mindfulness should not only be practiced to reduce emotional suffering, but also help students learn better during this pandemic (Laukkonnen et al., 2019; Posner & Rothbart, 2005). Therefore, this instructional article will explain why and describe how three professors at a university in Mexico include brief, daily mindful practice in their classes.

University context

The intervention described in this article is being implemented at a private, Catholic university in central Mexico. The institution has an enrollment of approximately 900 undergraduate and 100 graduate students. There are five schools within the university: Engineering, Business, Gastronomy, Education, and Law. The faculty of each school includes doctoral-level professors and researchers, 15 of whom are members of the National System of University Researchers. The most popular majors are business administration and engineering. The age of undergraduates ranges from 18 to 24; the gender ratio is even. One of the university's objectives is to prepare students to participate in a globalized world. Therefore, to graduate, they must earn 550 points on the Test of English as a Foreign Language. Although many students attended private, bilingual schools at the primary and secondary levels, most need from one to eight semesters of English language courses offered by the university language center to become bilingual.

Literature

What is mindfulness and how does it help?

Kabat-Zinn (2013) described mindfulness as paying attention to the present without judging the thoughts, feelings, and sensations that emerge from that awareness. Shapiro et al. (2006) added that a practitioner shows both curiosity toward whatever arises, and gentleness toward oneself when lapses into mind wandering or rumination occur. Further, Lutz et al. (2007) stated that, over time, practice enables a person to enter more effortlessly into this state of present awareness.

When psychologists and educators use such practice to improve their clients' and students' lives, it is called a mindfulness-based intervention (Creswell, 2017). The most researched intervention of this type has been Kabat-Zinn's (2013) Mindfulness-based stress reduction course, which reduces anxiety (Galante et al., 2018), addictions (Garland & Howard, 2018) and eating disorders. The course requires commitment because it involves 40 minutes of daily practice for eight weeks plus a day-long workshop.

Why are mindfulness-based interventions helpful? Mind and Life Education Research Network (2012) explained that the mind is where learning and self-improvement occur, and mindfulness-based interventions cultivate positive habits of the mind. While an untrained mind jumps from thought to thought, a trained mind focuses attention better (Holzel et al., 2011). More specifically, executive functions are activated (Diamond & Ling, 2016). Executive functions include, for example, inhibitory control (i.e., the ability to suppress distracting thoughts) and selective attention (i.e., the ability to focus our attention on relevant information). According to Diamond and Ling (2016), when mental skills improve, so does one's potential for learning and self-improvement.

Emotion regulation and mindful practice

In educational settings, positive and negative emotions arise (Pekrun, 2014). For example, when a learner believes that the knowledge and skills required for an upcoming exam seem impossible to master, hopelessness and anxiety emerge (Pekrun, 2014). Educational psychologists (e.g., Shao et al., 2019) have linked negative emotions to lower performance. In higher education, such negative appraisals are more common among females (Reilly & Sanchez Rosas, 2019). However, if students regulate their emotions (i.e., manage their emotional experiences) (Gross, 2015), performance improves (Harley et al., 2019). Mindfulness can help in this regard (Farb et al., 2010;

Nekić & Mamić, 2019) because it cultivates a non-judgmental awareness of experience. Therefore, instead of worrying about an upcoming exam, a mindful student is more likely to use her working memory to concentrate on material that needs to be learned (Moore & Malinowski, 2009). In other words, mindfulness fosters emotional regulation, which improves performance (Diamond & Ling, 2016).

Mindful practice also promotes positive emotions (Brewer et al., 2011) because present awareness cultivates less emotional reactivity and more equanimity (Campos et al., 2016). When neuroscientists examine brain activity, they report that present awareness activates the prefrontal cortex (Brandmeyer & Delorme, 2020), which promotes feelings of peace and calm. Simultaneously, the amygdala, responsible for our "flight or fight reactions," becomes less active (Kral et al., 2018). Simply put, paying attention to the present cultivates healthier brain activity, which in turn, enhances executive functions (Diamond & Ling, 2018). This tendency promotes well-being and learning.

