Exploring Fidelity in School-Based Mindfulness Programs

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Abstract
A small but growing body of research on school-based mindfulness programs (SBMPs) has demonstrated benefits for students' cognitive and affective functioning and overall wellbeing. Yet, lack of fidelity in SBMP implementation may diminish these programs' purported benefits. This commentary presents 4 current challenges that need to be addressed so that questions of whether and how mindfulness improves student functioning can be clarified and implementation of programs can be strengthened and sustained. These challenges include coming to consensus on the definition and intention of mindfulness training, balancing adherence with flexibility in SBMP delivery, determining the role SBMP teachers' mindfulness experience plays in program fidelity, and delineating distinctive features of mindful pedagogy. Some suggestions for addressing each of these challenges are provided.

Results of existing studies investigating outcomes of school-based mindfulness programs (SBMPs) show benefits to students' cognitive and affective functioning and overall wellbeing.[1] Along with increasing the quality of studies that explore whether and how mindfulness benefits students, attention should be paid to issues across all stages of the translational science continuum or the field of SBMPs risks stalling out.[2] Having worked to introduce mindfulness into schools for close to 20 years, we are encouraged by the progress in this field but also cognizant of unresolved implementation challenges related to the unique personnel, policy, and structural characteristics of schools. For the field of contemplative science to advance in schools, we believe 4 important challenges need to be addressed. These include coming to consensus on the definition and intention of mindfulness training, balancing adherence with flexibility in SBMP delivery, determining the role SBMP teachers' mindfulness experience plays in program fidelity, and delineating distinctive features of mindful pedagogy.

The first challenge involves achieving consensus on the *basic definition and purpose of mindfulness* so it can be clearly operationalized, delivered, and studied. Popular enthusiasm for mindfulness has outstripped the evidence base

and may have contributed to the existing diversity of conceptualizations. This directly impacts program development, with downstream effects on implementation fidelity and assessment. In our work with secondary students, we delivered an SBMP called Learning to BREATHE[3] (L2B) based on core themes of MBSR (Mindfulness-Based Stress Reduction[4]). We also created a fidelity assessment tool tailored to L2B, the Teaching Mindfulness in Education Observation Scale (TMEOS),[5] to help in the SBMP teacher-training process. The L2B program and TMEOS scale adopt the following definition of mindfulness: *cultivating present-moment, nonjudgmental attention in the service of wisdom, self-understanding, and compassion.*[6] Although this conceptualization is well-known and serves as the foundation

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for an extensive body of research, this definition itself has been recognized as vague.[7]

Despite the difficulty of defining a complex construct like mindfulness, it would be helpful to disentangle well-accepted central processes of mindful attention from the fruits of mindfulness practice, so that mindfulness is not reduced to an oversimplified or misunderstood concept. A common misperception in schools and elsewhere is that mindfulness is a form of relaxation[8] employed primarily for the purpose of feeling good. Benefits, like improved achievement, relationships, health, and happiness, are frequently promised. These certainly can be outcomes of mindfulness practice, but they are not, in themselves, mindfulness. Sustained benefits are unlikely to result from the decontextualized practice of "taking a breath," easily performed with little awareness. Neither will benefits accrue from suppressing unpleasant experience or from time spent in self-absorption instead of authentic compassion for self and others. Most classical and modern definitions concur that paying deep, immersive attention with the orientation of investigation and openness to inner and outer, pleasant and unpleasant, experience is central to the process.[9-11] Attending in this way facilitates reflective responding by providing real-time information that impacts behavior and decision making. Mindfulness practice is intended to reduce the strong tendency toward self-involvement, which actually amplifies stress,[12] by cultivating non-preferential interest in experience beyond the narrow bounds of self. Over time, mindful attending promotes insight into habitual but unhelpful cognitive and emotional reactions, preconceptions, and biases so that the choice of more wholesome mental habits and compassionate behavior is exercised.

