Mindfulness Training for Teachers

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In this chapter, we explore the potential benefits of integrating mindfulness training into the lives of teachers. We hypothesize that these benefits are multidimensional and far-reaching, and mindfulness training engenders three pathways of integration in teachers' lives: (1) mindfulness as a source of self-care, (2) mindfulness as a means of becoming a reflective teacher, and (3) mindfulness as a means of transforming student learning in the classroom. We consider the empirical evidence demonstrating the impact of mindfulness for teachers in these three ways, and offer an overview of applications of mindfulness in teacher trainings and curriculum.

Theoretical Foundations: What Is Mindfulness?

Mindfulness is often referred to as a consciousness discipline. It is a way of training the mind, heart, and body to be fully present with life. Although often associated with meditation, mindfulness is much more than a meditation technique. Mindfulness is fundamentally a way of being; a way of inhabiting our bodies, our minds, and our moment-by-moment experience with openness and receptivity. It is a deep awareness; a knowing and experiencing of life as it arises and passes away in each moment.

According to Shapiro and Carlson (2009), mindfulness can be defined as "the awareness that arises through intentionally attending in an open, kind, and discerning way" (p. 4). Mindfulness can be understood as both an inherent and ever-present awareness (mindful awareness), and a series of specific practices designed to enhance mindful attention and awareness (mindful practice).

Three Core Elements of Mindfulness

Mindfulness comprises three core elements: intention, attention, and attitude (Shapiro & Carlson, 2009). *Intention* involves knowing *why* we are doing what we are doing: our ultimate aim, our vision, and our aspiration. *Attention* involves attending fully to the present moment instead of allowing ourselves to become preoccupied with the past or future. *Attitude*, or *how* we pay attention, enables us to stay open, kind, and curious. These three elements are not separate—they are interwoven, each informing and nurturing the others. Mindfulness is this moment-to-moment process.

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Intention

The first core component of mindfulness is *intention*. Intention is simply knowing why we are doing what we are doing. When we have discerned our intentions and are able to connect with them, our intentions help motivate us, reminding us of what is truly important. Discerning our intentions involves inquiring into our deepest hopes, desires, and aspirations. Mindful attention to our own intentions helps us begin to bring unconscious values to awareness and decide whether they are really the values we want to pursue. Intention, in the context of mindfulness, is not the same as (and does not include) striving or grasping for certain outcomes or goals. Rather, as meditation teacher and psychotherapist Jack Kornfield puts it, "Intention is a direction not a destination" (personal communication, 2012).

Attention

The second fundamental component of mindfulness is *attention*. Mindfulness is about seeing clearly, and if we want to see clearly, we must be able to pay attention to what is here, now, in this present moment. Paying attention involves observing and experiencing our moment-to-moment experience. And yet, this is not so easy. Recent research demonstrates that our mind wanders approximately 47 % of the time (Killingsworth & Gilbert, 2010). The human mind is often referred to as a "monkey mind," swinging from thought to thought as a monkey swings from limb to limb. Mindfulness is a tool that helps us tame and train the mind so that attention becomes stable and focused, despite our mind's inclination to wander. Therefore, attention is the component of mindfulness that facilitates a focused and clear seeing of what arises in our field of experience.

Often, as we try to pay attention, our attention becomes tense and contracted. This is because we mistakenly think we have to be stressed or vigilant to focus our attention in a rigorous way. However, the meditation traditions teach us of a different kind of attention, a "relaxed alertness" that involves clarity and precision without stress or vigilance (Wallace & Bodhi, 2006). This relaxed alertness is the kind of attention that is essential to mindfulness. Mindful attention is also deep and penetrating; as Bhikkhu Bodhi notes "…whereas a mind without mindfulness 'floats' on the surface of its object the way a gourd floats on water, mindfulness sinks into its object the way a stone placed on the surface of water sinks to the bottom" (Wallace & Bodhi, 2006, p. 7).

Attitude

Attitude, how we pay attention, is essential to mindfulness. For example, attention can have a cold, critical quality, or an openhearted, curious, and compassionate quality. Attending without bringing the attitudinal qualities of curiosity, openness, acceptance, and kindness into the practice may result in an attention that is condemning or shaming of inner (or outer) experience. This may well have consequences contrary to the intentions of the practice; for example, we may end up cultivating patterns of criticism and striving instead of equanimity, openness, and acceptance.

These attitudes of mindfulness do not alter our experience but simply contain it. For example, if while we are practicing mindfulness, impatience arises, we note the impatience with acceptance and kindness. We do not attempt to substitute these qualities for the impatience, or use them to make the impatience disappear. The attitudes are not an attempt to make things be a certain way, but an attempt to relate to whatever is in a certain way. By intentionally bringing the attitudes of mindfulness to our awareness of our own experience, we relinquish the habit of striving for pleasant experiences, or of pushing aversive experiences away. Instead, we attend to and welcome whatever is here.