Cognitive benefits of mindful practice

Diamond (2013) has explained that executive functions such as *inhibitory control* (i.e., the ability to suppress distracting thoughts) and *working memory* (i.e., the ability to hold and "play" with novel ideas in one's mind) underpin learning. Although instructors intend to catch and hold learners' attention (Reilly, 2012), the constant stream of stimuli associated with their "living online" makes mind wandering (Brewer et al., 2011)—defined as a shift of attention from a task to unrelated concerns—more likely. Further, such bombardment shortens learners' attention span (Feng et al., 2019; Firth et al., 2019). Mindfulness ameliorates these tendencies by improving learners' attentional control (Chambers et al., 2008; Moore et al., 2012), in other words, activating executive functions (Diamond & Ling, 2016). Consequently, learners show improved memory, reading comprehension, and academic performance (Ding et al., 2014). Further, mindful practice reduces the tendency to ruminate (Chambers et al., 2008). In fact, such practice promotes present awareness (Metha, 2019), which lessens the drain of cognitive resources caused by ruminating over past events or worrying about upcoming challenges (e.g., exams) (Mrazek et al., 2013).

An example of how executive functions improve learning

A university student who has just received her exam results has options. She might compare her grade to a peer's, attribute her poor result to confusing questions, or simply do nothing. Or she

may apply *inhibitory control* to suppress these initial tendencies and opt to focus her attention on her mistakes. She might use *selective attention* to identify questions she got wrong. Next, she might load into her *working memory* her goal to learn and brainstorm ways how (e.g., ask the teacher or friend to explain; check her notes). Also, she might use her *cognitive flexibility* to resist her inertial tendency to do nothing, and instead create an action plan including what to do, when, and with whom to complete it. After implementing the plan, she might evaluate what she did, and on the next exam, she would confirm or reject her view that the plan was successful. One can see how executive functions underpin elements of self-regulated learning (Panadero, 2017), including goal-setting (get questions right); strategy implementation (asking for help); and self-evaluation (reflection on next exam results).

Mindful practice and achievement

Mindful practice has been frequently associated with improvement in academic achievement. Tang et al. (2014) found that reading comprehension, math, and English test scores improved after six weeks of daily mindful practice. Sampl et al. (2017) reported 10 weeks of practice reduced test anxiety and improved students' grade point average. Mrazek et al. (2013) found it improved Graduate Record Exam scores. Scida and Jones (2017) reported that such practice improved second language midterm exam scores. The benefits of mindful practice are also found at the primary school level (Motimore, 2017; Caballero et al., 2019). Not all studies have shown that mindful practice increases achievement, however. Boo et al. (2019), for example, found that for a limited number of students, lower achievement resulted due to differences in stress levels and study habits.

Two types of mindful practice

One type of mindful practice, focused-attention meditation, involves paying attention to a single object, one's breath, for example (Lippelt et al., 2014). When the mind wandering occurs, one returns her attention to the breath. Focused-attention meditation has been shown to increase attention control (Malinowski et al., 2018) and reduce mind wandering during learning and testing (Mrazek et al., 2013). Psychologists (e.g., Simon & Engström, 2015) have explained why this happens: focused-attention meditation practice reduces activity in the default mode network, or the areas of the brain that activate when a person is not involved in any specific mental exercise. Fujino et al. (2018) described a second type of practice: open-monitoring meditation, or the non-

judgmental awareness of whatever sensation or thought that arises in the moment, e.g., the sound of a dog barking in the distance; tingling in the leg. Colzato et al. (2012) found that focused-attention meditation and open-monitoring meditation promote distinct types of thinking. Focused-attention meditation cultivates convergent thinking, e.g., identifying correct answers based on contextual cues. Open-monitoring meditation, on the other hand, fosters divergent thinking, e.g., brainstorming and creative writing. The current proposal uses focused-attention meditation because participant students need to pass a standardized, multiple choice, second language proficiency exam (i.e., Test of English as a Foreign Language) to graduate.