The question of defining mindfulness intersects with the issue of developmental capacity. Some metacognitive skills required for mindful awareness can be too advanced for younger children. Therefore, programs should be adapted while maintaining the fundamental intention of mindfulness practice. Young children can practice paying full attention to sensory experiences. Older children with more developed cognitive capacities can better observe thoughts, feelings, sensations, actions, and interactions. They also are better able to discern and alter helpful and unhelpful patterns of reacting to these stimuli. If educators adopt a consensus definition, like monitoring experience with an orientation of acceptance,[11] it may make SBMP delivery more comprehensible, effective, and easily researched. Connecting mindfulness practice to compassionate action could temper self-absorption and strengthen the sense of common humanity.[13]

The second challenge involves *balancing program adherence with program flexibility*. Navigating this issue involves SBMP teachers' knowledge, motivation, and experience. SBMP teachers should understand key program constructs and objectives. Conceptual clarity provides novice SBMP teachers with clear direction on program goals, and detailed curriculum guides demonstrate how to achieve them. For example, if mindfulness is conceptualized as monitoring + acceptance, curricular guidance emphasizing "noticing" and "nonjudgment"

as part of mindful practice take on a different valence than if mindfulness is conceptualized as stress reduction.

However, curricula that are too rigid can cause classroom teachers to bristle, equating "scripted curricula" with the de-professionalization of teaching. The nascent research base has not yet deconstructed the contents of the black box of core SBMP components nor the practices and pedagogical processes that effect desired outcomes. To accelerate the deconstruction process, it would be helpful if program developers provided specific details about program components to help researchers identify variables of interest. The L2B program manual provides such suggested detail including setting, social environment, session duration, number and length of meetings, types of formal and informal practice, length of meditation periods, style of pedagogy, etc. as recommended for reporting of intervention trials.[14] Through initial and ongoing professional development, classroom teachers can be motivated to balance "attention to script" with "attention to group," thus enabling both adherence to core program components and flexibility for responsive teaching.

Demonstrating certain dispositions, pedagogical styles, and ways of relating to students make *embodiment of mindfulness* the third challenge for SBMP teachers. Embodiment is widely viewed as an essential quality of all mindfulness teachers and a proxy for their way of being present. Embodiment reflects the reality that thoughts, feelings, bodily sensations, and behaviors are interconnected and often unconscious parts of experience that can be illuminated through the nonjudgmental, compassionate practice of mindfulness. Self-awareness and self-regulation, important for students and adults alike, derive from the integrated processing of top-down cognitive and emotional conceptualizations with bottom-up present-moment somatic, interoceptive experiencing.[15] Mindfulness-based teacher embodiment creates a calm holding environment that supports students' own emotional regulation and their engagement with learning in general.

The challenges of defining and assessing mindfulness-based teacher embodiment are well documented.[16] To address program fidelity and embodiment for L2B teachers, we developed an observation scale modeled on the MBI:TAC,[17] specifically geared toward K-12 classroom teachers. Because SBMP teachers work with children and adolescents who do not select their MBP as adults are able to do, they likely require a skillset that includes classroom management techniques and motivational strategies. The TMEOS provides criteria for L2B teacher evaluation, coaching from a trainer, or for self-assessment on 4 domains: 1: Planning, Organization, and Curriculum Coverage; 2: Teaching Mindfulness; 3: Guiding Mindfulness Practices; and 4: Management of the Learning Process. Each includes a number of elements that define the domain in behavioral terms. Domains 1 and 4 represent areas that are typically part of university-based classroom teacher preparation programs because they address logistics, program adherence, and classroom/group management. Domain 2 addresses the issue of embodiment,

and Domain 3 identifies the various skills involved in guiding mindfulness practices.