It may be useful to think of mindfulness as a presence of heart as well as mind. In fact the Japanese kanji for mindfulness is composed of two symbols, the top meaning presence and the bottom translated as "heart" or "mind." Mindfulness involves bringing heartfulness to each moment—bringing our full aliveness and care to all of our experiences.

Formal and Informal Practice

What we practice becomes stronger. When we practice mindfulness, we strengthen our capacity to be present moment-by-moment in a curious, accepting, and kind way. Mindful practice can be categorized into *formal* and *informal* practice; each kind of practice supports the other. The formal practice will support the ability to practice mindfulness in day-to-day life, and informal practice is meant to generalize to everyday life what is learned during the formal practice.

Formal practices are geared towards cultivating mindfulness skills in focused and systematic ways, and emphasize the specific and purposeful training of attention with openness, acceptance, and curiosity. In mindful meditation, practitioners allow a state of "fluid attention" to emerge, rather than focusing on any specific object or sensation (Irving, Dobkin, & Park, 2009). Thoughts, emotions, and body sensations that arise during this practice are accepted as they are, without being judged or manipulated.

Informal practice involves intentionally bringing an open, accepting, and discerning attention to whatever we are engaged in, for example reading, driving, and eating. As Kabat-Zinn (2005) notes, the beauty of the informal practice is that all it requires is a rotation in consciousness. This rotation in consciousness, while subtle, is significant. And, its implications for healthcare professionals and clinical work is profound. Fundamentally, *all educational and clinical work can be considered informal mindfulness practice*. Setting the intention at the beginning of each class or therapy session to intentionally pay attention with kindness, discernment, openness, and acceptance is a powerful and effective practice that can transform the experience. This frame of education and therapy as informal mindfulness practice is, we believe, an important dimension of training the individuals who work in these professions to integrate mindfulness into their work and lives.

Why Should Teachers Practice Mindfulness?

The integration of mindfulness into the lives of teachers serves at least three broad purposes: (1) self-care, (2) becoming a more mindful, reflective teacher, and (3) developing a sound foundation for delivering mindfulness-informed or mindfulness-based instruction to students to support academic and social-emotional learning. Below, we explore each of these.

Self-Care

The increased demands placed upon teachers are associated with increased stress and burnout, which in turn negatively impact mental and physical health and have adverse consequences for the quality of care delivered to students (Jennings & Greenberg, 2009; Jennings, Lantieri, & Roeser, 2012; Roeser, Skinner, Beers, & Jennings, 2012). One of the most obvious pathways of integrating mindfulness into the training of teachers is to focus on self-care.

Self-care, for teachers, is a prerequisite to providing competent care. Lack of self-care increases risk for burnout. Self-awareness, defined in this context as an unbiased observation of one's inner experience and behavior, is thought to be foundational to self-care and important to successful teaching. Teachers who do not meet their personal needs are likely to have difficulty in providing effective instruction and care to students. Learning to take positive action when symptoms begin to appear is essential to the process of preventing and treating burnout.

It is imperative that teachers make self-care a priority so that they can attend to their own well-being and deliver appropriate and empathetic student care. Stress harms professional effectiveness by negatively impacting teachers' attention and concentration (Braunstein-Bercovitz, 2003; Mackenzie, Smith, Hasher, Leach, & Behl, 2007; Skosnik, Chatterton, Swisher, & Park, 2000), weakens decision-making and communication

skills (Shanafelt, Bradley, Wipf, & Back, 2002), decreases empathy (Beddoe & Murphy, 2004; Thompson and Waltz, 2007), and reduces ability to engage in meaningful relationships (Enochs & Etzbach, 2004). This research suggests that if teachers do not care for themselves, they risk their students' health and well-being as much as their own. Being self-aware makes teachers conscious of their own physical and psychological experiences without distorting or avoiding the students' needs (Valente & Marotta, 2005).

The above literature demonstrates the importance of self-care as a prerequisite for quality student care. Yet, many in the field have difficulty integrating self-care in their everyday living. Consequently, compassion fatigue, vicarious traumatization, burnout, distress, and dissatisfaction remain problems for many teachers. It is crucial to recognize the presence of stress and to have tools to help meet the extraordinary demands placed on teachers. Training in mindfulness may be especially relevant for this purpose. Existing literature posits that the cultivation of mindfulness can enhance mental and physical health (see Baer, 2003; Grossman, Niemann, Schmidt, & Walach, 2004; Keng, Smoski, & Robins, 2011; Khoury et al., 2013, for reviews). Although most mindfulness research has focused on patient benefits, recent research has found that mindfulness training may be particularly useful for teachers as a means of managing stress and promoting self-care.