Duration and frequency of mindfulness practice

Not surprisingly, some universities have used components of Kabat-Zinn's (2013) stress reduction course to enhance the mental skills and lives of their students. In Italy, Corti and Gelati (2020) reported on a 10-week course of 3.5 hours per week that included components of the Kabat-Zinn´s course. In the Netherlands, de Bruin et al. (2015) described a 7-week course of 2-hour lectures on mindfulness, which helps students adopt a healthy, non-reactive stance toward their thoughts and feelings. In Austria, Sampl et al. (2017) offered students ten weeks of 2-hour modules that covered mindfulness, self-leadership and self-efficacy within an academic setting. In North America, there are dozens of university-based in-person and online stress reduction courses available to students and the general public (Selva, 2020), which are taught by experienced meditation instructors. The benefits of participation include improvement in anxiety, self-efficacy, achievement, and well-being (e.g., Corti & Gelati, 2020; Altinyelken, 2019; Sampl et al., 2017).

The mindfulness-based intervention proposed herein differs in several ways. First, the professors who guide the practice are not experienced practitioners of meditation. In fact, they had never practiced meditation before participating. Second, the intervention was shorter: 2 to 5 minutes of daily practice over 10 weeks. Third, the mindful practice was incorporated into existing classes with all enrolled students. In sum, by using experienced teachers with no official training in mindfulness, by using brief sessions, and by having entire groups of university students participate, we sought to make mindful practice more adoptable to courses and more attractive to willing—albeit untrained—faculty.

Evidence suggests that shorter, daily practice produces benefits. For example, Wang and Liu's (2016) found that one to three minutes of mindful practice weaved into university English as a

second language class increased social cohesion and creativity. Morgan (2019) found that 5-minute mindful sessions daily lead to higher levels of mindfulness among university students. Regarding frequency, Campos et al. (2016) found that daily practitioners of meditation reported feeling happier than both non-meditators and those who meditated three times a week. Outside of higher education, Minda et al.'s (2017) work with lawyers and Achor's (2010) efforts with the general public showed that just two minutes a day improved affect, stress, and well-being. The upshot: brief, daily mindful sessions are beneficial for university students.

The intervention

A mindfulness-based intervention for university professors

Mind and Life Education Research Network (2012) and Laukkonen et al. (2019) have pointed out that few papers identify pedagogical techniques that are amenable to scientific scrutiny. The description of a mindfulness-based intervention offered in this paper serves as a response to this call. It was based on focused attention meditation described in previous work by Malinowski (2018) and Mrazek et al. (2013a).

Three university professors at a private university in central Mexico are currently using a mindfulness-based intervention in their English as a foreign language class. None of them are experienced practitioners of meditation. However, to prepare to use the intervention, they read an article supplied by this author on the benefits of mindful practice for learning. The teachers used a script below, which is similar to those available from the mindfulness.com website. The English classes, given online during the pandemic, lasted 55 minutes and took place Monday to Friday. One hundred and fifteen students, ages 18 to 20, were in Advanced English, so the intervention was given in English, their second language. They were majoring in business, education, law, gastronomy, or engineering. The intervention was practiced daily starting at five minutes after the hour so students who arrived several minutes late were included in the activity. The cameras are "on" for the practice and the teacher guided the mindful practice.

A script for the mindful practice

The professors were supplied with the script below in written and audio form. The team of professors practiced these words before the semester started.

> *Let's begin the class by quieting our minds. First, we will relax our bodies, then we'll focus on our breath. Sit upright, feet flat, hands at your side. Let's put our attention on our feet. You can wiggle your toes to make sure they are relaxed. Next, move your attention to your calves, and to your thighs. If you find any tension or tightness, release it. Now, to your stomach area, up to your torso, to your shoulders and your arms. Check that your fingers are relaxed. Bring your attention back to your shoulders and the back of your neck. Release any tension you find. Now, to your face, the muscles around you mouth, in your cheeks, and around your eyes. Now that your body is relaxed, bring your attention to your breath. Notice the air entering your nose, passing through your nostrils. Notice that your tummy area expands as the air enters. Now, feel the air leaving your body. Notice there is a pause between each breath. Pay attention to four more breaths. Ok, now let's begin our class.*

This sequence took 1:45 minutes and was practiced from Monday to Friday for three weeks. In the fourth week, the breathing was extended to three minutes. The teacher added this comment:

> *We will pay attention to our breath for an extra minute now. It is natural that thoughts or feelings pop up in your mind. When this happens, in a gentle way, recognize the thought or feeling, and return to your focus on your breath.*

For weeks seven and eight, the time was extended to four minutes. In weeks nine and ten, it was extended to five minutes. In later weeks, the professors spot checked how the students reacted to longer periods of time. In all the classes, students confirmed that their mind wandered. The teacher just reminded students that this is normal, and the only thing they needed to do was gently return their attention to their breath.