The operationalization of Domain 2 elements (Embodiment) involved an attempt to translate Kabat-Zinn's foundational attitudes of non-judging, patience, beginner's mind, trust, non-striving, acceptance/acknowledgement, and letting go[4] into classroom-friendly language. This would differ somewhat from MBI:TAC language and may be better suited for training classroom teachers. Elements were refined though an iterative process of in-vivo classroom observations and reviews of class videotapes of secondary health teachers trained to teach L2B. Several revisions of the scale were made as core constructs were refined. We used examples gleaned from behavioral observations and video recordings of classroom teachers to identify common challenges and classroom-based definitions for this category. For example, patience was described behaviorally as allowing periods of silence, or wait-time, or avoiding statements that fill the space, etc. Beginner's mind was translated into the behavioral benchmarks of modeling curiosity and a sense of wonder by encouraging investigation through open-ended inquiry, showing willingness to suspend judgment about correctness or incorrectness of any experience while simply taking a fresh look at situations, and showing genuineness and non-preferential acceptance of all responses. The TMEOS was found to be a useful template for structuring feedback during weekly coaching calls between trainers and classroom teachers over the course of one study.[18] The classroom teachers who delivered L2B completed the TMEOS for each lesson to rate their own developing skills and identify areas of need that became the focus of the coaching sessions.

It is important to recognize that behavioral assessments of mindfulness in general have obvious limitations. Embodiment assumes that certain cognitive, motivational, and emotional features characteristic of mindfulness will be internalized and expressed in behavior. Mindful attitudes, however, will manifest differently in different situations. Descriptive measures of a subset of observable behaviors, by definition, are not designed to reflect all possible behaviors, nor are they capable of measuring the presence of underlying internal states (e.g., beginner's mind and non-judging). Raters should be experienced in teaching the SBMP, have their own regular mindfulness practice, and should refrain from making inferences about internal states from snapshots of behavior. Reliable and accurate ratings of teaching quality are also more difficult to obtain when the teaching is observed in short intervals rather than over a prolonged period. The assumption that mindful embodiment can be reliably assessed through behavioral observation warrants further investigation using first-person methods that can complement behavioral means of assessment, although this can be difficult given the time and resource constraints of schools.

There are many unknowns related to the role of personal mindfulness practice and professional development in fostering skillful implementation of an SBMP. Thus, the fourth challenge involves the question of whether and in what ways *effective classroom teaching differs from effective mindfulness teaching*. Mindfulness teaching by its very nature is intended to be invitational rather than coercive. Students participating in an SBMP are typically invited to engage in mindful practices, whereas schools by their nature are compulsory. Even if SBMP teachers adopt an invitational approach to participating in mindfulness practice, classroom management issues may arise that require responses that maximize engagement and reduce off-task behavior that are different from those employed in MBPs taught to consenting adults. SBMP teachers must adopt a present-centered, experiential focus while working within the school's culture of striving for mastery of academic competencies. The goal of "being" over "doing" requires a different skillset and a deep understanding of the benefits of SBMPs where attention *is* the curriculum.[3]

Developing mindful awareness is a discipline that requires practice by educators, administrators, and students alike, so SBMP teachers' own mindfulness preparation should be part of any mindfulness program implementation. Sustained practice-based professional development can help everyone to shift gears from the well-established "pedagogy of knowledge" which privileges transmission of information to a "pedagogy of curiosity" which cultivates present-moment attention.[5] This approach can have far-reaching benefits for every academic subject because it cultivates innate capacities of interest, wonder, and curiosity that are foundational to learning.[19] As with other social-emotional curricula, the likelihood of success will be greater if mindfulness training is sustained and available to all interested educators. This can potentiate a change in school culture through the efforts of a critical mass of committed classroom teachers and administrators who work to integrate mindfulness into the school's overall mission.[20]

To summarize, questions remain about whether and how mindfulness benefits students' and classroom teachers' functioning in schools and about how effective classroom teachers become effective SBMP teachers. To advance this field, educators require professional development to ensure they can implement high-quality programs with good levels of competence and, importantly, need the ongoing support of school administrators who recognize and value the benefits of SBMPs for students. Additional steps for researchers include investigating the scope, sequence, duration, and delivery mechanism of quality professional development in this area. By extending the focus beyond program effects to include issues surrounding program conceptualization and implementation, researchers studying SBMPs can broaden and deepen our understanding of the field and potentially improve program impact for greater numbers of young people.

Declaration of Conflicting Interest

developer of Learning to BREATHE, is reporting a financial interest that may be affected by the research reported in this paper.