Mindfulness also teaches self-compassion, allowing teachers to accept themselves as imperfect or "perfectly human" (Shapiro & Carlson, 2009). It is important to recognize that, despite our best intentions, things will sometimes go wrong. Instead of becoming self-critical and condemning in these situations, teachers can use mindfulness to treat themselves with the same care and compassion they want to bring to their students. (Roeser et al., 2013), for instance, found that "occupational self-compassion"—taking a kind attitude towards oneself as a professional in times of difficulty, was increased through mindfulness training and was also a key mediator of the stress-reducing effects of the training compared to teachers in a waitlist-control condition.

Becoming a More Mindful Teacher

Mindfulness practice is associated with qualities that are critical to effective teaching, such as attention, empathy, emotion regulation, and affect tolerance, and several studies have shown that mindfulness training cultivates specific professional skills essential to teaching (see Shapiro & Carlson, 2009, for a review). For example, in a study by Gokhan, Meehan, and Peters (2010), undergraduate students participated in a 12-week mindfulness-based training as a part of an academic course while concurrently offering services to individuals with psychiatric and developmental disabilities as a part of an on-site field placement within a hospital setting. Students kept journals to reflect their physical, behavioral, emotional, and cognitive reactions to their field placement experience. Quantitative and qualitative findings in this study were consistent with the idea that mindfulness can increase through practice and has positive effects on characteristics associated with the provision of high-quality care. In contrast to a comparison group that did not receive mindfulness training, trained students showed increases in self-care, attention to well-being, self-awareness, empathy, compassion, and skills of directing and focusing attention.

Mindfulness practice cultivates positive qualities and skills of relating to self and others, and thus is hypothesized to improve teacher–student relationships. Below, we explore qualities of the mindful teacher that lead to enhanced student outcomes such as sustained attention, control over how attention is distributed, attunement, and self-regulation.

Attention and Presence

According to (Germer, Siegel, & Fulton, 2005), mindful practice is "like a firm handshake with one object at a time in the field of experience. Mindfulness neither squeezes the object nor is casual in its grip, but the object is distinctly perceived" (Germer et al., 2005, p. 14). It is widely accepted that successful teaching requires that teachers pay attention and sustain attention (e.g., Marzano, 2007). While the capacity to be mindfully present is inherent in all teaching, systematic

practice may be required to hone this skill (Roeser et al., 2013). Existing research in adults more generally reveals that mindful presence and attention develop through formal mindfulness meditation practice.

Research supporting the impact of mindfulness on attention and presence has found greater cortical thickness in areas of the brain associated with sustained attention and awareness in practitioners experienced in mindful meditation, compared to nonmeditating participants (Lazar et al., 2005). Moreover, by measuring response times on the Attention Network Test (ANT) after 8 weeks of mindfulness meditation training for novices, and a month-long retreat for more experienced meditators, Jha, Krompinger, and Baime (2007) found improvements in overall attention. Specifically, those who participated in the 8-week training were more able to direct focused attention when required, and those who attended the 1-month retreat showed an increased ability to retain their focus when faced with distractions.

A study by McCollum and Gehart (2010) also found that graduate students trained in mindfulness meditation as a component of their coursework were better able to distinguish between what Segal, Williams, and Teasdale (2002) refer to as the *doing* and the *being* modes of mind. The doing mode focuses on planning and resolving discrepancy between our idea of how things should be versus how they actually are. In contrast, the being mode centers on simply being present with whatever is occurring in the moment, without feeling a need to change it. McCollum and Gehart point out that both modes are essential, but it is important for teachers to recognize and strengthen their capacity to shift between modes. Through the cultivation of attention and presence, mindfulness not only facilitates a being mode of mind, but also the ability to engage in the doing mode when the moment requires, as well as to shift attentional focus, capacities that are essential to teaching (e.g., Jennings & Greenberg, 2009; Roeser et al., 2012).

Research has also shown that mindfulness meditation can enhance control over how attention is distributed. For example, if too much attention is focused on one stimulus, another stimulus might be missed. Mindfulness training can help us to allocate our attention more efficiently, leading to greater clarity in information processing (see e.g., Slagter et al., 2007). This is particularly important when teachers need to deal with subtle and rapid student behavior in a class of 30 or more students.