Reactions from the classroom

To reiterate, this paper is illustrative. Our objective is to clearly describe a mindfulness-based intervention that is rooted in current literature which can benefit our learners and, thereby, facilitate learning during these unprecedented times. The three professors in Mexico are carrying out an extended empirical study of the impact of this mindfulness-based intervention on emotions and learning. However, for now, we include our initial reaction to the practice, and also the reaction of three university students.

Professor A: *"Calming the mind" is a healthy way to start class. It relaxes them and helps them focus before we start the class. It is also "a daily habit" for them. They need routines during this unusual time of the pandemic.*

Professor B: *I feel comfortable doing the activity. I would like to know if I can change the words a little. I will keep getting them to focus on their breath.*

Professor C: *Having this experience at the beginning of class adds stability to students lives during this unusual time. They have told me it is a moment when they don't worry; they just relax. It certainly helps them lower their affective filter. It is helping.*

Student A: *It is useful. I have been doing this before my exams and my results were really good. It helps me to concentrate better, to maintain stable emotions, it reduces my levels of the daily stress, among others. I recommend we continue doing this quieting activity.*

Student B: *I think it does help a lot, but it depends on the day and the classes I had before English class. It helps me to concentrate before the class starts and realize I'm in a new class. I feel more relaxed and ready to learn new information. At first it was really difficult for me, but every day is easier for me and I can actually calm the mind.*

Student C: *Calming the mind helps me to relax and forget about other classes. I only focus on my TOEFL class. I have noticed that when I'm stressed, I don't pay the same attention like I do after calming the mind. So, I appreciate calming the mind every TOEFL class. I think it is an opportunity to improve my grades.*

In sum, the professors and students believe that the activity is helpful because it helps the latter relax and focus on the upcoming class. They seem to be aware that stress undermines learning and calming the mind has the opposite effect.

Practical implications

There are at least three issues associated with mindful practice that educators need to attend to. First, the term "meditation" may make some students uncomfortable because it is linked to traditional Eastern religion. Mexico is a traditionally Catholic country, so it was decided to circumvent this issue by using the secular phrase "calming the mind" when talking about the

practice. It is recommendable that educators utilize vocabulary that will optimize the benefits of the practice. Second, the professors that implemented the practice were untrained in mindfulness; they simply used a script that had been generated from online options. However, each professor was open to experimenting with it, and expressed it was potentially worthwhile. While a script may work with certain professors, if an educator is skeptical or reluctant, potential benefits will likely be cancelled. Therefore, it is advisable to avoid top-down decisions about implementing mindful practice. Rather, coordinators and teams of teachers ought to take the time to express their attitudes about it, and make decisions about implementing it accordingly. As in any educational endeavor, educators' attitudes are key for success. Third, this intervention was used for two months before the pandemic hit Mexico. In face-to-face classes, it was easier to observe students sitting properly and (seemingly) calming their mind than it has been during online classes. Therefore, determining the participation in and effectiveness of such practice will be based less on observation and more on student self-reports.

Conclusion

Pre-pandemic levels of negative emotions among university students concerned researchers and institutional leaders alike. This situation has worsened during 2020. Accordingly, universities have reached out via their websites to students by offering online counseling and communicating self-help recommendations for students to navigate the pandemic. This paper proposes that, in addition to these valuable offerings, university professors become proactive by adopting a brief, daily, mindful practice at the beginning of their classes. Research suggests this practice may lessen the emotional suffering among students brought about by the pandemic. The brevity of the focused-attention meditation intervention makes it readily deliverable to students in comparison with longer, stress reduction courses. It does not require trained or experienced practitioners of meditation. A script is offered herein; however, a professor could personalize the words as long as they offer students practice at focusing their attention. Professors may discover that the practice improves academic achievement because it activates executive functions and enhances cognitive functioning. Finally, initial comments from students and professors have been favorable.

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