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References

1. Zenner C, Herrnleben-Kurz S, Walach H. Mindfulness-based interventions in schools: A systematic review and meta-analysis. *Front Psychol* 2014;5:603.

2. Dimidjian S, Segal ZV. Prospects for a clinical science of mindfulness-based intervention. *Am Psychol*. 2015;70(7):593-620. doi:10.1037/a0039589.

3. Broderick PC. *Learning to BREATHE: A Mindfulness Curriculum for Adolescents*. 2nd ed. Oakland, CA: New Harbinger; 2021.

4. Kabat-Zinn J. *Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain, and Illness*. Bantam Books; 2013.

5. Broderick PC, Frank JL, Berrena E, et al. Evaluating the quality of mindfulness instruction delivered in school settings: Development and validation of a teacher quality observational rating scale. *Mindfulness*. 2019;10(1):36-45.

6. Mindful magazine. John Kabat-Zinn defining mindfulness. https://www.mindful.org/jon-kabat-zinn-defining-mindfulness/. 2017. Accessed June 16, 2021.

7. Kabat-Zinn J. Some reflections on the origins of MBSR, skillful means, and the trouble with maps. *Contemp Buddhism*. 2011; 12(1):281-306.

8. Luberto CM, Hall DL, Park ER, Haramati A, Cotton S. A Perspective on the Similarities and Differences Between Mindfulness and Relaxation. *Global advances in health and medicine*. 2020;9:2164956120905597.

9. Goleman D. *The Meditative Mind: The Varieties of Meditative Experience*. Jeremy R. Tarcher, Inc; 1988.

10. Bhante HG. *Mindfulness in Plain English*. Boston, Mass: Wisdom Publications; 2002.

11. Lindsay EK, Creswell JD. Mechanisms of mindfulness training: Monitor and Acceptance Theory (MAT). *Clin Psychol Rev.* 2017;51:48-59.

12. Mor N, Winquist J. Self-focused attention and negative affect: A meta-analysis. *Psychol Bull*. 2002;128(4):638-662. http://ezaccess.libraries.psu.edu/login?url=https://www.proquest.com/scholarly-journals/self-focused-attention-negative-affect-meta/docview/619733526/se-2?accountid=13158http://dx.doi.org/10.1037/0033-2909.128.4.638.

13. Neff KD. The role of self-compassion in development: A healthier way to relate to oneself. *Hum Dev*. 2009;52:211-214.

14. Schulz KF, Altman DG, Moher D, CONSORT Group. CONSORT 2010 statement: updated guidelines for reporting parallel group randomised trials. *BMJ*. 2010;340:c332. doi:10.1136/bmj.c332

15. Cunningham WA, Zelazo PD, Packer DJ, Van Bavel JJ. The Iterative Reprocessing Model: A Multilevel Framework for Attitudes and Evaluation. *Soc Cognit*. 2007;25:736-760.

16. Crane RS, Hecht FM, Brewer J, et al. Can we agree what skilled mindfulness-based teaching looks like? lessons from studying the MBI:TAC. *Global Advances in Health and Medicine*. 2020;9. http://dx.doi.org.ezaccess.libraries.psu.edu/10.1177/2164956120964733.

17. Crane RS, Kuyken W, Williams JMG, Hastings RP, Cooper L, Fennell MJV. Competence in Teaching Mindfulness-Based Courses: Concepts, Development and Assessment. *Mindfulness*. 2012;3:76-84.

18. Frank JL, Broderick PC, Oh Y, et al. The effectiveness of a teacher-delivered mindfulness-based curriculum on adolescent social-emotional and executive functioning. *Mindfulness*. 2021;12(5):1234-1251. http://dx.doi.org.ezaccess.libraries.psu.edu/10.1007/s12671-021-01594-9.

19. Broderick PC. *Mindfulness in the Secondary Classroom: A Guide for Teaching Adolescents*. Norton; 2019.

20. Wilde S, Sonley A, Crane C, et al. Mindfulness training in UK secondary schools: a multiple case study approach to identification of cornerstones of implementation. *Mindfulness*. 2019; 10(2):376-389. doi:10.1007/s12671-018-0982-4.