Teacher Attitude

Although paying attention is essential, how practitioners pay attention is also critical to teaching. Attention can be cold and hard, with a critical emphasis that can hinder the establishment of a nurturing environment in which learning is enhanced. This is contrasted with the attitudes of acceptance, letting go, nonattachment, nonstriving, nonjudging, patience, trust, warmth, friendliness, and kindness, which characterize mindfulness practice (Kabat-Zinn, 1990; Segal et al., 2002; Shapiro & Schwartz, 2000). Although these attitudes are not exhaustive, they underscore the type of attention that is likely to enhance the alliance between teacher and student. Furthermore, research on acceptance-based approaches has shown an implication for neuroplasticity of the brain: When teachers allow themselves and their students to rest in experiences of acceptance and equanimity, they increase the possibility that these experiences will lead to changes in the brain (Geller & Greenberg, 2012). The teacher's accepting presence sends a message to the student that he or she is understood and is in a safe environment, and this acceptance has a neurological correlate. The nervous system evaluates the state of safety and decreases the activation of the sympathetic nervous system, followed by a physiological response of softening of facial muscles, relaxation, and perceptual openness to the teacher. In response to fear, the state of neuroception may equally trigger defensive behaviors such as fight or flight. The state of neuroception activated by a feeling of safety and acceptance releases the hormone oxytocin that creates attunement and bonding between the teacher and student (Geller & Greenberg, 2012).

Further preliminary evidence supports a relationship between the attitudes cultivated through mindfulness and enhanced skills essential for

healthy relationships. Brown and Ryan (2003), for example, found that increased mindfulness is associated with "greater openness to experience," a measure of general personality characteristics measured on the NEO-Five Factor Index. Similarly, Thompson and Waltz (2007) found that higher trait mindfulness was related to less neuroticism and more agreeableness and consciousness on the same measure.

Self-Compassion and Attunement

Compassion, which is a cornerstone of effective teaching, is also enhanced through mindfulness (Condon, Desbordes, Miller, & Desteno, 2013). Compassion incorporates both the ability to empathize with the suffering of oneself or others and the desire to act upon this empathy to reduce the suffering. Attunement is a precursor to compassion, as it involves being in touch with the inner experience of oneself (self-attunement) or another. Being self-attuned entails developing a "witness consciousness," which observes the content of one's experience and accepts it without judgment or interpretation, as something that simply is. Even when teachers find themselves being self-critical, they can practice observing the thoughts without labeling them as truth or reacting to them.

Mindfulness practice is one way teachers can strengthen their self-attunement and self-compassion (e.g., Benn, Akiva, Arel, & Roeser, 2012; Roeser et al., 2013). Indeed, a central tenet of mindfulness practice is to learn to let go of self-judgment and to relate to oneself with compassion and kindness. Through mindfulness meditation, we begin to see that our personal suffering is not unique but part of the universality of being human (Shapiro & Carlson, 2009).

One mindfulness meditation that can be particularly helpful in cultivating self-compassion is the loving-kindness meditation (see Kornfield, 2009; Shapiro & Carlson, 2009). This meditation asks participants to repeat four or five phrases of well-wishing, like "May I be peaceful and happy. May I be healthy." While reciting these phrases, participants are asked to feel the quality of loving-kindness in the body and heart. After many repetitions, when love for oneself has begun to take root, the loving-kindness practice is then extended to others (family, friends, neutral people, and eventually difficult people).

Empathy and Attunement with Others

Empathy, or the ability to "sense the student's private world as if it were your own, but without losing the 'as if' quality" is essential for effective teaching (Rogers, 1957, p. 95; see also Arkowitz, 2002; Bohart, Elliott, Greenberg, & Watson, 2002). Research suggests that meditation can significantly enhance empathy (Lesh, 1970; Shapiro, Brown, & Biegel, 2007; Shapiro, Schwartz, & Bonner, 1998). Further research has shown that increases in mindfulness correlated with increases in empathy, suggesting that students may have increased their empathetic concern for others because they became more mindful (Condon, 2014).

Research from neurobiology suggests a possible mechanism by which mindfulness enhances empathy and attunement. Mirror neurons, which mirror the behavior of another, as though the observer were acting, may provide the basis for empathy and related processes within mindfulness. This line of research started with direct observation of primates (Di Pellegrino, Fadiga, Fogassi, Gallese, & Rizzolatti, 1992; Rizzolatti & Criaghero, 2004; Rizzolatti, Fadiga, Gallese, & Fogassi, 1996). Subsequently, researchers showed brain activity consistent with mirror neurons in the anterior insula, anterior cingulate cortex, and inferior parietal cortex of humans (Botvinivk et al., 2005; Cheng, Yang, Lin, Lee, & Decety, 2008).

Although research on mirror neurons in humans is less well established, and the functional significance of mirror neurons in human emotion is still being contested (e.g., Lingnau, Gesierich, & Caramazza, 2009), a large number of experiments using functional MRI, electroencephalography, and magnetoencephalography have determined that particular brain regions are active when a person experiences an emotion, and when he or she sees another person experiencing the emotion (Botvinivk et al., 2005; Cheng et al., 2008; Lamm, Batson, & Decety, 2007; Morrison, Lloyd, Di Pellegrino, & Roberts, 2004; Singer et al., 2004; Wicker et al., 2003). Jabbi, Swart,

and Keysers (2006) have also demonstrated that individuals who are more empathic, based on self-report questionnaires, have stronger activations in the mirror system for emotions. This finding provides additional support for the idea that mirror neurons are associated with empathy.

Mirror neurons often fire at less intense levels in the observer than in the initial communicator of the emotion (Goleman, 2006). Mindful awareness may play a role here in enhancing one's receptivity even to small signals, somatic and emotional, thereby increasing attunement between two people.

Emotional Regulation

Positive relationships with students require that teachers know how to regulate their emotions and know when to avoid expressing their own emotions (Jennings et al., 2012). Strong emotions can often arise in the classroom. By attending to and regulating their own emotional reactions, practitioners can be more present and accepting of students across a range of emotionally charged therapy scenarios.

In a study by Christopher et al. (2010), utilizing a qualitative design to explore the long-term impact of teaching mindfulness to graduate students, many participants observed less reactivity and judgment, and the ability to better tolerate their own feelings. As one participant stated:

> I think that I can tend to get overwhelmed by other people's emotions and through the class I think I really learned to be able to separate people's emotions and be strong in my own sense of self in that moment. To be just fully aware of what I'm experiencing and being able to separate what other people are experiencing (Christopher et al., 2010, p. 333).

Because mindfulness training helps teachers become familiar with their minds and bodies, they may be better able to see their personal responses to a student's behavior and regulate their emotions, which could otherwise hamper their relationships with students.

Teachers are like the strings of a piano resonating to the music of the 20 something little pianos playing at once in their classrooms. Consciously or unconsciously, teachers' hearts strings are played by every joy and every anxiety that their students are expressing. The dysregulation that is rife in so many classrooms impacts teachers and their students in equal measure. Teachers experience the vicarious traumas and the compassion fatigue associated with their daily adventure through the emotion fields of their students. Not only are they adventuring through the emotional fields of their students, they are so often navigating the emotional demands of relating to their own colleagues and family members, and the stressors that attend all interpersonal relationships, professional and personal. One common coping strategy is to suppress or avoid emotional triggers in order to be present and available to the students. Though this is an empathic attempt, it often results in unintended consequences. When teachers have untended stress, they may have less empathy, react faster, and may find that their creativity withers. Their capacity to cultivate emotional regulation provides for a calm in the storm and allows them to be an embodiment of balance that their students can use as an anchor.

Foundations for Providing Mindfulness in the Classroom

In order to develop the foundations for a mindful classroom, the first steps, as we have already discussed, are for educators to practice self-care and embodiment of mindfulness. One's own lived presence is the most important way to teach mindfulness. From this embodied place, we propose, there are nuanced and powerful ways to offer the teachings of mindfulness to students of all ages, including those with special needs, and other diverse populations. It is helpful to consider a multistage approach when incorporating mindfulness into schools. The first stage involves creating the conditions within the school for students to learn in a mindful environment. Once a mindful learning environment has been cultivated, subsequent stages may integrate lessons, curricula, and other specific mindfulness exercises in order to help students build the same habits related to intention, attention, and attitude described above.

Mindful Classroom Climates for Student Learning

Creating Mindful Spaces Many schools and organizations weave mindfulness into the physical space of their schools. Some schools have corners of their rooms where students can practice relaxing breaths whenever they are feeling too tense. In Baltimore, the Holistic Life Foundation[1] works with many schools to set up rooms that are alternatives to suspension where students can breathe, drink a cup of tea, and receive guidance and mentoring from mindfulness coaches (see: http://hlfinc.org).

One effective practice for teachers to identify opportunities to create more mindful spaces in their schools is to simply walk through the school and observe how the environment affects their mood. When teachers are able to notice how certain lighting, artwork, and layouts impact their own mood, they can then learn how to set up the space in such a way that students will likely feel more comfortable, happy, and inspired. Setting up a room with plants, art, lighting that is not too harsh, and couches, and introducing other creative ideas creates a mindful space for students to relax into. Simply by attuning to the needs of the students' space, teachers are practicing mindfulness and supporting their students' practice as well. There is evidence that features of the physical setting are important to student engagement and learning (Roeser & Eccles, 2014).

In addition to creating a safe and nurturing environment for students, it is also crucial to create a safe space for teachers. The stress and conflict in so many faculty rooms can have an adverse effect on the faculty themselves and indeed on the whole atmosphere of the school. In an effort to address this common concern, many schools have begun offering weekly sitting groups, mindfulness book clubs, or a yoga class for teachers before school. In an academic setting, scheduling often presents an obstacle in coordinating these kinds of group activities, but the power of coming together and practicing, even for 15 min, is profoundly supportive. Creating an opportunity for teachers to share what is really going on for them inside can create a teaching atmosphere of compassion and connectedness that can then be a foundation on which bringing the teaching to the students can build.

Practicing Mindful Communication An important way that teachers weave mindfulness into their schools is by practicing mindful communication. As teachers developing a greater language for their inner worlds, they likely can begin to communicate with students in more attuned and empathic ways. Further, through developing their own language for the interior, teachers will model for students this emotional intelligence. Teachers can also incorporate specific practices to help students develop this language, for example, by inviting students to begin the day by naming what they are aware of in the present moment. Students learn how often they can get lost in future worries and past concerns and gain the capacity to name what they are noticing in their hearts, bodies, and minds in the present moment. This practice supports students in feeling seen, as well as developing empathy towards the experiences of others. Through this practice, teachers also gain the opportunity to track the inner experiences of the students so they can be attuned to their learning needs. When teachers engage in these practices, it is essential to create a safe sharing space for students. The vulnerability associated with sharing one's inner experience must be met with kindness and nonjudgment in order to promote the positive feedback loop afforded by mindfulness practice in a group setting, particularly with children whose developmental needs are different than those of adults.

Creating Mindful Moments As teachers begin to incorporate mindfulness into schools, they often start by thinking of how to structure moments of reflection and connection into the fabric of the day. Some schools have a minute of silent breathing over the loudspeaker every morning. Some teachers begin and end every class with the ring of a bell, a few mindful movements, or a mindful sharing.

It is imperative to teach mindfulness in such a way that teachers are not forcing the students to practice for longer or more intensively then will feel enjoyable and within their capability. If

[1] See: http://hlfinc.org

teachers began by telling students to sit quietly for 30 min, students would begin to equate mindfulness with a frustrating punishment. Short intervals of stillness throughout the day are ideal. When these moments of mindfulness are integrated skillfully during transitions and in moments of stress, teachers may find that students come to thirst for mindfulness as a way of self-regulating. They ideally will ask for mindfulness knowing that it is a nourishing inner tool rather than a boring imposition.

Teaching Mindfulness Curricula to Students

We hypothesize that teachers who have learned mindfulness practices and how to embody them in classrooms are in the best position to explore the potential of offering mindfulness-based lessons to students. There are various mindfulness-based education curricula available today for every age group (see Part III in this volume). Some of these curricula are readily available for sale and do not require any particular training from those who would wish to utilize the curricula in their classrooms. Other curricula are only provided after thorough training and with requirement of a certain level of commitment to a personal mindfulness practice.

As an example of the readily available curricula, the MindUp curricula, from the Hawn Foundation, can be purchased and implemented without any additional requirements, though training and implementation support are available. This curriculum was developed with great focus on neuroscience and supporting the students to be able to understand the dynamics of their own minds (see Maloney, Lawlor, Schonert-Reichl, & Whitehead, this volume). Readily available curricula offer wonderful resources for teachers who are already committed to a personal practice so they can complement their own embodied experience of mindfulness with specific age-appropriate lessons and exercises in their classrooms.

The danger with these readily accessible curricula is that it is easy for teachers to begin teaching these lessons without the understanding and embodiment of the larger paradigm of mindful teaching that comes from a personal practice. One concern here is that mindfulness practices might be used as behavioral modification tools and a way to force calm and quiet on difficult or challenging students. In one school, for instance, students were made to sit in the corner on the "mindfulness chair" if they had misbehaved so they could be "mindful" of what they had done. This is not the way of mindfulness that we are interested in. We want to compassionately invite students and teachers to gain greater self-understanding and mastery, not to use mindfulness as another instrumental means of externally controlling students and their behavior.

Examples of Mindfulness Curricula There are many exemplary curriculum trainings that offer teachers manuals, PowerPoints, and apps that they can incorporate into their teaching. Most of these trainings require previous practice of mindfulness, either having completed a Mindfulness-Based Stress Reduction course or an equivalent amount of personal contemplative practice time. These trainings last from several days to an entire year.

As an example of a curriculum training, the *.b Curriculum* is a wonderful training developed by the Mindfulness in Schools Project. The *.b Curriculum* is fun, adaptable, and built upon the fundamentals of mindfulness. The .b stands for developing the capacity to "pause and be" or to "stop and breathe." Before mindfulness trainers lead these trainings with teachers, they are committed to making sure that the participants who will be receiving their manuals are steeped in the paradigm of mindful teaching and have learned to stop and breathe themselves. The Mindfulness in Schools Project requires participants to have taken a Mindfulness-Based Stress Reduction training or an equivalent personal mindfulness practice as a prerequisite for their course.

Having a prerequisite mindfulness practice makes it harder to bring these types of curricula into entire schools. Although it is wonderful to offer the opportunity of mindfulness to an entire school, it is not possible to force anyone to be

mindful. The problem with mandatory mindfulness training across entire schools and school districts is that introspection cannot be enforced. The heart is a vulnerable terrain, and any true mindfulness training is an invitation out of the usual comfort zone of one's sense of self into a larger experience of who one really is. When people are ready to look within, it is the greatest of human journeys. However, until they are ready, the journey cannot begin. The journey of self-realization is exactly that, a realizing of who one truly is, and no one else can provide that answer. Mindfulness offers teachers a safe space in which to explore their hearts and minds, but if there is too much resistance to that invitation there is no realizing that can unfold. In any mindfulness training program, it is the program facilitator's job to use language that is the most accessible, culturally appropriate, and scientifically validated to encourage, engage, and support people in mindfulness practice, but at the end of the day if the teacher is still uninterested it is also the trainer's job to honor that person's resistance. Likewise, even the most committed teachers, who are well trained and well intentioned in sharing the benefits of mindfulness practice with their students, can at best offer the invitation for students to engage in mindfulness practice; it cannot be forced.

Mindful-Based Curriculum

The majority of available mindful education curricula share the same basic ingredients. Each curriculum focuses on a slightly different population of students and on different facets of mindfulness-based education, but all of them incorporate the fundamentals of breath awareness, generating compassion, mindfully eating a raisin, and many other crossovers. It is ideal for teachers to peruse these curricula and to seek training with experienced mindfulness practitioners, but perhaps more essential is developing one's own lessons and approaches to teaching mindfulness as is appropriate in each moment.

In the book, *The Way of Mindful Education* there is a curriculum offered in a toolbox format in which teachers are encouraged to learn how to become comfortable with each lesson so that eventually they can be utilized in a fluid and skillful manner. If the class is stressed about a test, then the teacher will instinctively gravitate towards relaxation and focusing practices. If the students are riled up from the playground then movement and stillness practices may represent the more skillful response to what the moment requires. Rather than adhering to a prescribed lesson order, the mindful teaching paradigm invites the teacher to be attuned to the needs of the class in the moment and to respond with a toolbox of mindfulness practices.

As a whole, the mindfulness lessons can be broken into four types, including embodiment, attention, heartfulness, and interconnection. The program offers a progression of lessons that help to build certain foundational capacities before moving on to others, but it also offers flexibility in how one organizes the journey from here to there. Here we lay out the four basic forms of mindfulness practice and the general progression that is recommended.

Embodiment Teachers begin by teaching the language of the body. When they teach mindfulness to students, teachers need to remember to learn to "play mindfulness," rather than "practicing" or "doing" mindfulness. They need to help students to feel comfortable, connected, and relaxed in their bodies before introducing them to the more introspective arts of mindfulness.

Sometimes teachers may play fun movement games that incorporate breath and awareness before they even say the word mindfulness. Especially with students who experience significant stress and trauma, it is crucial to begin by teaching them within the range of their capacity to be present. Before teachers invite students to be aware of what is happening in their minds and hearts, it is crucial to give the students some tools to orient their awareness and to engage a relaxing and enjoyable experience in their bodies. Teachers may have them shake their bodies and then freeze, tense, and relax, or lead students

through various progressive relaxation exercises. These types of body explorations empower students to feel more comfortable in their bodies and give them the capacity to witness and regulate their sensory field.

Focused Attention Once students learn the language of their bodies, they can begin cultivating their attention. Teachers work with various sensory phenomena, such as the breath and sound to anchor and stabilize attention. These practices cultivate the capacity to focus on schoolwork and other activities, but this attention is also the key building block for emotional regulation and responsible decision-making.

Attention lessons are taught through focusing exercises as well as distraction games. Teachers learn to have students pay attention to a spot on a wall and then try to distract their eyes by waving their arms. Another distraction exercise is to instruct students to focus clearly on their breathing while the teacher walks around the room making distracting noises. Students engage easily when focus and distraction is turned into a game where the whole class can examine the dynamics of distraction in real time, learning how to build attention "muscles" and work with the very real distractions of everyday life.

Heartfulness Once students have an understanding of the language of their bodies and how to anchor their awareness, they can learn how to identify and feel emotions in their bodies. Students learn to regulate difficult emotions by bringing kind awareness to these feelings. Students also learn to feel and strengthen beneficial emotions such as joy and compassion.

Teachers build upon the awareness of body sensations and attention by inviting students to be aware of a real frustration in their lives, teaching them to witness the thoughts correlated with the frustration, and then showing them how to feel the emotion as a sensation within the body. The capacity to witness the physical root of an emotion is the missing link in supporting students to truly work with impulse control. When students can slow down the impulse process enough to be able to experience a trigger, take a pause, untangle from the thoughts, and breath into the uncomfortable corresponding feelings in the body, they gain a life-transforming skill.

Interconnection Once students have built their awareness of their bodies, minds, and hearts, they can integrate their mindfulness into everyday life. They can learn to work with everyday distraction, frustrations, discomforts in the body, and other inevitable difficulties. Students can also bring compassion, forgiveness, and gratitude into action.

Often teachers offer students the opportunity to create mindful service projects, having them decide how they will show their compassion in the world. This is where teachers can get creative in facilitating classroom or school-wide mindfulness projects. For example, teachers might take their students on field trips to become aware of real environmental problems where students can develop empathy for the frogs in a polluted stream, and then feel the empowerment of making a difference. Compassion in action is the end goal.

Above, we have explored recommended strategies and curricula geared to incorporating mindfulness in the classroom and into the broader school community. Once a teacher has learned their own mindfulness practice then they can begin embodying the teachings with their students and eventually teachers can directly offer these priceless lessons to their students.

Directions for Future Research

Mindfulness appears to have the potential to enhance and deepen our educational system (Mind and Life Education Research Network (MLERN), 2012). However, we need research to continue to refine and expand our knowledge of the possible applications of mindfulness to education. To move forward we must develop broader paradigms for the field, which include specific directions for future studies. Below we discuss seven key potential directions for the field with specific suggestions for future study designs.

Specific Suggestions for Future Research

The results of past research are qualified by their limitations in methodology. We offer the following seven criteria as a platform for future research:

1. Differentiation between types of mindfulness practices. There are many types of mindfulness, both informal and formal meditation practice. This is crucial to recognize for theoretical, practical, and research reasons. Yet researchers often implicitly assume that different meditations have equivalent effects. This is an assumption to be empirically tested. Most likely, different techniques have been overlapping but by no means equal effects. Therefore, it is essential that researchers clearly define the type of mindfulness practice being studied.
2. Temporal effects. Frequency and duration of mindfulness practice must be recorded (e.g., meditation journals) to determine if greater amounts/frequency of practice induces greater effects and if so, is the relationship linear, curvilinear, or some other more intricate pattern.
3. Follow-up assessment. Follow-up should include long-term as well as short-term assessment.
4. Component analysis. Mindfulness is now recognized to be a multifaceted process with multiple potentially potent components. These range from nonspecific factors such as belief and expectancy through postural, somatic, attentional, cognitive, and other factors. Research can attempt to differentiate the effects and interactions of various components. This is a kind of component analysis.
5. Mediating variables. Development of subjective and objective measures to determine the mediating variables that account for the most variance in predicting change.
6. Qualitative data. The subtlety and depth of mindfulness experiences do not easily lend themselves to quantification. Further, the interplay between subjective and objective is essential to understanding mindfulness. Qualitative data provides a means to access the subjective experience of the practitioner.
7. The value of practice. Several lines of evidence suggest that personal practice of mindfulness may enhance one's understanding of meditative and transpersonal experiences, states, and stages. Without direct experience, concepts (and especially transpersonal concepts) remain what Immanuel Kant calls "empty" and devoid of experiential grounding. Without this grounding we lack *adequatio*: the capacity to comprehend the deeper "grades of significance" of phenomena, which Aldous Huxley (1945) summarized in The Perennial Philosophy, as "knowledge is a function of being." Therefore, for research to progress, optimally it may be helpful for researchers themselves to have a personal mindfulness practice. Without direct practice and experience we may be in part blind to the deeper shades of significance of mindfulness experiences, and blind to our blindness.

Conclusion

The progression of this paper corresponds with our recommendation for the process in which teachers and administrators can weave mindfulness into their schools. Teachers can begin with their own mindfulness practice, learning self-care, and basic introspective and interpersonal capacities. Mindfulness supports the development of universal positive qualities, such as compassion, attention, and emotional balance. With the development of these qualities, teachers can teach more mindfully, modeling these virtues to their students. From an embodied mindful presence, teachers can begin to teach mindfulness to their students from a variety of curricula and eventually with creative and spontaneous skills. There are countless examples of inspiring ways teachers and whole schools are integrating mindfulness (see chapters in this volume). As we continue to grow in this movement, we must simultaneously stay rooted in validated research. During the past four decades, research in mindfulness has developed a strong foundation, demonstrating significant psychological,

physiological, and therapeutic effects. And yet, the integration of mindfulness into education is in its infancy and its exploration requires great sensitivity and a range of methodological glasses (see Roeser et al., 2012). Future research could benefit by looking through all of them, thereby illuminating the richness and complexity of mindfulness, and deepening our understanding of its applications to education and teaching.

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